Relapse Prevention in Remote Indigenous Mental Health

by
Tricia Nagel
M.B.B.S., F.R.A.N.Z.C.P.

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Menzies School of Health Research
and
Institute of Advanced Studies, Charles Darwin University

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DECLARATION

I hereby declare that the work herein, now submitted as a thesis for the degree of Doctor of Philosophy of Charles Darwin University is the result of my own investigations, and all references to ideas and work of other researchers have been specifically acknowledged. I hereby certify that the work embodied in this thesis had not already been accepted in substance for any degree, and is not being currently submitted for candidature for any other degree.

Tricia Nagel
March 1, 2008
This study was designed to provide important new information about relapse prevention in Indigenous people with chronic mental illness. A key cause of the burden of disease of mental illness is the high frequency of relapse of common mental disorders. National and international best practice guidelines recommend a range of biological and psychological strategies to prevent recurrence of mental illness. There is good evidence that many of these relapse prevention strategies improve outcomes, but there has been a paucity of clinical research into Indigenous-specific interventions.

The study was conducted in two remote Indigenous communities in the Top End of the Northern Territory (NT). It targeted Indigenous clients, carers, and Aboriginal Mental Health Workers (AMHWs) and sought to answer two questions as follows: ‘can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?’ and ‘does the brief intervention improve client mental health outcomes compared with treatment as usual’?

Assessment, psychoeducation, and care-planning resources were developed with local AMHWs in the two communities. These were gathered into a focused brief intervention. The study then implemented a randomised trial of the intervention compared with ‘treatment as usual’. Clients were randomised to an ‘early treatment’ group, which received the intervention at baseline, and a ‘late treatment’ group, which received the intervention six months later. Client outcomes were assessed six monthly for eighteen months.

Participants showed significant reductions in emotional distress and substance use and significant improvements in self-management. The results confirm that promotion of self-management through psychoeducation and goal-setting is an effective relapse prevention strategy. The study contributes important new information about cross-cultural perspectives of mental health, and provides a strategy to deliver treatment in the remote setting that is brief and effective.

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1 For the purpose of this thesis ‘Indigenous’ refers to Australia’s Aboriginal and Torres Strait Islander peoples and acknowledges their rich diversity of culture.
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INTRODUCTION

Linking burden of disease with relapse of mental illness

This study aimed to combine best practice in relapse prevention with best practice in Indigenous mental health promotion, in order to develop a brief and effective mental health intervention. This literature review begins with an examination of the link between outcomes of mental illness and relapse. Three central factors influence relapse of chronic mental illness in the Indigenous setting: social context, communication, and comorbidity. Discussion of these factors is followed by a review of treatment strategies that target relapse prevention and their relevance to Indigenous people with mental illness. Finally there is a description of the context of this study in the remote north of Australia. The context is characterised by limited capacity of remote services, and challenges of cross-cultural service delivery. This discussion lays the groundwork for understanding the need for innovative approaches to relapse prevention in remote settings.

Mental health throughout the world is a growing concern. The 2001 World Health Organization (WHO) report highlighted the high burden of disease related to mental illness and the projected increase over the next two decades [1]. This burden is a direct result of the chronicity of illnesses such as schizophrenia and depression and their high rates of recurrence. Indigenous mental health in remote northern Australia is also an increasing concern, posing additional challenges of literacy, language, cultural difference, and geographic isolation. The WHO has indicated that socially disadvantaged communities and those with greater burden of comorbid chronic disease are particularly vulnerable to high rates of mental illness [2]. This concern is directly applicable to Indigenous people in the NT. A recent Australian Institute of Health and Welfare (AIHW) report found Indigenous people were seven times as likely as other Australians to be hospitalised for potentially preventable chronic conditions [3].

Indigenous people are also vulnerable to mental illness through high rates of other associated risk factors such as substance misuse, and suffer an enormous burden of grief and loss through suicide, homicide, incarceration, colonisation and cultural dislocation [3-6]. Intentional self-harm was the leading external cause of death for Indigenous males for the 1999–2003 period [3]. The suicide rate was more than twice that for non-Indigenous males, with the major differences occurring in younger age groups. The suicide rate for Indigenous females aged 0–24 years was five times the corresponding age-specific rate for non-
Indigenous females [3].

The vulnerability of Indigenous people to mental illness is underscored by many of the other findings in the AIHW report. For example it reported that 82% of Indigenous people aged 15 years or over reported experiencing at least one life stressor in the last 12 months. Among Indigenous people living in remote areas the most frequently reported stressors were death of a family member or close friend (55%), overcrowding at home (42%) and alcohol and drug-related problems (37%) [3]. This accumulation of stressors increases the risk of mental illness and impacts upon outcomes. It is therefore not surprising that Aboriginal and Torres Strait Islander people are over-represented in inpatient mental health care nation wide.

In 2003-2004 Indigenous males and females were up to twice as likely to be hospitalised for mental and behavioural disorders as other Australians [3]. In the NT, Indigenous people comprise 29% of the population and 38% of hospital admissions for mental disorders. The most common admission diagnosis is schizophrenia disorders, followed by mental disorder due to substance use [6]. NT Hospital admission data show overall rates of hospitalisation increased progressively from 1993–1997. Rates of hospitalisation nearly doubled for Indigenous males, and more than doubled for Indigenous females, over those five years. In contrast, the hospitalisation rates for non-Indigenous people changed little over that time [7]. Meanwhile, Top End aeromedical evacuation data show that remote emergency evacuations for mental illness have tripled over the decade 1993-2003 [8].

Relapse of illness is an important precipitant of psychiatric admission. One measure of relapse of mental illness is the readmission rate to hospital. The NT emergency 28-day readmission rate for Indigenous people with mental illness in 2002-2003 was 23% (compared with 20% for non-Indigenous). In other words nearly one quarter of clients were readmitted to hospital within 28 days of discharge [9]. These national and NT data highlight the illness burden that Indigenous people experience secondary to mental illness.

Patients, families and the wider community feel the distressing consequences of relapse, whether it leads to hospital admission or not. Relapse of illness interrupts lives and has great personal and social cost. Relapse also incurs costs related to on-call and emergency staff time, aeromedical services and ambulance services, the cost of hospitalisation, as well as the cost in lack of productivity of client and carer.
Wasylenki reviewed the cost of mental health care in Canada and reported that the largest mental health care expenditure is for schizophrenia due to the prevalence of this illness, early age of onset, and pattern of chronicity [10]. A significant percentage of the cost derives from frequent relapses and subsequent rehospitalisation. More recently, Almond also reported that relapse of schizophrenia is a major factor in generating high hospitalisation rates and costs [11]. The report estimated the full service costs of schizophrenia relapse in the United Kingdom. Patients who experienced a relapse during the six months prior to data collection had mean service costs more than four times that for those who had no relapse during this period. Similar costs are likely to apply to relapse of illness in Australia.

There are many gaps in our understanding of effective strategies for relapse prevention in Indigenous people, despite the high burden of disease of mental illness. Relapse prevention should not only decrease costs, but also reduce the harm to the health and quality of life of patients, and the impact on their families.

**Relapse prevention and the Australian Integrated Mental Health Initiative**

**Background to the project**

The present study seeks to explore relapse prevention in chronic mental illness in Indigenous communities. It is a project within the broader framework of the Australian Integrated Mental Health Initiative (AIMhi). This 5-year multi site initiative is funded by the National Health and Medical Research Council (NHMRC) and has Indigenous arms in the NT and North Queensland (NQ). The author is both the Chief Investigator of the overall project in the NT, and the principal investigator of the present study. The broader project aims to improve Indigenous mental health outcomes through focus on five areas as follows:

- Data collection and outcome measures
- Service provision – especially integration of mental health into primary care
- Workforce development
- Health promotion
- Research transfer

In 2003 AIMhi NT conducted a remote service provider survey in the NT and analysed
admission and readmission data and evacuation data. These findings were released in a baseline measures discussion paper [9]. The nature of current services was then explored through semi-structured interviews with Remote Service Providers (RSPs). General Practitioners (GPs), nurses, and AMHWs were interviewed between December 2003 and July 2004 (Appendix S) [12]. The resources and evidence from the consultation and collaboration informed a number of specific interventions which are listed below.

1. A ‘Story telling’ project that has developed a number of strategies for sharing information about mental health in local community contexts [13].
2. The North Queensland trial of revised HonOS and LSP outcome measures which involved adaptation of training and guidelines acknowledging cultural difference [14].
3. The mental health component of a larger trial ‘Audits in Best practice in Chronic Disease’ (ABCD) which promotes change at health centre level [15].
4. A ‘Mental health literacy’ project that interviewed Top End RSPs in 2005 and 2007, seeking to clarify attitudes to illness and treatment [16].
5. A ‘Care plan training’ trial, that incorporated the learning from the above projects and delivered service provider training throughout 2006 and 2007 [16].

The other key intervention was the ‘relapse prevention project’ that is the subject of this thesis. The relapse prevention project thus benefited from the larger framework of activities in the AIMhi NT project. It was able to draw on the learning from the consultation, use the networks and relationships already established, and apply the important contextual information and evidence that had been gathered. The following section discusses social context, comorbidity and communication. These factors are particularly relevant to relapse of mental illness in Indigenous people.

**Factors which influence relapse of mental illness**

**Social determinants**

Mental illness is linked with social context. There have been significant changes in social and service contexts in Australia since the first National Mental Health Strategy in 1998 [17]. Changes such as deinstitutionalization, consumer engagement, and an increased focus on rehabilitation and recovery have the potential to diminish the stigma and social disadvantage associated with mental illness [18-20].
The social disadvantage experienced by Indigenous people with mental illness, however, is also linked with the history of white settlement in Australia. There have been a number of phases of colonization since the first arrival of non-Indigenous people in this country. The first phase was characterized by the depopulation of Indigenous communities resulting from the impact of settlement. Violent battles over rights to land, food and water sources, and spread of disease such as small pox occurred throughout the nineteenth century [21, 22].

A second phase of institutionalisation ensued. In the name of ‘protection’ Indigenous people were subject to near-total control. This period was characterised by segregation of ‘full bloods' for their ‘protection' and removal of ‘half-castes' to institutional care. The current phase since the 1970’s has tended to be one of self-determination. It was symbolized by the advent of voting rights and the increasing ‘deregulation’ of Indigenous lives. These positive changes have been limited and inconsistent, and there are many ways in which Government policy, past and present, continues to adversely affect the health of Indigenous people today [23, 24].

In terms of social determinants, the Aboriginal and Torres Strait Islander (ATSI) Social Justice Commissioner, Tom Calma, identified a range of factors impacting negatively on Indigenous health, such as education, income, and employment [25]. In 2007 he stated that ‘The poverty and inequality that we experience is a contemporary reflection of our historic treatment as peoples, and an indication of the persistence of systemic discrimination [26].’

The recognition of social determinants of Indigenous health underpins many of the relevant national reports and strategic frameworks in Australia [27, 28]. The ‘Social and Emotional Well Being Framework (SEWB Framework)’ for example, built on the consultation and recommendations of ‘Ways Forward’ and recognised the impact of trauma, grief, loss, discrimination and human rights issues on the social and emotional well being of Aboriginal and Torres Strait Islander communities [29]. A fundamental recommendation of the SEWB Framework is the development of the Indigenous health workforce.

The Aboriginal and Torres Strait Islander Health Workforce National Strategic Framework provides an agenda for workforce development for five to ten years, and builds on a number of earlier reviews and evaluations. It seeks to improve training, supply, recruitment and
retention of Indigenous people in the health workforce. Key strategies include role clarity, education and training, and scholarship support schemes [30].

The development of strategic frameworks, however, has not necessarily changed Indigenous health outcomes. Despite some improvements in some conditions, the 2002 Australian Medical Association (AMA) report card highlighted ongoing health inequalities linked with social disadvantage for Indigenous people [31]. Ring and Brown emphasised the contrast between the lack of progress in the health of the Aboriginal and Torres Strait Islander populations of Australia and the gains made in Indigenous health in other countries, and called for ‘a commitment to implement the recommendations of the endless reports’ [32].

One of the major challenges for health services is to develop practical strategies to implement these recommendations. There is still uncertainty about how to develop successful cross-cultural partnerships in the workplace, and how to integrate understanding of the social determinants of Indigenous mental health into the clinical context. This understanding is particularly relevant to delivery of sensitive and effective mental health services.

**Comorbidity**

The social disadvantage of Indigenous people is correlated with high rates of comorbid illness. Comorbidity has been identified nationally and internationally as an important risk factor for relapse and poor outcomes in mental health. It commonly refers to two or more psychiatric disorders that occur at the same time, or to co-occurring substance misuse and psychiatric disorder [33]. Hospitalisations for ‘mental and behavioural disorders due to psychoactive substance use’ are much more common for Indigenous than non-Indigenous people. In 2003 - 2004 the national hospitalisation rates for these conditions were three and four times the rate of non-Indigenous females and males respectively. Further, Indigenous females and males died from mental and behavioural disorders due to psychoactive substance use at 13 and 11 times the rates, of non-Indigenous females and males [3].

The WHO report of 2006 highlighted the importance of addressing comorbidity in mental health and stated ‘Real patients are more complex than pure diagnoses: real patients often have comorbid diseases…. A comorbid approach will facilitate the links between treatment of various disorders and enhance compliance and adherence to treatments for comorbid physical diseases’[2].
The issue of comorbidity and its relationship to poor outcomes in the general Australian community was addressed by an important recent initiative, the National Comorbidity Project [34]. This project grew out of the National Drug Strategic Framework and the Second National Mental Health Plan and sought to explore the prevalence and impact of comorbidity, and options for prevention, early intervention and treatment [18, 35]. It recommended that the definition be broadened, for example to include co-occurring affective and anxiety disorders (not only psychosis), to include syndromes which may not meet the criteria for ‘disorders’, and to include all types of substance misuse.

Broadening the definition of comorbidity to include cigarette smoking and co-occurring physical illness is particularly relevant to Indigenous people, who have high rates of chronic disease and chronic disease risk factors. A 2004 report showed that NT Indigenous adults experience levels of health comparable to those of non-Indigenous people 20–30 years older. Much of this discrepancy occurs in diseases with preventable and environmental antecedents such as diet, lifestyle, education and physical activity, which are amenable to intervention [36].

Another important complication of mental illness in the Indigenous community is violence. When age differences between the Indigenous and non-Indigenous population are taken into account, Indigenous people are twice as often the victims of physical or threatened violence. They also have very much higher rates of hospitalisation and death due to assault [3]. As a result many Indigenous people with mental illness are incarcerated.

In 2005 the Indigenous imprisonment rate was almost 15 times higher than the rate for non-Indigenous persons [37]. The New South Wales Inmate Health Survey identified that two-thirds of inmates had substance use concerns and 54% of women and 41% of men had received medical treatment or assessment for an emotional or mental problem, during their life [38]. The Australian Medical Association (AMA) highlighted these concerns in its 2006 ‘Report Card’ for Indigenous health, stating that the health statistics for Indigenous prisoners for a range of health issues including mental illness were ‘appalling’ [39].

Krieg reviewed prisoner health and the high rates of Indigenous imprisonment in the same year and emphasised that the cycle of incarceration for Indigenous people, especially young
Cultural competence, cultural safety and communication

Cross-cultural misunderstanding is another factor that influences relapse of mental illness. Culturally appropriate service delivery is a key principle in Indigenous mental health. It has been emphasised in ‘Ways Forward’ [28], the National Strategic Framework for Social and Emotional Well being [29], the Cultural Respect Framework [42], Royal Australian and New Zealand College of Psychiatrists policy [43] and the overall National Aboriginal Health Strategy (NAHS) [27]. The key recommendations link culturally appropriate service delivery with increased cultural competence of non-Indigenous service providers, employment of Indigenous people in service provision, and development of community controlled services.

The Aboriginal and Torres Strait Islander Cultural Respect Framework provides guiding principles for policy construction and service delivery to strengthen relationships between the total health care system and Aboriginal and Torres Strait Islander peoples. It states that the performance and accountability of mainstream services are central to improving health outcomes. ‘The health system, overall, does not provide the same level and quality of care to
treat illness for Aboriginal and Torres Strait Islander peoples and is so culturally inappropriate or inadequately resourced that their needs cannot be met’ [42].

Culturally appropriate services incorporate a number of qualities: cultural safety, cultural awareness, cultural sensitivity and cultural competence. Cultural safety focuses on the experience of the patient, while cultural awareness, sensitivity and competence are qualities of the health worker and the system. These qualities allow integration of culture into the clinical context [44]. Culturally safe approaches are described as having the potential to empower consumers by giving them the confidence to comment on the care provided, and to be involved in change of services and enhancement of service quality [45].

There is controversy about the concepts of cultural safety and cultural competence. Browne and Varcoe highlighted the risk that non-Indigenous people will seek to explain ‘difference’ as ‘deficit’ [46]. Cultural awareness without competence might merely serve to reinforce stereotypes. Kleinman and Benson also focused on the potential unwanted effects as follows: ‘Perhaps the most serious side-effect of cultural competency is that attention to cultural difference can be interpreted by patients and families as intrusive, and might even contribute to a sense of being singled out and stigmatised’ [47].

On the other hand there is evidence that failure to acknowledge cultural difference can have a negative impact on service delivery. It may influence access to services [48, 49], cross-cultural communication [50], and compliance [51, 52]. Furthermore, racism has been linked with negative health outcomes. A recent review by Paradies of 138 empirical, quantitative, population-based studies of self-reported racism and health, showed an association between self-reported racism and ill health for oppressed racial groups. The strongest and most consistent findings were for negative mental health outcomes and health-related behaviours [53].

These findings underscore the importance of cultural competence in health settings. Increased cultural competence of non-Indigenous service providers can help them to avoid stereotypes and biases. It promotes a focus on positive characteristics and reflects an appreciation of cultural differences [44]. Ypinazar conducted a meta synthesis of recent Australian qualitative research in Indigenous mental health [54]. The review summarised four qualitative studies, and found the following five themes: culture and spirituality, family and community kinships,
historical social and economic factors, fear and education, and loss. They concluded there is a disjunction between Indigenous understandings and Western medico scientific constructs of mental health and disorders. They argued that there is both a need to increase Western understandings of Indigenous perceptions of mental health problems, and to augment Indigenous understandings of mainstream mental health services.

There is little guidance in practice, however, for integrating cultural understanding into assessment and treatment and delivering culturally competent services. Westerman [55] suggested practical approaches for non-Indigenous practitioners as follows:

1. Acknowledge land and family to enhance engagement
2. Adopt a holistic approach without mind/body dichotomy
3. Use cultural consultants to understand attribution or culture bound syndromes
4. Use indirect approaches and narrative rather than direct questions
5. Support traditional treatments and care seeking processes
6. Provide outreach
7. Be visible in the community to allow judgment from a distance
8. Accept indirect referrals

Sheldon also provided practical advice with regard to psychiatric assessment from his experience working with Central Australian Aboriginal people [56]. He highlighted the importance of using cultural informants, developing cultural competence, and understanding culture bound syndromes and traditional approaches to treatment. Meanwhile, Kleinman recommended an ethnographic approach (an approach which seeks understanding from within the culture). This approach focuses on the lived experience of the client and encourages the story to unfold from the perspective of the individual [46, 47].

Important strategies for integrating cultural understanding into service delivery have been the development of the Indigenous workforce and community control of services. Indigenous advancement in the workplace, however, has been limited. In 2002–03, 79% of the 'full time equivalent' dentists, doctors and nurses’ positions paid by Australian Government funded Indigenous primary health care services were occupied by non-Indigenous people. Indigenous people, on the other hand, were well represented as traditional healers, Indigenous Health Workers (97%), and drivers/field officers (96%) [3].
Hecker described limited training, literacy, and participation in decision making as factors of disempowerment of Aboriginal Health Workers [57]. The 2006 evaluation of the Top End Division of General Practice (TEDGP) AMHW programme also revealed limitations to successful cross-cultural partnerships in the workplace. It highlighted the need to develop models of care that ensure partnership and sustained support of AMHWs in the workplace [58, 59].

Meanwhile Howard showed that partnership at management levels is also difficult to achieve. He explored the context of cross-cultural management of Aboriginal Controlled Community Health Services (ACCHSs), and described challenges for Aboriginal managers as follows: ‘a key cross-cultural expertise is their ability to deal with the sometimes negative attitudes and judgements of non Aboriginal people’[60]. Cultural safety is therefore not assured simply by employment of AMHWs, or by community control of health services.

The foregoing discussion has summarised some of the solutions to the cross-cultural divide that have been proposed. These have tended to focus on strategies for improved cross-cultural communication such as: employment of Indigenous practitioners as mental health workers and cross-cultural consultants, and promotion of cultural understanding in the non-Indigenous workforce. Cross-cultural communication is a theme that recurs throughout this thesis. It is examined further in the discussions of compliance (see p.25), health promotion strategies (see p.41) and the remote context of the study (see p.46).

In summary, although culturally appropriate service delivery is recommended, there are gaps in our understanding of how best to deliver culturally competent services, and of whether such services are effective.
Relapse prevention strategies in chronic mental illness

The preceding section explored three key factors that contribute to relapse in Indigenous mental illness: social determinants, comorbidity and cultural safety. This section reviews what is known about relapse prevention strategies and describes biological, psychological, and social approaches to prevention of recurrence of mental illness.

Strategies that target individuals and families

Biological strategies: medication

Medication is a key component of relapse prevention planning in mental illness, and promotion of adherence to medication is a principle of treatment. Non-compliance is a frequent cause of relapse of illness, and side effects are a frequent cause of non-compliance. Medication in psychiatry, particularly for psychosis, depression and anxiety has undergone a revolution in the last two decades. A vast array of choices of medications has become available. One of the major advances in relapse prevention in psychosis has been the development of second-generation oral antipsychotic medications (SGAs). These medications are as effective as the first generation medications (FGAs) with fewer short and long term side effects.

Lindstrom explored why effectiveness of drug treatment in clinical practice is considerably lower than the efficacy shown in controlled studies and concluded that a major factor contributing to the lower effectiveness of drug treatment is non-compliance [61]. That review concluded that the evidence for relapse prevention is strongest for psychoeducative methods, changing to a new drug, or using a depot formulation.

Remote Service Providers (RSPs) in the NT reported that non-compliance with oral medication was a major barrier to use of atypical antipsychotic medication and reported that they frequently used depot medication instead of oral medication [12].

‘Depot medication’ refers to long acting antipsychotic medication that is administered via intramuscular injection. This form of medication has a useful role when compliance with oral medication is a problem. It can be used alone or in combination with oral medication. Its detractors, however, are concerned about the disempowerment and lack of autonomy consequent upon the ‘injection’ of treatment into the submissive client. These concerns are
particularly relevant when the depot medication is a FGA, in which case it may cause long
term disfiguring movement side effects. The development of SGA deposit medications, which
do not have these side effects, has thus been an important recent advance.

There is now debate, however, as to whether the side effect burden of antipsychotic
medication has simply shifted from movement disorder and neurological effects in FGAs, to
metabolic effects such as weight gain, metabolic syndrome and cardiac disease, in SGAs. The
degree to which the SGA medications, whether depot or oral, have improved quality of life
and enhanced compliance, has been questioned by findings of the recent National Institute of
Mental Health trial, the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE)
which reached the conclusion that the new drugs may have no substantial advantage over the
old ones [62].

In terms of dosage of antipsychotics, Marder described a review of studies, which suggested
that substantially lowering the antipsychotic dose by as much as 80% can result in fewer side
effects, less anxiety and depression, and improved compliance. Dosage reduction, however,
can also lead to increases in the vulnerability to exacerbation of psychosis. He reported his
own study which indicated that supplementing low dose depot antipsychotic medications with
oral supplementation at the time of prodromal symptoms might improve the safety of low
doses [63]. Choice of medication, mode of administration, dosage, and adjuvant treatment are
all strategies that have been gathered into best practice guidelines for mental illness in
different countries. The Royal Australian and New Zealand College of Psychiatrists
(RANZCP) treatment guidelines are described in brief below.

Biological strategies: treatment guidelines
The development of clinical practice guidelines is a logical way of distilling best available
evidence to guide the treatment of individuals. These initiatives help to bridge the gap
between evidence and efficacy studies and real world clinical practice. The RANZCP best
practice guidelines for schizophrenia recommend the following approach to treatment of
relapse: optimise medication dose, restart medication after understanding reasons for non
adherence, switch from typical (FGA) to atypical (SGA), or change to a different atypical
medication if there are tolerability problems or the response is not optimal [64]. The
guidelines recommend that clinicians consider a typical (FGA) depot medication as a last
resort only, unless it is the patient’s preference.
The RANZCP treatment guidelines for depression also focus on the newer medications. Newer antidepressants are more comfortable in terms of side effects and safer in overdose. Nevertheless the older treatments such as the tricyclic medications and electroconvulsive therapy maintain a place for specific situations such as treatment resistant illness or psychotic depression [65].

Meanwhile the guideline for the treatment of bipolar disorder recommends pharmacological interventions that combine mood stabiliser and adjuvant medication. It also recommends that mood stabiliser treatment should be optimised by monitoring plasma levels, and that antidepressants be used with caution in bipolar depressive episodes. Non compliance, as perhaps the commonest cause of relapse, should be addressed by strategies such as educating the patient about potential side effects and minimising these, informing patients and families about the disorders and its treatment, and supportive psychotherapy [66]. All guidelines emphasise social and psychological strategies to complement the biological treatment, and the lowest dose that can maintain wellness as the preferred dose for prophylaxis.

In summary, recommended medication approaches include: prophylactic medication between episodes of illness, increasing doses or addition of ‘adjuvant’ medication at times of relapse, lower doses at times of stability if possible, close monitoring for side effects which may impair compliance, and consideration of depot medications in the setting of non compliance with oral medication.

A recent survey in South Australia revealed major issues impacting on medication management for Indigenous people with mental health disorders. ‘These included racism, problems with alcohol and other drug use, money and transport issues, availability and access to a range of specialist services, and confidentiality and suitability of services.’ It described an urgent need for education on cultural safety, mental health, and the safe handling, transport, storage, and administration of medicines [67].

There is a need to develop treatment guidelines for Indigenous clients that take into account context, client worldview, the limitations of language and literacy, the role of traditional healers, and different beliefs about the role of Western medication in treatment and relapse prevention.
Psychological strategies: identifying early warning signs of relapse

Identification of relapse as early as possible is one important strategy for relapse prevention. There are many approaches to identifying relapse of chronic mental illness, and there is evidence that early identification is a useful and viable aim. Herz reviewed the literature published between 1962 and 1995 evaluating the usefulness of monitoring prodromal symptoms in schizophrenia patients as a predictor of relapse [68]. They concluded that studies show that monitoring prodromal symptoms, and associated early intervention, is effective in reducing schizophrenia relapse.

Meanwhile Wiersma presented data on the 15-year natural course of schizophrenia and other non-affective functional psychoses in a cohort of 82 first-contact cases from a circumscribed area in the Netherlands [69]. The trial revealed a pattern of chronicity and relapses with a high risk of suicide. Insidious onset and delays in mental health treatment were risk factors that predicted a longer duration of first or subsequent episodes. They concluded that an early warning and intervention strategy could prevent further damage and deterioration and that the findings supported the need for adequate relapse prevention programmes as a priority for their mental health services. Fitzgerald also concluded that interventions based upon programmes of early detection can reduce rates of illness relapse, and that the prediction of episodes of psychotic relapse is a realistic goal [70].

A number of authors have also explored relapse prediction and early intervention. Falloon reviewed the literature on effective biomedical and psychosocial intervention strategies and concluded that comprehensive programmes of drug and psychosocial interventions with adults showing early signs and symptoms of psychotic illness or relapse, lowered incidence and prevalence of major episodes of schizophrenia [71]. A later review by Birchwood and Spencer described the nature and predictive significance of signs of psychotic relapse and strategies for intervention. They concluded that a sustained intervention using psychological treatment methods is needed to achieve the goal of relapse prevention [72].

Hewitt and Birchwood then described the early intervention ‘Back in the Saddle’ (BITS) approach to relapse prevention. This involved educating clients about early warning signs and constructing a ‘relapse signature’, developing a ‘relapse drill’ (or crisis plan), and helping the client to achieve greater understanding and control over their illness [73]. Meadows described a similar approach in the Consultation and Liaison in Primary-care Psychiatry (CLIPP).
shared-care model of patient management. This model uses the concept of a ‘relapse signature’ involving recognition of early warning signs of relapse, and informed GP management, to simplify clinical monitoring of patients with schizophrenia [74]. Early warning signs recognition is also a key component of strategies to prevent relapse in chronic disease such as self-management training, which is discussed below (see p.27).

Identification of early warning signs is an established strategy for relapse prevention in mental health, however there is little evidence available for the effectiveness of this strategy for Indigenous people with mental illness.

**Psychological strategies: compliance prompts and compliance therapy**

Compliance and adherence to treatment plans is another important component of relapse prevention. In a 2003 systematic review of 30 randomised controlled trials (RCTs) Haynes concluded that the full benefits of medications cannot be realised at currently achievable levels of adherence, that current methods of improving adherence for chronic health problems are ‘mostly complex and not very effective’ and that innovations to assist patients to follow medication prescriptions are needed [75].

Nose systematically reviewed clinical interventions in psychoses and found around one in four patients with psychosis fail to adhere to treatment programmes [76]. The review recommended a range of interventions such as: scheduling of appointments before discharge, the use of prompts in the forms of letters and telephone calls to encourage patients to keep their appointments, and the offer of education about treatment and medication.

Kemp described another strategy to address compliance. He developed a new mode of psychological intervention - ‘compliance therapy’, based on motivational interviewing and cognitive approaches to psychosis [77]. The intervention was developed for the typical busy in patient setting and comprised 4-6 sessions twice weekly (average total time 3 – 3.5 hours per patient). The approach was patient-centred and emphasised the patient’s unique experience of treatment. Compliance therapy was found to be more effective than a routinely applied non-specific counselling approach in terms of improving insight, attitudes to medication and compliance [78].

A key challenge to compliance in the Indigenous setting is communication. The AIMhi NT Remote Service Provider (RSP) interviews identified compliance with mental health
treatment as an important issue. They linked noncompliance and lack of understanding of illness with relapse [12]. Three reports from Arnhem Land (Figure 1.) suggest that miscommunication between Indigenous patients and non-Indigenous health professionals may contribute to patients’ inability to comply with medical advice and that non-Indigenous staff struggle to find appropriate strategies for sharing information [50-52].

Figure 1. The Top End of the Northern Territory
In addition to communication and information-sharing, it is likely that the development of a relationship between the client and the treating team is also important. One of the studies explored factors related to compliance with rheumatic fever prophylaxis for Indigenous people in a remote NT community. The study found that trust and relationship with service providers was more important than having an understanding of the scientific principles behind the treatment plan [52]. These studies suggest that communication is an important component of compliance and that strategies that target compliance can decrease relapse. There is little evidence, however, to guide the development of strategies to promote understanding, relationship and compliance in the setting of remote Indigenous mental health. Treatment partnership is explored further in the description of self-management training in the next section.

**Psychological strategies: chronic disease self-management**

Early warning signs and compliance are included in a broad approach to treatment and relapse prevention referred to as ‘Chronic Disease Self-Management’ (CDSM) [79]. Self-management is a broad set of strategies designed to help individuals with chronic conditions make day-to-day decisions about their illnesses. Self-management refers to a patient’s ability to understand their condition, to recognize early warning signs and take appropriate action, and to work effectively with health care providers and carers. Self-management does not imply that patients need to manage their illness by themselves, or in isolation from mainstream services. Key indicators of quality self-management education programmes are:

- Positive and active engagement in life
- Health directed behaviours
- Skill and technique acquisition
- Constructive attitudes and approaches
- Self monitoring and insight
- Health service navigation
- Social integration and support
- Emotional well being

Problem solving is a core self-management skill. Self-efficacy, the belief in one’s capability to make change, is a key predictor of success [80]. Self-management education complements traditional patient education in supporting patients to live the best possible quality of life with their chronic condition [81]. Hibberd reported that patients who engage in collaborative care,
shared decision-making with their providers, and CDSM have improved health outcomes. Train

Research related to illness management including 40 randomised controlled studies, indicates that targeted strategies for persons with severe mental illness, can also be effective. Psychoeducation improves people's knowledge of mental illness. Behavioural tailoring (such as taking medication at a particular time and place) helps medication adherence. Relapse prevention programmes reduce symptom relapses and re-hospitalisations, and coping skills training, using cognitive-behavioural techniques, reduces the severity and distress of persistent symptoms [83].

The focus on partnership with clients in CDSM resonates with the voice of the consumer empowerment movement in mental health. It is also consistent with the concept of cultural safety, which ensures that the perspective of the individual is integrated into development of the treatment plan. These areas of overlap suggest that CDSM may be a useful intervention in the setting of mental health care in the Indigenous community.

There are barriers to engagement by health care professionals in CDSM. These barriers include uncertainty of the benefits of self-management programmes, and the low profile of self-management within the broader community. Self-management activities might even increase social inequities, as people with limited education and low economic resources may not be reached [79]. Furthermore, there are potential unintended consequences of self-management approaches that are particularly relevant to Indigenous people. It is first of all important to ensure that clients who do not achieve ‘expert’ status in managing their illness are not negatively judged. Next, services should not be withdrawn in the context of improved patient self-management. Finally, social determinants of illness should not be neglected as contributory factors to illness [84].

Meanwhile, a number of relevant studies have raised questions about the sustainability and nature of the services and systems required to support strategies to improve preventive care in chronic illness, particularly in the remote setting. The key conclusions were that sustained improvement was unlikely to follow from establishing protocols alone, but that the addition of active support from management and building on local community capacity was also
important. These organizational changes are likely to be necessary in the delivery of mental health care as well [85-91].

A number of projects have sought to integrate CDSM successfully into primary care in the Indigenous setting. A pilot project in South Australia (SA) used CDSM strategies in collaboration with Aboriginal Health Workers and their clients with diabetes, and concluded that it is a valuable strategy for educating and supporting Indigenous people with chronic conditions [92]. This was one of the demonstration projects supported by the National Chronic Disease Self-Management Initiative, which was launched in 2000. The initiative comprised a range of proposals to enhance primary health care, especially for older people with chronic illnesses [93]. Further advances in self-management in the Indigenous community have included another trial in SA focused on shared health care [94].

The key features of this second SA trial were the engagement of three rural sites and the implementation of a range of CDSM strategies including consumer participation and health promotion. The trial activities included the establishment of intensive training for staff and community experts, and the addition of a number of health promotion activities beyond the health centre that engaged with the community. The final report raised some concerns about the sustainability of these interventions at completion of the project. These components of the intervention, coupled with the development of systems for data collection, resonate with another multi-site project seeking to establish best practice in preventive care in chronic disease through a different pathway, the Audit and Best practice for Chronic Disease (ABCD) project [90].

The Audit and Best practice for Chronic Disease (ABCD) project has evaluated the effectiveness of a continuous quality improvement (CQI) approach to chronic disease preventive care. The ABCD trial is ongoing and it assesses service delivery through a ‘systems assessment tool’, and provides yearly feedback to health centres on their performance. It then uses a goal-setting approach with staff to plan goals for improved service quality. Key differences exist between the study in SA and the ABCD project. ABCD seeks to develop the systems within the health centre, which can support quality improvement and preventive care activities of the health centre, while the SA project primarily delivered the interventions. The ABCD project does not provide predetermined solutions, or implement proposed changes. Each health centre develops its own goals for improvement and change.
through self-assessment. Health centres may thus choose to invest in self-management training as a goal, or may choose alternative priorities such as development of a computer based record system, or perhaps a community based health promotion activity.

Early findings from the ABCD project demonstrate improvement in quality of service delivery [86]. There is an important ‘readiness to change’ factor which is captured by this approach and which reflects the key findings of the motivational literature. In the individual treatment setting, those clients who are identified as ‘ready’ are likely to respond more positively to motivational interventions [95]. In the wider setting of health centres and health care systems it is also likely that ‘readiness to change’ will influence outcomes.

The engagement of staff in development of health centre goals has the potential to enhance ownership of the changes, and ensure that new interventions are consistent with current planning. ‘Consistency with the mission of the partner organisations’, and ‘building on existing programmes and regional mental health planning’ have been reported as facilitators of sustaining partnerships between research and services [91]. This is another important feature of the ABCD approach that may link with its success.

The above summary of CDSM research suggests that Indigenous chronic disease outcomes may be addressed through system level changes focusing on engagement of service providers in change, and client level interventions that deliver CDSM training and education. There is no evidence as yet linking improved self-management with improved outcomes in the Indigenous setting, nor has the link between improved preventive care at systems level with improved client outcomes been established. Despite important advances in CDSM in the Indigenous setting there is still little research to guide practitioners in the best approach to incorporation of self-management strategies into Indigenous mental health care.

Psychological strategies: psychoeducation and family education.
Many of the above strategies have mentioned education as an important component of relapse prevention plans. Literature on the effectiveness and outcome of family intervention continues to grow as the awareness increases that families face significant coping challenges and subjective burden from many mental health conditions. The most successful interventions with families have had an educational and skills-training emphasis.
Bustillo reviewed the controlled trial literature of psychosocial treatments for schizophrenia and found that family therapy and Assertive Community Treatment have clear effects on the prevention of psychotic relapse and rehospitalization [96]. Pekkala and Mirinder, in a Cochrane systematic review of 10 studies found that any kind of psychoeducational intervention significantly decreased relapse or readmission rates of patients with schizophrenia at nine to 18 months [97]. All studies of group education included family members.

Expressed Emotion (EE) is a term that refers to attitudes and behaviours in the household, such as negative communication, that induce distress in patients. It appears to be a generalized risk factor for relapse across a wide range of disorders [98]. An examination of the role of substance use and EE as predictors of relapse in comorbid disorders found that patients from high EE environments were significantly more likely to relapse than patients from low EE environments [99]. This finding underscores the importance of engagement of families in interventions for comorbid disorders.

In summary there is evidence that education of individuals and families can improve outcomes for people with schizophrenia in non-Indigenous populations. There is also evidence that EE is linked with relapse of mental illness. The role of EE in the setting of Indigenous mental illness is not known, however, and the role of psychoeducation of individual and families in the Indigenous setting has also not been formally explored.

**Psychological strategies: brief therapies**

A number of brief therapies have been used as relapse prevention strategies. Motivational Interviewing (MI), brief interventions, Cognitive Behavioural Therapy (CBT), and Problem Solving Therapy (PST) are described below. Approaches to comorbid illness are also considered under ‘service and systems level strategies’ for relapse prevention (see p.33).

Motivational Interviewing is one strategy that has been explored to address relapse prevention in the setting of substance misuse and mental illness. Instigated by Miller and Rollnick in 1991, it has been developed and used widely as an adjunct to treatment for substance misuse with successful results [100]. ‘Motivational therapy’ tailors management of patients to five motivational stages, described by Prochaska and his colleagues [101]. These include pre-contemplation (where the patient denies that their substance use is a problem), contemplation
(patient recognises the problem but is ambivalent about quitting), preparation (patient is still using the substance but considering making a plan to quit), action (patient is willing to stop using the substance and commit to treatment) and maintenance (patient abstains from using).

‘Brief interventions’ are a collection of techniques that have been developed to address substance misuse. The techniques include motivational interviewing, feedback to patients of likely adverse consequences of drug use, self-monitoring of use, developing a contract for future use, providing strategies to cut down, and regular follow-up. Focusing on patients in primary care, a systematic review and meta-analysis indicated that brief alcohol intervention was effective in reducing alcohol consumption at 6 and 12 months [102]. Although developed for substance misuse, brief interventions are easily adapted to mental health clients with comorbidity. There has been uncertainty, though, about whether the treatments for substance misuse and mental illness should be sequential or integrated, and there is little evidence available to inform treatment of Indigenous people with comorbid substance use and mental illness. Approaches to comorbid illness are discussed further in the description of service and system strategies below (p.33).

Cognitive Behavioural Therapy (CBT) is based on modifying thoughts, beliefs and behaviours, with the aim of influencing feelings. CBT is widely accepted as an evidence based, cost-effective psychotherapy for many disorders and psychological problems. It is sometimes used with groups of people as well as individuals, and the techniques are also commonly adapted for self-help manuals and, increasingly, for self-help software packages. The RANZCP guidelines emphasise that while there is increasing evidence that CBT is as effective as antidepressants in many depressive illnesses, not all therapists are equally experienced. It should be considered ‘only if a competent and experienced practitioner is available’[103].

Problem Solving Therapy (PST) has been described as the most accessible form of psychological intervention for primary care practitioners [104]. PST provides a framework for coping with ongoing life stressors, which people without depression (most of us) use frequently. In general, people with depression can find it difficult to think about specific problems and generate solutions. This approach encourages the patient to identify specific problems and formulate specific solutions. They develop option lists for change, and practical interventions. It allows the patient to move from a sense of being overwhelmed, to a focus on
smaller life issues and realistic strategies for change. This approach emphasises client self-management and autonomy and encourages patient-centred solutions. It discourages the practitioner from guiding the outcomes and generating solutions. It is well suited to general practice as it is brief, and requires little training or ongoing supervision [105].

A recent meta analysis by Cuijpers showed that PST had a moderate to large effect size in the treatment of depression [106]. The range was attributed to wide heterogeneity between studies and suggested that further research is needed to clarify the conditions and subjects that lead to larger effect sizes. Given the accessibility of this therapy, its suitability to primary care settings, its apparent effectiveness, and the client-centred nature of the approach, it has the potential to be an effective cross-cultural therapy.

In summary, each of the above therapies has the potential to improve outcomes in Indigenous mental illness. There is no evidence as yet, however, that they have been effectively integrated in mental health care in the Indigenous setting.

**Strategies at services and systems level**

**Service and systems strategies: approaches to comorbidity**

A number of brief therapies for substance misuse have been shown to be effective in the setting of comorbid mental illness as discussed earlier (p.31). There has been uncertainty, however, about the model of service delivery that is most effective for comorbidity, in particular whether treatment for these separate disorders should be integrated.

A Cochrane evaluation of the effectiveness of treatment programmes within psychiatric care for people with problems of both substance misuse and serious mental illness concluded in 2000 that there is no clear evidence supporting integrated treatment over standard care [107].

Kavanagh also reviewed the available evidence on the nature of effective treatment. He reported that in principle, an integrated approach should be more effective in any set of comorbid disorders that are in a relationship of mutual influence. However existing research is limited, particularly in non psychotic disorders, and we know very little about what elements of treatment are producing the effects [34].

Three years later the same author reported the evaluation of an integrated treatment approach.
This evaluation of a brief intervention for substance misuse in early psychosis showed that motivational interviewing during acute in-patient treatment was associated with reduction in substance misuse at 6-month and 12-month follow-up compared with standard care [108].

Barrowclough also reported positive results related to an integrated intervention. The report of a randomised controlled trial showed improved outcomes secondary to a motivational interviewing, cognitive behaviour therapy, and family intervention for patients with comorbid schizophrenia and substance use disorders [109]. Baker consolidated these findings in 2006 and described a RCT which compared a less complex intervention with ‘treatment as usual’. This trial also found improvements in overall functioning in the intervention group [110].

More recently a review by Tiet and Mausbach concluded that there is still no evidence for efficacy of treatment for dual diagnosis but that ‘(1) existing efficacious treatments for reducing psychiatric symptoms also tend to work in dual-diagnosis patients, (2) existing efficacious treatments for reducing substance use also decrease substance use in dually diagnosed patients, and (3) the efficacy of integrated treatment is still unclear’ [111]. On the other hand the conclusions of Green were less tentative and stated that ‘more than 50 controlled studies have established the importance of integrating the treatment of patients with co-occurring disorders—in essence, overcoming the problems inherent in the separate systems of care for these individuals’ [112].

These findings and recommendations are important for care of non-Indigenous people with comorbid disorders, but it is not clear whether these findings translate to the Indigenous setting. A relevant trial in the NT aimed to implement a trial of brief interventions for hazardous alcohol use in the setting of an urban Aboriginal Medical Service. The study managed to recruit only 16 clients for follow-up in six-months and the trial was terminated. Clinic, patient, Aboriginal health worker, GP factors, and study design factors, all contributed to the ‘demise’ of the trial [113, 114]. This outcome resonates with the findings of a review by Morris which concluded that well designed studies of medical interventions in Indigenous settings are few, and that ‘Australia has failed to develop a research infrastructure able to inform health care in Aboriginal communities’ [115].

There remains an evidence gap in terms of strategies for successful clinical research design in the setting of Indigenous mental health, as well as in terms of effective treatment of
Indigenous clients in primary care and specialist mental health services with comorbid disorders.

**Service and systems strategies: community management orders**

Community Management Orders (CMOs) or Community Treatment Orders (CTOs) represent the application of mental health legislation to clients in the community to ensure follow up with treatment plans. The name varies according to different state and territory legislation, but the intent of the orders is the same. CMOs or CTOs are used as an extension of treatment as well as a strategy for relapse prevention.

The outcomes measures which have been used in the review of success of CMOs or CTOs in the general community have tended to focus on the use of health services, such as readmission data, length of stay, and outpatient contacts. Vaughan also looked at the effect of CTOs on compliance with medication [116]. The research team examined CTO outcomes in 123 patients on CTOs in NSW and found that, while on CTOs, patients receiving depot medications showed high compliance, and significantly reduced readmission rates.

Hiday found less victimisation of people with mental illness on CMOs through improved medication adherence, reduced substance misuse and fewer violent incidents [117]. Meanwhile Preston studied 456 patients placed on community treatment orders in Western Australia and found that the introduction of compulsory treatment in the community did not lead to reduction in use of services [118].

Involuntary community treatment has thus been associated with mixed outcomes. It has also been limited by the choice of service utilisation as the primary outcome measure rather than quality of life or social functioning.

Holloway, in a review of involuntary outpatient treatment, concluded that ‘there is little published research on the justifiability, benefits and outcomes of such measures’ and that ‘most conspicuously ethical analysis is lacking of the conflicts between personal autonomy of competent people and community claims to safety and protection’ [119].

Meanwhile, the present author reviewed the introduction of the new Mental Health Act in the NT and raised concern about the increasing use of involuntary community treatment in the
remote Indigenous setting, when there is so little evidence of associated improvement in outcomes [120].

Although involuntary treatment is frequently used as a strategy for community-based relapse prevention there is no evidence to guide the practitioner in its use in the Indigenous setting, or conversely, to guide strategies for improved compliance and voluntary engagement with treatment plans.

**Service and systems strategies: assertive outreach**

Assertive outreach is another strategy for relapse prevention. There has been great interest in the role of outreach in improving outcomes in community management. Assertive Community Treatment (ACT) is an intensive mental health programme model in which a multidisciplinary team of professionals serves patients who do not readily use clinic-based services, but who are often at high risk for psychiatric hospitalisation. Key components include working on the client's own territory, having a team approach and manageable caseloads, and offering a comprehensive range of interventions. ACT is one of the best-researched mental health treatment models, with 25 randomised controlled trials evaluating its effectiveness.

Hambridge and Rosen, in examining the use of ACT in Australia, demonstrated increased engagement, decreased hospital admissions and improved functioning among their client group [121]. ACT has been shown to substantially reduce psychiatric hospital use, increase housing stability, and improve symptoms and subjective quality of life. Research also suggests that the more closely case management programmes follow ACT principles, the better the outcomes [122-124]. These teams rely on skilled multidisciplinary mental health teams, often unavailable outside of urban centres.

A comprehensive review of the literature that identified six studies of rural ACT, found that rural programmes have been forced to make several adaptations to the ACT model. The adaptations include using smaller teams and less intensive services. This review concluded that the evidence suggests that intensive case management programmes are effective only in community settings where there is an ample supply of treatment and support services [125, 126].
The challenge for services that treat Indigenous people is to translate aspects of the successful ingredients of ACT to their setting. There is as yet no evidence to guide service providers as to how this might be done.

**Service and systems strategies: care plans and needs assessments**

Care plans are another component of relapse prevention. They are key aspects of ACT and self-management, as well as routine care. Approaches to care-planning, however, vary from service to service. One of the key United Kingdom National Health Service policies, the ‘care programme approach’, specifies that people accepted by specialist mental health services should have individual care plans drawn up based on assessment of the patient's needs and reviewed periodically [127].

In Australia, the National Standards for Mental Health Services recommend that ‘there is a current individual care plan for each consumer which is constructed and regularly reviewed with the consumer’[20]. Meanwhile there is debate about the best approach to formulating the plans. As Glover discussed, care-planning can provide comprehensive, accountable care within mental health services, but such plans may not be client-centred or self-directed and may represent assumptions of what the service providers think the person requires. She recommended a shift from ‘managed care’ to ‘self-directed care’ in order for services to adopt a recovery orientation [125].

This shift is particularly important for Indigenous clients who are frequently not well engaged in their treatment plans. A recent survey of clients and service providers in Southern Queensland found that over half of Indigenous patient participants asked to be involved in their treatment regime, yet of these respondents, the majority reported that they had no say at all in their treatment [128].

The RSPs surveyed in 2004 in the NT reported that care plans were not often developed, and there was no consistent care-planning process in primary care across the Top End [12]. Similarly, a series of clinical file audits in the in-patient setting in Darwin found that in 1996 only 27% of admission notes recorded more than four lines of social history of Indigenous in patients throughout the admission. A follow up audit in 2004 found similar low rates of communication with clients. Communication is a fundamental requirement in the development of self directed care and culturally appropriate care plans [129].
Meanwhile the Australian government has allocated funding for care-planning by primary care practitioners, and new care-planning Medicare items have been developed to support this goal. The items provide a structured framework for GPs to undertake early intervention, assessment and management of patients with mental disorders, and provide new referral pathways to clinical psychologists and other allied mental health service providers [130].

The concept of care-planning is well supported by policy but translation to practice is not readily achieved. There is a particular need to develop strategies to enable practitioners in specialist mental health and primary care settings to develop meaningful and self-directed care plans with their Indigenous clients.

Service and systems strategies: recovery orientation and goals setting

Understanding relapse is a key component of recovery from mental illness. Consumers of mental health services link recovery with increased awareness, anticipation of relapse, alternatives for treatment, and access to treatment [131]. A recovery approach requires therapeutic optimism. It also requires recognition of the family and community context of the individual client. The therapeutic aim for the client is to regain full membership of that community, and to have control over their own recovery. Rosen outlined in detail the role of the community psychiatrist in developing a model of service delivery combining team work and community collaboration, individual and population approaches, underpinned by hope, optimism and belief in recovery [132].

Hope and optimism within the model of service delivery can also be supported by specific client-based strategies. The approaches described earlier, which support self-directed care and self-management have important links with a recovery approach to mental illness. Another approach that has been described is a collaborative goal-setting strategy known as Collaborative Goal Technology (CGT). CGT incorporates a recovery focus through individual therapy. It uses principles of goal-setting and motivation in a structured approach to treatment of people with chronic mental illness. It allows a maximum of three goals to be set and worked toward over a three-month period. It includes regular review of progress. It aims to maximise motivation by ensuring goals are personally meaningful, important to the person, and achievable. Medication use, knowledge and acceptance that one has an illness, and collaborative treatment are linked with recovery. Consumers link their recovery with
assumption of more active roles in taking responsibility for their illness, treatment and progress [133].

Collaborative Goal Technology draws on goal-setting theory that was developed within industrial and organisational psychology over a 25-year period. The theory identifies key aspects of successful goal-setting as: feedback, commitment to the goal (which is enhanced by self-efficacy and viewing the goal as important), task complexity (the complexity matches the client ability), and situational constraints (the goal is achievable) [134].

This approach to recovery shows promise, however there is a need to discover ways in which a recovery orientation and collaborative goal-setting might translate to the Indigenous setting.

Service and systems strategies: information technology
Information technology has an increasing role to play in treatment of mental illness and relapse prevention. Improved information-sharing through on-line technology has particular relevance to remote settings distant from specialist services. HealthConnect is a system of electronic health records that aims to improve the flow of information across the Australian health sector. It involves the electronic collection, storage, and exchange of consumer health information via a secure network and within strict privacy safeguards [135].

HealthConnect used animated characters tailored to target audiences to promote its message to the Indigenous community. This MARVIN software (Messaging Architecture for the Retrieval of Versatile Information and News), allowed locally developed Indigenous characters to share messages through local language. This innovation created a new remote health information and remote health promotion tool in the NT [136].

Meanwhile Hunter et al evaluated the use of touch-screen technology to address specific health issues in Indigenous settings. They found that this technology was well accepted, and might also provide an innovative direction for health promotion and mental health promotion in Indigenous communities [137].

Computer literacy and computer access were not well established in remote communities at the commencement of the present study but information technology was on the way. There remain questions about the role of these technological advances in mental health care in the
remote setting. It is not clear to what extent computer-based approaches to psychoeducation and treatment may prove effective and acceptable.

**Service and systems strategies: integration of mental health into primary care**

Relapse prevention requires strategies that target the primary care setting. Most people present to primary care settings, and primary care practitioners are at the front line in prevention of relapse of mental illness. Indigenous clients in particular, are more likely to access primary care than specialist services, as they are more likely to live in rural and remote areas where specialist services are scarce [138].

The WHO mental health report of 2001 highlighted that mental disorders can follow a chronic course, with periods of remission and relapses, and that as far as management is concerned, they are similar to chronic physical illnesses. Thus the chronic care paradigm is more appropriate to them than the one generally used for acute, communicable disease. It thus recommends training of general health personnel in mental health care [1].

The ‘Ways Forward’ report recommended that service delivery focus on holistic, primary mental health care programmes, and the development of specialist services with a focus on crisis support, early intervention and comprehensive clinical services [28]. The third National Mental Health Plan (2003 – 2008) also emphasised the link between mental health care and general health care, and the interdependence of physical and mental health [19].

The need to enhance the capacity of community services has been addressed at a number of levels from Commonwealth to State and Territory Government initiatives. The Commonwealth ‘Better Outcomes in Mental Health Care Initiative’ and ‘Better Access’ initiative support mental health management in primary care, and promote access to psychological therapies [130, 139].

Despite an increase in the uptake of these Medicare items in the NT, psychology services remain scarce in remote and rural settings. Primary care practitioners have few guidelines and tools that are culturally appropriate, and there is limited information available about strategies to engage Indigenous people in mental health care, and to deliver psychological treatment. There is a need to gather evidence for effective strategies to support integration of mental health care into the remote primary care setting.
Service and systems strategies: health promotion strategies

Health promotion is another important approach to relapse prevention. Mental health literacy has been described as knowledge or beliefs about mental disorders that aid their recognition, management or prevention [140]. Community mental health literacy and client psychoeducation are important tools for promotion of change in health behaviours and improvement of outcomes.

The recognition of the need to promote mental health literacy underpins a number of current initiatives such as the ‘beyondblue’ National Depression Initiative. The development of internet resources such as ‘moodgym’ and ‘blue pages’ and the community training package Mental Health First Aid have also promoted access to mental health information [141-143]. These strategies may be culture-bound, however, and out of reach of many in the community. A recent review of mental health literacy promotion strategies by Kelly highlighted the importance of tailoring messages to appeal to different groups within the community [144].

Indigenous health promotion requires such tailoring of messages and education strategies. Indigenous Australians may speak different languages and a different form of English, ‘Aboriginal English’. They may also prefer to use different communication styles which focus on story telling, imagery and metaphors reflecting Indigenous life style and values [145, 146].

Story telling and visual approaches to Indigenous health promotion have been used in many remote settings. Only a few, however, have been formally evaluated. Story telling is a tradition of the Indigenous peoples of Australia, and has been used with video to convey health promotion messages in urban Aboriginal (Koori) communities in Sydney and in the NT [50]. Story telling is not only a form of education; it can be a mode of treatment called ‘narrative therapy’.

Narrative therapy has been promoted as a form of counselling which may be effective for Indigenous people although, as yet, there has been no formal evaluation [28]. It is a form of counselling that is based on story telling. It takes a respectful, non-judgemental approach to counselling and community work, which centres people as the experts in their own lives. It views problems as separate from people and assumes people have many beliefs, values, commitments and abilities that will assist them to reduce the influence of problems in their lives. The Dulwich Centre in Adelaide has reported success using narrative therapy with
Another health promotion strategy combines Indigenous art and language. This strategy was employed in the collaborative development of culturally appropriate health promotion literature for Indigenous communities in the Kimberley region of Western Australia and in the NT. This process of collaboration provided a useful model for addressing women's health issues in culturally diverse populations [148, 149]. Meanwhile, Watson sought opinions from nurses, GPs, Aboriginal Health Workers, and the Indigenous community on the development of foot care education for Indigenous people with diabetes, and decided to use a visual approach (posters and flip charts) for the education campaign [150].

Bryce addressed the issue of compliance in the Indigenous setting, and described the importance of gaining trust and credibility with a community. He described strategies to overcome the considerable language and worldview barriers that exist to good communication. These included the use of anatomical models and high quality illustrations, combined with the development of 'key language concepts' in the Indigenous language [51].

Indigenous language and Indigenous identity itself can be a unique resource for mental health promotion [5, 151, 152]. Kirmayer stated that the social origins of mental health problems in Indigenous communities demand social and political solutions, and that mental health promotion with Indigenous peoples must go beyond the focus on individuals to engage and empower communities [151]. The need to engage in appropriate and realistic consultation before undertaking any health promotion intervention is reinforced in a range of Indigenous health promotion reports including the comprehensive guidelines by Murray [152].

These guidelines also emphasise the collective approach to health of Indigenous people: that personal identity is defined in terms of kinship, that oral traditions share knowledge about health, and that there is 'a preference for knowledge related to the immediate context of their lives'. These differences need to be taken into account when developing health promotion programmes.

In summary, story telling, promotion of cultural identity, and visual approaches have been recommended as strategies for Indigenous health promotion but it is not clear which interventions are most effective in the field of Indigenous mental health.
Summarising relapse prevention strategies

The above represents a summary of the literature that is relevant to this study in remote Indigenous mental health relapse prevention. Important themes were those of self-management and comorbidity. Individual and service wide strategies have drawn on a range of brief therapies to deliver interventions that target these relapse factors (Figure 2). The next section describes some of the challenges of outcome measurement in this field, and provides the background to the choice of outcome measures implemented in this study.

**Figure 2. Brief therapies linked with relapse prevention**
Data collection and outcome measures

There is a need to measure outcomes of treatment in order to understand relapse, and monitor the success of strategies of relapse prevention. Measurement of outcomes is another challenge in Indigenous mental health. Reliable information is lacking, as are culturally valid outcome measures. There is controversy related to the application of outcome measures that are not culturally validated. Such measures may produce results that are not only invalid, but also perpetuate stereotypes of Indigenous deficit and disability. In its extreme this may manifest as incorrect interpretations and conclusions.

An example of the difficulties posed is described in the New Zealand study by Trauer, which found significant differences in outcome related to ethnicity but which concluded that the results may reflect either real differences, problems with the cultural competence of the workforce, or problems with the measures [153]. On the other hand, if distress and illness within the Indigenous community are not measured, we have no means by which to assess the impact of mental health interventions, and the effectiveness of mental health services.

These issues have been tackled in both the community and the inpatient setting in recent years in Australia. The Australian Bureau of Statistics (ABS) is Australia’s official statistical agency. It conducts a population census every five years and provides statistics on a wide range of economic and social matters, covering government, business and the community.

The National Health Survey (NHS) is a major ABS survey. It has been conducted five times since 1977, and is currently conducted every three years. The 2001 survey was the first time that information about well being of the non-Indigenous population was collected in this national survey. This survey used the Kessler 10 (K10) screening tool. This is a 10-item scale designed as a brief standard screening measure of psychological distress [154].

Recognising the particular health concerns of the Indigenous population, the ABS conducts a separate survey of Indigenous people. This survey information provides indicators of the health of Indigenous people, and enables comparisons between the health characteristics of Indigenous and non-Indigenous Australians. The 2004 survey was the first time that wellbeing data for Indigenous Australians was collected [155]. This represented a breakthrough in Indigenous well being outcome measurement, and was the result of a
prolonged consultation process.

The National Advisory Group on ATSI Health Information and Data (NAGATSIHID), advised the ABS on development of the survey interview module on Social and Emotional Wellbeing (SEWB). The module comprised five selected questions from the K10 (K5) and also included questions related to feelings of anger, the impact of psychological distress and cultural identification and stressors. The new tool was named the K5+.

NAGATSIHID met after the survey findings were published in November 2006 and reported that the K5+ module had performed satisfactorily. ‘The workshop supported the validity of K5 items and agreed that this item should be maintained in future surveys and results reported as a K5 score, among other analytical approaches’ [156].

Meanwhile specialist mental health services were also seeking to measure outcomes. The introduction of outcome measures as part of routine clinical practice, the National Outcomes Casemix Collection (NOCC), was emphasised as a priority under the Second National Mental Health Plan, a priority that has been reaffirmed under the Third National Mental Health Plan (2003-08) [19]. These plans recognize that many of the goals of the National Mental Health Strategy depend on improving the quality of information available to guide decisions at all levels of the health system [157].

Key outcome measures were chosen as follows: the Health of the Nation Outcomes Scales (HonOS), the abbreviated Life Skills Profile (LSP 16) and the Mental Health Inventory (or an agreed alternative consumer self-rating measure including the K10 and the Behaviour and Symptoms Identification Scale (BASIS 32) [157, 158].

The collection, however, confronted the same issue of cultural validity that had confounded the ABS, which led to an important trial in North Queensland in 2005-2006 [159]. The trial sought to establish culturally appropriate guidelines for the use of HonOS and LSP in mental health services. The principles developed in the outcomes measures trial in North Queensland are as follows:

**Principle One:** Although the clinician provides the final rating for the HonOS and LSP, it is extremely important to involve additional indigenous informants (ideally, Indigenous health worker/healer and family/carer) when applying them to Indigenous consumers.
**Principle Two:** Objectively reflect the underlying social disadvantage experienced by the consumer in scoring the scales, and thus avoid under-rating issues even when the level of disadvantage is widely experienced in the consumer’s community.

**Principle Three:** Objectively reflect non-sanctioned behaviours in scoring the scales, and thus avoid under-rating socially and culturally unacceptable behaviours even when they are common in the community.

**Principle Four:** Where there is an indication that behaviours (e.g. self-harm), beliefs (e.g. in sorcery) and experiences (e.g. visions or voices) have a cultural basis, a clinician must determine whether these are consistent in form, intensity and duration with accepted local norms. If so, DON’T rate them. Only those that are NOT consistent with local norms should be rated. Any concurrent mental health problems or behaviours should always be rated where appropriate [14].

These principles resonate with the direction of outcomes measurement for Maori in New Zealand. The importance of individual and family and carer measures was highlighted in the report of the development of the ‘Hua Oranga’, a Maori measure of mental health outcome [160]. This measure complements clinician-rated tools and is rated by consumer, family and practitioner. The report concludes that valid tools for outcome measurement need to accurately consider Maori perspectives of outcome and Maori approaches to treatment and care. These considerations also apply to Aboriginal and Torres Strait Islander peoples of Australia.

In summary, there has been important progress toward cultural validation of mental health outcome measures for Indigenous people in Australia through consultation with peak Indigenous bodies and adaptation of current tools; however major gaps in our knowledge remain.

**The context of the relapse prevention project**

**Recruitment and retention in remote areas**

The context of the remote NT requires description in order to understand the setting of this study and the way in which the above review might inform relapse prevention strategies in this context.
‘Rural’ and ‘remote’ settings in Australia are defined by significant distance from urban centres, decreasing population with distance, and diminishing availability of services and service providers. In the remote setting there are shortages of all health practitioners and this workforce shortage disproportionately affects Indigenous people.

Indigenous Australians are more likely to live outside urban areas and further from health services than are other Australians. In 2001 more than three-quarters of all discrete Indigenous communities were located 50 kilometres or more from the nearest hospital and the NT, Western Australia and South Australia had the highest proportion of such communities [161].

The Australian Medical Association (AMA) and Health Workforce Advisory Committee (HWAC) have identified medical workforce shortages as a major health issue. In Australia, not only is there a nation-wide shortage of doctors, the overall distribution of doctors is skewed heavily towards major cities such that regional, rural, and remote areas hold a disproportionate workforce shortage burden [162, 163].

The specialist mental health workforce is similarly skewed. A recent RANZCP discussion paper drawing on consultation with psychiatry trainees and psychiatrists, highlighted that key impediments for rural psychiatrists are professional isolation, long work hours, limited support and supervision, and infrastructure shortcomings [164].

The rural and remote setting also challenges nursing recruitment and retention [165]. Common problems identified in the literature regarding rural nursing practice include professional isolation, scarce resources, and the expectation that health practitioner’s skills will be more generalist than specialist in nature [166]. Aboriginal health workers are also a scarce resource [138], and Indigenous service providers face special challenges in the workplace. These have been highlighted in a number of recent reports and relate to the need to balance work and family commitments, conflict of kinship and professional relationships, and the need to be able to provide gender appropriate services to the community [167].

Indigenous people face additional challenges to workforce shortages in accessing health services. In the recent National Health Survey Indigenous people living in the NT were five times as likely to be without access to a motor vehicle as non-Indigenous people in other
states and territories [3]. The proportion of Indigenous Australians who reported difficulty communicating with services providers varied by state and territory. Indigenous people in Western Australia (18%), South Australia (17%) and the NT (15%) were approximately twice as likely to experience difficulty communicating with service providers as those in New South Wales (8%), Victoria (9%) and Queensland (9%) [3].

Another measure of access to services is that of access to telephones. The NT had the lowest proportion of Indigenous Australians with a working telephone (37%), which reflects the high proportion of Indigenous people in the NT who live in remote areas. In summary, access to mental health services for Indigenous people is a major challenge in rural and remote Australia. More detail of the Top End context is described in the next section.

**Mental health services in the Top End**

The Top End is the northern half of the Northern Territory (Figure 1. p.25). The population in the Top End is 153,000 people. More than one third of the population is Indigenous, and more than 70% of those people live in remote areas. The services, however, are generally based in urban areas and there are relatively few Indigenous service providers.

The Top End has three main town centres, Darwin, Katherine, and Nhulunbuy, and more than 100 small towns and communities scattered across the Top End of the NT. These vary in population from 50 to more than 2000 people.

The main towns are the centres for many regional services such as health, emergency air evacuation, police, local government and education. Primary care services to the remote communities are delivered through community health centres, staffed by nurses and Aboriginal Health Workers, with larger centres having at least one resident GP or a fly-in fly-out District Medical Officer. Most centres have purpose-built health facilities, while in smaller communities services may be provided through mobile clinics.

Specialist mental health services are provided by regional mental health teams, which visit the larger communities four to six weekly. The visiting team may comprise a psychiatric nurse, an AMHW, and a psychiatry registrar or psychiatrist, some of whom are employed by the Medical Specialist Outreach Assistance Programme [168]. They communicate by phone, and occasionally videoconference, for interim discussion of patients.
Emergency mental health care is provided between visits through the health centre, through an on-call system to the hospital, and through emergency evacuation to hospital. Although regional hospitals are located at Nhulunbuy and Katherine, they accept very few psychiatric admissions and most clients are evacuated directly to Royal Darwin Hospital (RDH)[129].

The development of the Batchelor Institute of Indigenous Tertiary Education (BIITE) Aboriginal Mental Health Worker training (Certificate III and IV) was an important background development to changes in Indigenous mental health services in the Top End. Six communities now have local AMHWs employed through the TEDGP Aboriginal Mental Health Worker Programme programme. These AMHWs work in partnership with remote GP’s in order to offer culturally appropriate services to Indigenous patients. The establishment of the TEDGP programme has enabled remote communities to engage, train, and support AMHWs, and promote access to services for Indigenous people [59].

The Department of Health and Community Services (DHCS) also employs three AMHWs in the in-patient psychiatry setting, to assist with assessment and management of indigenous patients.

In summary primarily non-Indigenous practitioners through primary care, with support from regional and urban specialist services provide the services to people with mental illness in the Top End. The local characteristics of service delivery in the communities recruited to this study are described in the next section.

**Mental health services to remote Top End Islands**

The relapse prevention project was undertaken in three remote communities in the Top End of the NT by a research team based in Darwin. Two of the remote Top End Islands are located 80 km north, the third is 650 km to the east of Darwin in the Arafura Sea. The people of the islands are culturally and linguistically distinct from each other. They number around 2,500 in the northern islands and 1,800 on the island to the east. Most residents speak local language as their first language and English as a second language. These traditional societies have altered through contact with missionaries, tourists and developers, but many aspects of life remain remarkably unchanged.
Remote Top End people relate to each other as kin: that is, as members of ‘skin groups’ or ‘tribes’ with defined kinship terms of address which are handed down from generation to generation. Hunting for traditional food is still an important part of remote Top End life, as is traditional dancing, singing and painting. Meanwhile football, card games and modern music, are pastimes that have become more popular in recent years [169]. One of the central features of the present study is that it explores the experience of service delivery in communities that are in transition between a traditional and a modern life style, and between traditional values and colonizing, missionary, mining and forestry influences.

The remote Top End Islands health services to the north were in flux over the three years of the present study. In 2003 the local health board was replaced by a health service run by the DHCS as a semi-autonomous division. This was the organization the research team consulted in 2004, prior to contacting the local mental health team and seeking Land Council approval. The local services in the island to the east also changed. The local mental health worker team experienced staff turnover, although the health services remained in government control throughout the study.

The local Indigenous mental health team in the islands to the north remained fairly stable for three years, and consisted of two women and three men for most of that time. A non-Indigenous mental health nurse based in Darwin originally coordinated the team. He had been engaged with the islands for 18 years and retired toward the end of 2005. His retirement was followed by two-monthly rotations of psychiatric nurses from the Darwin-based service. By March 2006 the position became more stable and the nurse lived on the islands for four days per week. This immediately increased the back up and support available to the AMHWs. The AMHWs and the nurse were based at one of the two communities. The other community did not have a resident AMHW and received a fortnightly visit from members of the team.

The local context for the study is thus characterised by culturally and linguistically distinct Indigenous communities that are distant from urban centres and specialist services. Local AMHW teams work with the Health Centres to deliver services between specialist visits.

**Summary**

This chapter has described the factors that influence outcomes in chronic mental illness, and the broad range of strategies from policy to individual that can impact on relapse prevention.
It has also described the context of this study in the Top End of the Northern Territory. The remote health setting faces challenges of cross-cultural understanding, access, high staff turnover, limited professional development and a population in poor health. This underscores the need for practical mental health interventions that require little training and little time for delivery.

In the light of all the foregoing, this study aimed to combine known relapse prevention strategies with Indigenous health promotion approaches, in order to develop an effective brief intervention. The present study aimed to answer two questions as follows:

1. Can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?
2. Does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’, and are those improvements sustained over time?

The following chapter describes the methods of the study. It outlines two phases, the development of a culturally appropriate brief intervention and the trial of that intervention. The third chapter outlines the results of the study and describes the intervention that was developed and the client outcomes. The final chapter summarises the conclusions, and highlights the contribution of the study to the field of Indigenous mental health and relapse prevention.
METHODS

Choice of methodology: mixed methods design

This chapter will provide detail of the methodology chosen to answer the two research questions that are the focus of this study. The first point to note is that the research questions require different processes. The first question, ‘can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?’ is an exploratory question. The aim is to discover and develop new, culturally appropriate tools to fill the current void. On the other hand the second question, ‘does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’, and are those improvements sustained over time?’ is an experimental question, and seeks to test whether the culturally appropriate treatment developed through the first research phase was effective. The two research questions of the present study thus require different approaches, exploratory or ‘inductive’ process, and an experimental or ‘deductive’ method. The research design chosen therefore, for a mixed methods study, incorporates both qualitative and quantitative research approaches.

The following discussion justifies this design choice and highlights the increasing recognition and value of mixed methods research [170].

The present study was undertaken on two remote islands off the coast of the Top End of the NT. Research in remote Indigenous communities requires sensitive research design. Poor design has stigmatised research within the Indigenous community. Researchers have been seen as ‘takers’ of knowledge, unable to share their findings in ways that were understood by the community. These concerns have been expressed as a need to ‘decolonise’ research related to Indigenous people, and have informed the development of the NHMRC road map [171-175].

The road map was developed by the NHMRC in recognition of the need for a coordinated approach to the health research needs of Indigenous peoples. The underpinning principles advocate ‘practical’ research with community involvement, which enhances skills and capacity in the Indigenous research workforce [173]. The methodology of this study aimed to resonate with these principles. It aimed to develop an approach to treatment of mental illness which was practical, which was accessible to both Indigenous and non-Indigenous
practitioners, and which promoted partnership between the two.

The first research question relates to development of a ‘culturally appropriate’ treatment. There are few models of practice available in this field, and there have been few similar clinical trials. The experience of researchers in a similar setting was instructive [113]. These researchers concluded that ‘RCTs involving inevitably complex study protocols may not be acceptable or sufficiently adaptable to make them viable in busy, Indigenous primary care settings’. The research team interviewed participants in the trial seeking to understand the difficulty with recruitment to the trial. The interviews revealed that Indigenous patients and Indigenous health workers were uncomfortable about aspects of the research process. This report highlighted the care that needs to be taken in research design in these settings.

Liamputtong and Ezzy highlight that in ‘vulnerable’ or ‘hard to reach’ populations, in which the risk of miscommunication is high, flexible investigative methods allow sensitivity, and may promote access to different cultures and life experiences [176]. The present study aimed to engage with AMHWs and to explore local perspectives of the sensitive area of mental illness through collaborative development of mental health promotion resources. These perspectives would then be integrated into a brief intervention for clients. The intervention would be trialled in comparison with ‘treatment as usual’ with mentally ill Indigenous people who speak English as a second language. The research design thus needed to encompass tactful exploratory approaches, as well as the rigorous experimental methods of an RCT design.

‘Mixed methods’ (also known as multimethod) research ‘involves integrating quantitative and qualitative approaches to generating new knowledge and can involve either concurrent or sequential use of these two classes of methods to follow a line of inquiry’[177]. This research design has the potential to overcome the weaknesses inherent in single method design. The strength that qualitative approaches bring to an RCT in this setting are two fold: an understanding and description of people’s personal experiences of phenomena (i.e., the ‘emic’ or insider’s viewpoint), and the ability to describe, in rich detail, phenomena as they are embedded in local contexts. Meanwhile the RCT brings important strengths not found in qualitative research such as: the potential to generalize research findings, and the elimination of confounding influences that allow a credible assessment of cause-and-effect relationships.
Mixed methods designs have been described as a powerful approach; ‘they suggest, discover, and test hypotheses; they give new insights on complex phenomenon; they allow the investigator to address practice and policy issues from the point of view of both numbers and narratives; they add rigor’ [178]. The integration of quantitative and qualitative research is increasingly common in health research, and seeks to answer not only ‘what’ intervention works but also an understanding of ‘why’ it works [170, 174, 179]. The combination of a qualitative approach and the RCT methodology in the present study acknowledged the need for instrument development, the need for enhanced integrity and usefulness of the findings, and the need to maximize engagement of AMHWs, in order to answer the two primary research questions [180].

**The qualitative component of the study**

**Aim**

The following research question was addressed in this phase of the study. ‘Can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?’

Five steps in the research process followed the establishment of the research team, urban consultation and development of resources for the broader AIMhi project.

1. Engagement of remote communities
2. Exploration of local Indigenous perspectives of mental health
3. Development of a culturally appropriate brief intervention
4. Collection of qualitative data concurrent with the RCT comparing the brief intervention with ‘treatment as usual’
5. Analysis of qualitative data collected during RCT informing local Indigenous perspectives of mental health

**Design**

The key activities in this qualitative research phase are discussed below and include: the establishment of a research team, engagement of communities, data generation and data collection, and analysis. These activities were divided into two overall phases which are shown in Figure 3. The first phase involved the development of urban resources and engagement of communities, the second phase was that of collaboration with the local AMHWs in two remote communities.
The collaboration with AMHWs focused on development of a local story of mental health which was then incorporated into a brief intervention. These two phases of qualitative data collection thus laid the groundwork for the randomised controlled trial. The trial then compared the brief intervention with ‘treatment as usual’. The development of the tools for the RCT through qualitative research thus represented a sequential mixed methods study. The phase of data analysis, however, integrated both study designs. In this phase the quantitative data of the RCT was combined with qualitative data that had been gathered concurrently. The two types of data were then analysed and both sets of data contributed to the final conclusions. The overall study design thus incorporated sequential and concurrent approaches to mixed methods design (Figure 3). The activities leading up to the RCT will be described in detail below.

**Figure 3. Overview of mixed methods design**

- **Urban Consultation**
  - Establish Research team
  - Engage communities
  - Engage key stakeholders

- **Remote Top End Island collaboration**
  - Qualitative research methodology
  - Experimental Methodology
  - RCT

- **Activities**
  - Exploratory phase
  - Data generation
  - Data collection
  - Development of remote stories
  - Development of brief intervention

- **Strategies**
  - Literature review
  - Consultation
  - Development of urban stories

- **Perspectives**
  - Urban stories
  - Remote Stories
  - Brief Intervention

- **12 months**

- **12 months**

- **0 6 12 18mths**

- **Activities**
  - Participant Observation
  - Key informant interviews
  - Field notes
  - Collection of images and sounds

- **Strategies**
  - Client self report
  - Carer self report
  - Interviews
  - Clinician rated scales
  - File audits
Establishing the research team
The core AIMhi NT research team comprised three investigators. The principal investigator, a non-Indigenous psychiatrist, has lived and worked in the NT for more than twenty years. The two Indigenous associate investigators were a female AMHW of Walpiri-Gurindji heritage from an area south-west of Katherine, who works as a researcher and a part time service provider, and a male Indigenous research officer who is a Larrakia (Darwin area) traditional owner. Indigenous traditional owners are highly respected, and have powerful influence in the Indigenous community on their own country. The team incorporated broad mental health experience and cultural expertise, and represented both genders. These were all important considerations to ensure successful consultation with Indigenous people. The first step in the study was to develop a research team. The next step was to engage remote communities.

Community engagement
The research team consulted with a range of non-government and government organizations in the 18 months preceding commencement of this study. This consultation led to the development of a number of mental health promotion resources. This ‘Story telling project’ was described in the outline of the broader AIMhi project (p. 12) [13]. The team also developed multi media community consultation tools over this time to use in consultation with a number of Top End remote communities.

Four remote coastal island communities, and two inland remote health boards (the decision making committees of community controlled health services), indicated interest in this project. The team sought to formally present and discuss the project with both the health centre and the local Land Council or Health Board of each community. This involved individual and group discussions with 20 or so people in each setting. These two steps, of invitation and discussion with councils, took considerable time, in part due to infrequent council meetings. Eventually, the trial exploring Indigenous perspectives of mental health commenced in three communities.

The trial was discontinued in the third community after the first phase of qualitative data collection, due to delay in meeting time lines. The key reason for the delays related to staff turnover, which diminished the capacity of the community mental health team to participate in the project. Two communities remained engaged for the full length of the trial.
Data generation
Qualitative research methods used to elicit information and data included key informant interviews, participant observation, story telling, narration and an ethnographic approach. Ethnography attempts to interpret and present findings from a cultural perspective [176]. The AMHWs participated in the research process and assisted in development of the tools, and in the delivery of the intervention. Participatory action research (PAR) is increasingly recognised as a useful and respectful approach to Indigenous health research. It promotes social action through participation, and knowledge generation. It aims to improve health and reduce health inequities through involving people who, in turn, take actions to improve their own health or that of their community. PAR can involve full ownership and conduct of the research by the community, or partial control and close collaboration as in this case [174].

The researchers explored local AMHW perspectives of mental health through observation and recording of responses to three questions:

1. What keeps you strong?
2. What takes your strength away?
3. How would you share that story with your community?

The first two open-ended questions were chosen for two reasons: to approach mental health from a holistic perspective, and to avoid complex language. A ‘whole of life’ approach to health is recommended in Ways Forward and subsequent Indigenous health strategies [28]. The simplicity of the questions allowed ease of translation, and yet captured key issues related to protective and precipitating factors, as well as symptoms of mental illness.

The researchers elicited responses to the above questions by showing urban resources to the AMHWs, and inviting them to adapt them to their own setting through posing the following questions:

- How would you tell that story to your community?
- What words, pictures, language and music would you use?
- Who would tell that story?

The urban resources were then adapted to the remote setting by using photographs, music, artwork and language of that community as recommended by the AMHWs. Video and flip chart formats were created using a hand held digital recorder, digital cameras, and laptop
computers. The AMHW responses guided the content of the resources and informed the process of sharing stories with clients and carers.

This exploratory phase of the study was conducted over twelve months. This allowed time to develop rapport with the AMHWs, and to become familiar with the community. Such familiarity is important as Indigenous people in the remote Top End usually speak English as a second language, and can be shy in unfamiliar settings. The workers understood and spoke Aboriginal English fairly well as a second language, but communication was often difficult. Conversation became easier over time, after a number of visits and with increased familiarity and building of relationships between the researchers and this group of health workers.

Participants
Ten local AMHWs across the three communities participated in the qualitative phase of the study. The local workers invited a recovered client to assist in this phase as well. The AMHWs were key informants and co-researchers. The engagement of AMHWs as key informants recognized their special expertise in the field of study. They had been working for a number of years as AMHWs, and were able to provide insight through their experience and training as AMHWs, and also through their understanding of the interface between Indigenous and non-Indigenous mental health services at primary care level. The engagement of a consumer allowed the story of mental health to also be told from the personal perspective of illness and recovery. The eleven individual informants who participated in the study are referred to as informants A-K in the tables. The mental health workers and the male client were all aged between 30 and 50 years of age. There were five women and six men. All were living and working in their own community and spoke the local language as their first language. All of the participants had children of their own, and all AMHWs had studied as mental health workers at BIITE.

Ethical considerations
This project received the required ethics approval of the Menzies School of Health Research and DHCS Joint Ethics Committee (Appendix A).

Informed consent, potential distress, and confidentiality were important ethical concerns in this study. These concerns were considered during the development of the study and were addressed in detail in the ethics proposal. There was a risk that an individual might not understand the research or may become confused or distressed by the interview process. There was also a risk that the confidential information of clients might be inadvertently shared
with others. These concerns were addressed in a number of ways as outlined below.

All participants were identified through discussion with the local mental health practitioners who then introduced the client participants to the Indigenous research officers. A carer was present wherever possible at the time of gathering consent, and the carer also gave informed consent to participate as a carer. An AMHW was also present with the Indigenous research officer when consent was obtained. The principal investigator (a non-Indigenous psychiatrist) assessed the clients’ ability to give informed consent through review of the client and discussion with the AMHWs and the research officers. All forms were presented in plain English following consultation with Indigenous health professional participants in the project. Participants and carers and AMHWs were given an explanation of the project in plain English in spoken, written and pictorial format. Where necessary, translation to local language was provided by the AMHWs. Informed consent was also obtained from the participating AMHWs.

Each participant was a current client of Top End Mental Health Services (TEMHS) or the health centre, and had an identified GP. This ensured that any deterioration in their condition could be referred to their treating practitioner promptly. Each participant and carer was provided with information about crisis contact in times of distress, and was given a contact number for the research officer and the ethics committee representative during business hours. In all cases the data was de-identified as soon as practicable, and stored in locked offices. All quantitative information has been presented as aggregated data. Qualitative data, such as direct quotes, have been de-identified to ensure anonymity.

Data collection
The team travelled by air, with suitcases containing data and equipment, and two laptop computers. The AMHWs generally met the research team at the airport in the team car, although at other times the research team hired a separate vehicle. Data collection and discussions took place at the health centre, the mental health office and in private homes by invitation.

Data were collected during 15 field trips of one to three days duration over 12 months. Eight group interviews, and ten one on one interviews were conducted. These interviews were supplemented by informal observation, photograph tours, listening to music and lyrics, and
participation in community events. Field trips were recorded through field notes, three hours of audio taped recordings, and hundreds of photographs and short videos. The audiofiles and photographs complemented and validated the field notes. Data were collated and presented as documents, PowerPoint presentations, flip charts, and animated videos (Appendices A–H) for review by the AMHWs.

**Gathering responses to the urban stories in remote settings**

The ‘Story telling project’ of the broader AIMhi programme of research in the NT (see p. 12) had already developed mental health promotion resources for the broader Top End Indigenous community. These were shown to the AMHWs in the remote communities (Appendices B-C). The urban resources which were used in this phase of consultation were: ‘Grow strong mental health’ [181] ‘Keep family strong story’ and the ‘Grow strong tree’ [182]). The ‘Grow strong tree’ has four branches that represent domains of mental health. The four branches are ‘spiritual’, ‘physical’; ‘family and social’, ‘mental and emotional’ aspects of life. The metaphor is that of a mental health ‘tree’ that needs strong roots to grow and stay well-balanced (Figure 4.). The tree summarises strengths and stressors in each of these domains of life.

**Figure 4. Urban Grow strong tree**
The stories used personal and impersonal narratives to talk about mental illness. They also used the animated ‘cartoonised’ characters of the MARVIN software (see p.39) and images of natural bush settings in the NT [136]. The stories were narrated by urban Aboriginal AMHWs in English and local Darwin ‘Kungarrakan’ language and were introduced by didgeridoo music. The scripts of these stories are shown in Figures 5 and 6, and the urban strengths and stressors, which were represented in the urban ‘Grow strong tree’, are summarized in Tables 1 and 3.

**Figure 5. Urban story one**

<table>
<thead>
<tr>
<th>Keep Family Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auntie: Hello. Here’s a story about my niece. She was all right that girl until her mum passed away, she got sad. She was walking around all night, sitting inside the house all day, smoking too much gunja, hearing voices and talking all kind. We talked with family and elders, we talked to clinic mob and doctor, trying to heal her both ways.</td>
</tr>
<tr>
<td>Niece: I was feeling empty inside, worrying, crying all the time. Family helped me with my sad feelings, I felt better and stronger with help from my family. Clinic mob started me on tablets. AMHWs visit us making sure we are coping. I never smiled for a long time until now. That aching feeling inside has gone. I’ve got time for kids now, and I’m thinking more about my culture and my totems.</td>
</tr>
<tr>
<td>Auntie: I’m really proud of that girl cos I see a strong woman. She’s good for the family, and the community. I love that girl, we’ve all got to look after her.</td>
</tr>
</tbody>
</table>
Grow Strong Mental Health

Batji! Hello! People who understand mental illness and treatment can be well again sooner and stay well for longer.

Some things keep us strong and well like hunting, lore, music, family, or work.

When we are strong and well we are in balance.

But worry and sadness can make you unwell with mental illness.

The more problems you have building up on top of each other, the more out of balance you can be.

Drugs and alcohol can make you unwell too.

Other causes of mental illness are head injury, birth injury, family history, and some medications.

You might see things that aren’t there, or hear voices.

You might feel very sad, or walk around all night, or even get violent.

People with mental illness have chemicals in the brain out of balance.

There are three main sorts of mental illness: psychosis, depression, and anxiety.

Psychosis is the illness of hearing voices, seeing things, and mixed up thoughts.

Depression is the illness of feeling very sad inside.

Anxiety is the illness of feeling very worried all the time.

Treatment for mental illness can be two way. Indigenous way and western medicine way working together - through changes on the outside and changes on the inside.

Outside changes are about doing different things, like playing footy or going fishing.

Other outside changes for better mental health might be to talk to elders, or to council, or to clinic mob, or to mental health mob.

Inside changes are to know more about mental illness and treatment, and to remember about law and culture and totems.

Remember there are three common early warning signs of getting sick again: change of appetite, worry or restlessness, and change of sleep.

There are different sorts of medication for different sorts of mental illness.

Medication needs to change to suit the person: sometimes you need more, sometimes less, and sometimes different medication.

Sometimes going to country is all you need, country is good to us, country is very important, country is good medicine.
The urban resources were adapted as recommended by the AMHWs through repeated interviews, photograph tours, and resource review. A new local story for that community was also developed. In the first community the AMHWs asked a recovered ex-client to tell his story. He told his story in English and in local language (Appendix D). In the third community one of the workers was chosen to tell her story. It was a similar story of recovery from mental illness through personal changes, family support, and remembering culture (Appendix F). The research team worked with the AMHWs to gather images and sounds to illustrate these stories in each community.

The AMHWs organised photograph tours to the library, the school, the art centre, the language centre, the Community Development Employment Programme (CDEP) centre, and the resource centre. The research team were encouraged to photograph CDEP workers, school children at play, mental health workers at their offices, a mental health workshop, and performances of the local bands.

The community workers chose local bands to provide background music, and chose particular songs that had been written by mental health workers to help to represent their story about mental health. The first community also chose traditional healing music to accompany the story. Each community AMHW team also wanted to translate different sections of the flip chart into their own language. This led to a search for qualified translators. At the language centre in the third community local Aboriginal women and the local worker helped to translate the ‘Grow strong mental health’ story. The findings of this data collection about local Indigenous perspectives of mental health are summarized in the next section and Tables 1-4.

Analysis
The AMHW responses in terms of words, images, events and music were recorded, categorised into strengths and stressors, and grouped into the four ‘spiritual’, ‘physical’, ‘social’ and ‘mental’ domains. The remote responses were then compared with the urban resources. The thematic analysis of urban resources and remote responses is summarised in Tables 1-4. The analysis is supported by a number of data sources: recorded interviews, field notes, photographs, music and observed events. The detail of the themes is presented in Tables 5-13.
Table 1. Urban responses: what keeps you strong?

<table>
<thead>
<tr>
<th>Spiritual</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Good tucker</td>
<td>Activities</td>
<td>Mate, support, coach</td>
</tr>
<tr>
<td>Ceremony</td>
<td>Medicine</td>
<td>Family/friends</td>
<td>Think positive</td>
</tr>
<tr>
<td>Hunting and fishing</td>
<td>Health centre</td>
<td>Work</td>
<td>Know about mental illness</td>
</tr>
<tr>
<td>Lore</td>
<td>Exercise</td>
<td>Hunting and fishing</td>
<td>Know warning signs</td>
</tr>
<tr>
<td>Going to country</td>
<td>Good sleep</td>
<td></td>
<td>Counsellors</td>
</tr>
<tr>
<td>Language</td>
<td>Two way treatment</td>
<td></td>
<td>Flip charts*</td>
</tr>
<tr>
<td>Elders</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Remote AMHW responses: what keeps you strong?

<table>
<thead>
<tr>
<th>Spiritual</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art/ Dance/Ceremony</td>
<td>Good tucker</td>
<td>Art centre, activities</td>
<td>Support/counseling</td>
</tr>
<tr>
<td>Totems/dreaming/spirits*</td>
<td>Medicine</td>
<td>Elders/Family/kinship*</td>
<td>Thinking counseling</td>
</tr>
<tr>
<td>Hunting and fishing</td>
<td>Health centre</td>
<td>Work</td>
<td>Knowing mental illness</td>
</tr>
<tr>
<td>Lore/stories*</td>
<td>Exercise</td>
<td>Hunting and fishing</td>
<td>Making changes</td>
</tr>
<tr>
<td>Going to country</td>
<td>Elders/Family</td>
<td>Teaching children*</td>
<td>Family/kinship*</td>
</tr>
<tr>
<td>Language</td>
<td>Stories*</td>
<td>Music*</td>
<td></td>
</tr>
<tr>
<td>Elders/family/kinship*</td>
<td>Two way treatment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Differences between urban and remote responses

Table 3. Urban responses: what takes your strength away?

<table>
<thead>
<tr>
<th>Spiritual</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture worry</td>
<td>No bush tucker</td>
<td>No activity</td>
<td>No support</td>
</tr>
<tr>
<td>No ceremony</td>
<td>Not taking treatment</td>
<td>Family Worry</td>
<td>Mixed up thoughts</td>
</tr>
<tr>
<td>Lore trouble</td>
<td>Physical illness</td>
<td>Work worry</td>
<td>Confusion</td>
</tr>
<tr>
<td>No hunting/fishing</td>
<td>No exercise</td>
<td>Violence</td>
<td>Don’t know about mental illness</td>
</tr>
<tr>
<td>Can’t sleep</td>
<td>Too much grog</td>
<td></td>
<td>Sadness and worry</td>
</tr>
<tr>
<td>Too much gunja</td>
<td></td>
<td></td>
<td>Hearing voices or seeing things</td>
</tr>
</tbody>
</table>

Table 4. Remote AMHW responses: what takes your strength away?

<table>
<thead>
<tr>
<th>Spiritual</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture worry</td>
<td>No bush tucker</td>
<td>No activity</td>
<td>No support</td>
</tr>
<tr>
<td>No ceremony</td>
<td>Not taking treatment</td>
<td>Family worry</td>
<td>Mixed up thoughts</td>
</tr>
<tr>
<td>Lore trouble</td>
<td>Physical Illness</td>
<td>Gossip*</td>
<td>Confusion</td>
</tr>
<tr>
<td>No hunting/fishing</td>
<td>No exercise</td>
<td>Jealousy*</td>
<td>Don’t know about mental illness</td>
</tr>
<tr>
<td>Can’t sleep</td>
<td>Violence</td>
<td></td>
<td>Sadness and worry</td>
</tr>
<tr>
<td>Too much grog</td>
<td>Work worry</td>
<td></td>
<td>Hearing voices or seeing things</td>
</tr>
<tr>
<td>Too much gunja</td>
<td></td>
<td></td>
<td>Self harm or suicide</td>
</tr>
</tbody>
</table>

* Differences between urban and remote responses
Data Validity
The responses of the AMHWs to the urban resources and to the request to tell their own story resulted in revision of the urban resources, a revised ‘Grow strong mental health tree’ (Figure 7) and a new story presented as an animated video (Appendix E). These resources were reviewed regularly as PowerPoint presentations and flip charts and modified as necessary, until the final versions were approved by the AMHWs.

Figure 7. Remote Grow strong tree

This validation of the new resources through ‘informant validation’ allowed confirmation of accuracy of the AMHW perspective. A number of different sources of data were used throughout this phase, which allowed two-way checking of the themes. Field notes from interviews and participant observation were compared with photographs, music, and audiotaped interviews. All of these data sources were used to develop the themes, in addition to the final versions of the local multi media stories.
Table 5. AMHW responses: what keeps you strong culturally and spiritually?

<table>
<thead>
<tr>
<th>Words used to describe cultural and spiritual strength</th>
<th>Going to country</th>
<th>Family</th>
<th>Totems/dreaming/spirits</th>
<th>Stories</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Going to country</td>
<td>Family</td>
<td>Totems/dreaming/spirits</td>
<td>Stories</td>
<td>Language</td>
</tr>
<tr>
<td>Dance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceremony/lore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hunting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Words and stories used to describe cultural and spiritual strength

‘Yep also the culture family too... keep our culture strong, take them kids out bush... teach them dancing and dreaming, culture too as well... and that is a really important part of our lives’ (J)

‘Use photos of the old way ...and grandfathers who were strong in ceremony’ (B-F)

‘...Show traditional dance ...people painted wearing ‘naga’ (loin cloth)’ (B-F)

‘Going back to my country... the spirits welcome you... you feel happy to be back there... go hunting and fishing with all the family...’ (B)

‘That Mortuary (totem) pole shows how the stories are passed down from the elders to the children to teach them how to behave.’ (B-F)

‘Yeah... all that past about my people, about going out hunting and the corroborees’ (H)

‘Ask elder from each skin group to tell a strong story about culture and totems’ (B-F)

‘Skin group meetings and strong men’s and strong women’s groups’ (B-F)

‘Before, families were close... singing, corroboree all night... dugout canoes, that’s how old people survived... teach dancing and singing... make people strong’ (H, I)

Photos or images chosen to represent cultural and spiritual strength

Senior AMHW looking up at a mortuary (totem) pole
Traditional art work
Photos of a graduation ceremony and traditional dance in celebration
A video of a traditional ceremony
An animated character ‘dancing the shark dance’ (A dance which represents one of the ‘totems’ of the AMHW)
An animated character ‘playing clap sticks sitting cross legged’.
Fishing from a dugout canoe
Women translating at the language centre
The local church
Women in the church grounds conducting a ‘healing mass for youth’
Photograph of group of men who have just killed a buffalo
Photograph of a young man hunting with gun
Photograph of the islands from the air
Photograph at the art centre and people holding art work

Related events observed or arranged

Gathering of a group of women on the lawns outside the mental health office for a ‘healing mass for youth’ that was held regularly.
AMHW dancing in the health centre to demonstrate ‘totem’ dance for the resource
A canoe-building project in the community supported by the AMHWs. It was seen as a project about traditional activity that was helping the youth of the community.
An AMHW chose photos at the library of ‘old times’ eg father in a dugout canoe
Translation of resources to local language in language centre with AMHW
Translation of resources by local teacher with AMHW
Photograph tour of the museum and the art centre with AMHWs
Presentation of CD obtained from library by AMHWs of traditional healing music

*A-K represent 11 individual informants – 10 mental health workers and one client
AMHW perspectives on mental health

Spiritual and cultural strength
There were a number of ways in which the workers described the importance of culture and spirituality and sharing knowledge for strength. The detail of the responses is outlined in Table 5. Culture was linked with many other activities such as artwork, dancing and hunting. For example:

…and all that past about my people…about going out hunting and the corroborees …and everything that we used to have…All that have been faded away. That kept me strong in my life. (Female mental health worker)

The pictures that were chosen to represent this theme depicted local people and local activities. For example, the photograph of a recent celebration ceremony was chosen. This photograph showed men and women wearing body paint and dancing in a traditional ceremony. The men were wearing traditional ‘naga’ (loin cloths). The AMHWs chose two types of music to accompany their stories – modern and traditional. The traditional music was described as ‘healing music’ and was a recording of clap sticks (a traditional percussion instrument) and singing. One event, which highlighted the role of culture and spirituality in mental health, was the gathering of a group of women on the lawns in the church grounds outside the mental health office. It was described as a ‘healing mass for youth’ that was held regularly. The photos of this event were incorporated into the tools, as was a photograph of the church beside the mental health office.

Physical strength
The descriptions of physical health and lifestyle include bush tucker such as yams and seafood, exercise such as football and softball, and the health centre and medication.

What made me strong back in those times like my mother and my grandmother used to take me out hunting, teaching me bush foods, how to get the right food. (Female mental health worker)

Football was particularly valued in the first community and it was not surprising that the client who was chosen to tell his story was also a proud local football identity.

I’m now the coach of the year for the remote Top End Football Club! (Male ex-client)
### Table 6. AMHW responses: what keeps you strong physically?

#### Words used to describe physical strength

<table>
<thead>
<tr>
<th>Good tucker</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td></td>
</tr>
<tr>
<td>Health centre</td>
<td>Stories</td>
</tr>
<tr>
<td>Exercise</td>
<td>Aboriginal way and non-indigenous way</td>
</tr>
</tbody>
</table>

#### Stories used to describe physical strength

- ‘And I’ve competed in the Royal Life Saving National Championship, and I’ve competed in the under six event to learn How to Survive, and also Resuscitation, and also...I’m now the Coach of the Year for the ____ Football Club, for the ____ football league’ (J)
- ‘To those people who suffer the depression or mental illness – that what I’ve been through – you’ve got to take doctors orders and make sure you take your medication. You need a lot of counselling and also your family.’ (J)
- ‘And it’s really good to get the family together, and the mental health team, to give you support and make sure you take your medication.’ (J)
- ‘Go hunting for bush tucker to keep you strong’ (J)
- ‘Make people strong by collecting yams...the right food’ (I)
- ‘What made me strong back in those times like my mother and my grandmother used to take me out hunting teaching me bush foods how to get the right foods which foods were right for us to eat and which were poison so we used to go through all that like they taught us and now its been passed on to me as a mother and grandmother like its my turn to teach my grandkids and my daughters and others as well to try and pass that down’. (H)
- ‘Helping my clients and my people in this community... bush medicine it helps but its not enough. We haven’t got the right tools. That’s why we need non-Indigenous medicine to come and help us there as well’. (H)

#### Photos or images chosen to represent physical strength

- Photograph of the health centre
- Photograph of the psychiatric ward at the hospital
- Mental health workers outside the office and the health centre and inside the training centre
- A client holding a dosette box
- Children playing football
- Bush tucker (catching a fish)
- Group of young men buffalo hunting
- Request to add animated character for dance, football, and soft ball
- Photograph of bush medicine leaf
- Photograph of community artwork depicting bush tucker e.g. turtle and ‘long bum’
- Group of men at work for CDEP
- Children playing at school sports
- Animation: young man with handline and spear

#### Related events observed or arranged

- Football matches were attended enthusiastically by all the AMHWs and the community
- A photograph tour of hunting in mangroves with the AMHW was planned
- An AMHW showed the bush medicine leaf which was being used to treat one of the clients
- A photograph tour with AMHW took place with school children on sports day

* *K represents 11 individual informants – 10 mental health workers and one client*
Social strength

Family and ‘skin group’ was a very important element in the development of the mental health worker team in the first community. The workers emphasised the importance of their membership of the different skin groups for assessment and treatment, and that as a team they represented each of the four larger skin groupings of the islands. Themes of family and kinship were entwined with many of the other activities and themes, such as hunting, corroboree, treatment and support for illness, and passing on knowledge.

Yep also the culture family too, keep our culture strong, take them kids out bus, teach them dancing and dreaming, culture too as well, and that is a really important part of our lives'. (Male ex-client)

Yeah! My mother and grandmother used to teach everything what they were taught before by their mothers – that how I want to teach my kids, my grandchildren, to do the same ...because back in those times, like to me it was strong, we didn’t have this mental health problem... because at that time we had good life ... we’ve enjoyed everything. (Female mental health worker)
Table 7. AMHW responses: what keeps you strong socially?

<table>
<thead>
<tr>
<th>Words used to describe social strength</th>
<th>Stories used to describe social strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinship</td>
<td>‘And what keep me strong? I found a job to work - I work at the pool for two and half years. And also I’m working at the store to keep me busy and occupied - keeping me busy’. (J)</td>
</tr>
<tr>
<td>Family</td>
<td>‘What they grand parents did before... if they do get those stories ...it will help them’ (H)</td>
</tr>
<tr>
<td>Elders</td>
<td>‘Yep also the culture family too, keep our culture strong, take them kids out bush, teach them dancing and dreaming, culture too as well, and that is a really important part of our lives (J)</td>
</tr>
<tr>
<td>Teaching children</td>
<td>‘Yeah! My mother and grandmother used to teach everything what they were taught before by their mothers – that how I want to teach my kids, my grandchildren, to do the same...because back in those times, like to me it was strong, we didn’t have this mental health problem... because at that time we had good life ... we’ve enjoyed everything.’ (H)</td>
</tr>
<tr>
<td></td>
<td>‘Before families were close, singing corroboree dancing all night bring that back’ (H, I)</td>
</tr>
<tr>
<td></td>
<td>‘Kids at school need to hear these stories (about mental illness)’ (B-F)</td>
</tr>
<tr>
<td></td>
<td>‘Have a social club for all the family together...something like..food, music and bingo’ (B-F)</td>
</tr>
<tr>
<td></td>
<td>‘Yeah... myself and my kids, my two kids, who supported me all the way... and all that past. About my people..about going out hunting and the corroborees’ (H)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Photos or images chosen to represent social strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children at crèche</td>
</tr>
<tr>
<td>Children being held by parents</td>
</tr>
<tr>
<td>Men singing in band</td>
</tr>
<tr>
<td>Graduation ceremony</td>
</tr>
<tr>
<td>Animations: ‘tour guide, artists, policeman, school teacher, picture of CDEP, studying, Museum photos of strong ancestors AMHWs playing guitar</td>
</tr>
</tbody>
</table>

Related events observed or arranged

Photograph tour following the CDEP workers
Photograph tour at the language centre
Presentation of CD obtained from library of traditional healing ceremony by AMHWs
Photograph tour of school sports day
Photograph tour of band recording and playing

*A-K represent 11 individual informants – 10 mental health workers and one client*
Mental and emotional strength

This was the most abstract question – one difficult to illustrate. One key theme in response to this question was of having care and support, usually from family but also from a treating team.

    And it’s really good to get the family together, and the mental health team, to give you support. (Male ex-client)

A second theme was that of gaining a new perspective. There were descriptions that suggested an individual needed to step back from the problem, think about things differently, and make positive changes.

    It’s like a jigsaw puzzle… you try to solve the problem yourself. Well - I did that. (Female mental health worker)

    If you could only see that man has changed the stars
    Its not too late to change your life gotta know what’s good from wrong to right.
    Pop song written by male mental health worker and chosen by two female and three male mental health workers.

Another theme was that of ‘knowing about mental illness’. The personal stories used the ‘western’ terminology for illness, and a number of statements suggested ‘learning’ and knowledge’ were important.

    So I have suffered from manic depression and mental illness. (Male ex-client)
    Depression. I didn’t know what it was first. (Female mental health worker)
    So I would like my people to learn the western side as well - not only our way.
    (Female mental health worker)
Table 8. AMHW responses: what keeps you strong emotionally?

<table>
<thead>
<tr>
<th>Words used to describe emotional strength</th>
<th>Making changes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>Family</td>
<td>‘Two way’</td>
</tr>
<tr>
<td>Thinking positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowing about illness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Words and stories used to describe strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Depression. I didn’t know what it was first, then how I got sick, but by looking at myself, wondering, thinking,</td>
</tr>
<tr>
<td>what’s this inside of me… and people used to tell me don’t trust the white people. They might give you wrong</td>
</tr>
<tr>
<td>medications. I used to keep that in my mind, so I didn’t go and see the white people. I did that myself,</td>
</tr>
<tr>
<td>how I got out is by putting my children first, and bringing all that what I’ve lost. It’s like a jigsaw</td>
</tr>
<tr>
<td>puzzle… you try to solve the problem yourself. Well - I did that’. (H)</td>
</tr>
<tr>
<td>‘I can’t change my people what they are thinking inside I can’t tell them I can’t force them its like waiting for</td>
</tr>
<tr>
<td>the right time for that person to get to know you’ (H)</td>
</tr>
<tr>
<td>‘If we work together as a team, it’s like a two-way treatment. Aboriginal way and non-Indigenous way. Get</td>
</tr>
<tr>
<td>them together, work together as a team. So I would like my people to learn the western side as well - not</td>
</tr>
<tr>
<td>only our way.’ (H)</td>
</tr>
<tr>
<td>‘And it’s really good to get the family together, and the mental health team, to give you support and make sure</td>
</tr>
<tr>
<td>you take your medication’. (J)</td>
</tr>
<tr>
<td>‘So I have suffered from manic depression and mental illness’ (J)</td>
</tr>
<tr>
<td>‘To those people who suffer the depression or mental illness – that what I’ve been through – you’ve got to</td>
</tr>
<tr>
<td>take doctors orders and make sure you take your medication. You need a lot of counselling and also your</td>
</tr>
<tr>
<td>family.’ (J)</td>
</tr>
<tr>
<td>‘Talk about the problem…(and) have a ‘safe house’ (for people at risk of self harm)(B-F)</td>
</tr>
<tr>
<td>‘Think with your head not with your heart’ (B-F)</td>
</tr>
<tr>
<td>‘Talk to family or to skin group’ (to solve problem of suicide attempts) (B-F)</td>
</tr>
</tbody>
</table>

The time has come to give it all away
Down with drugs and grog
If you could only see that man has changed the stars
Its not too late to change your life gotta know what’s good from wrong to right
Murrayar, The time has come to give it all away

Pop song chosen (B-F) The song is written for a 15 year old cousin

Photos or images chosen to represent emotional strength
AMHW conducting traditional counseling out bush
Local person with arm around shoulders of another
Mental health workers and mental health office with non-Indigenous workers

*A-K represent 11 individual informants – 10 mental health workers and one client
Remote responses: what worries take your strength away?
The AMHWs described many stressors in terms of the absence of strength: for example, ‘no ceremony’ or ‘no hunting’, or alternatively as a worry related to strength, for example ‘culture worry’ or ‘work worry’. There were also a number of clear descriptions of symptoms of mental illness.

   Like I feel really scared like someone is doing a lot of threats on me, like someone is cursing me, you know. I had a lot of things in my mind - that I gonna self harm to myself.
   (Male ex-client)

A number of animations representing mental and emotional symptoms such as sadness and anxiety were developed. None of these were specifically chosen by the AMHWs, however they were approved for use in the education resources. The AMHW responses are summarised in Tables 9–13.
### Table 9. AMHW responses: what worries take spiritual strength away?

<table>
<thead>
<tr>
<th>Words used to describe worries which take away strength</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No ceremony</td>
<td>Culture worry</td>
</tr>
<tr>
<td>No hunting</td>
<td>Losing old ways</td>
</tr>
<tr>
<td>No fishing</td>
<td>Lore trouble</td>
</tr>
</tbody>
</table>

**Words and stories used to describe worries which take away strength**

- ‘Nowadays wrong food… doing wrong things we forgot our cultural ways… too much grog and gunja ..families not close …bring back old ways’ (H, I)
- ‘That Mortuary (totem) pole shows how the stories are passed down from the elders to the children to teach them how to behave. Now a days we can’t pass those stories on because life has changed and the old people don’t knew how to teach those kids… and the mortuary pole is broken.’ (B-F)
- ‘Yeah…all that past. About my people…about going out hunting and the corroborees ...and everything that we used to have…All that have been faded away. That kept me strong in my life’ (H)
- ‘Big problem…wrong-way marriage…Kids not respecting their elders’ (B-F)

**Photos or images chosen**

- Ceremony
- Hunting
- Artwork depicting dance
- Artwork depicting turtle

*A-K represent 11 individual informants – 10 mental health workers and one client*
Table 10.  AMHW responses: what worries take physical strength away?

<table>
<thead>
<tr>
<th>Words used to describe worries which take away physical strength</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No bush tucker</td>
<td>No exercise</td>
</tr>
<tr>
<td>Not taking treatment</td>
<td>Poor sleep</td>
</tr>
<tr>
<td>Physical illness</td>
<td>Alcohol and drugs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Words and stories used to describe worries which take away strength</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>‘She should get a job...she only walk for gunja’ (A)</td>
<td></td>
</tr>
<tr>
<td>‘Now days wrong food ...not the right things’ (I)</td>
<td></td>
</tr>
<tr>
<td>‘It makes me strong that I gave up drinking and drugging nearly 4 – 5 years now’. (J)</td>
<td></td>
</tr>
<tr>
<td>‘Back in my time when I used to see my people spearing each other to death alcohol destroyed my people and then gunja was introduced later on ... Alcohol and petrol sniffing in my time... that would take my strength away I used to see people fighting each other’ (H)</td>
<td></td>
</tr>
<tr>
<td>‘Need to close club or put it away from town...have a 4 can limit’ (B-F)</td>
<td></td>
</tr>
<tr>
<td>‘Helping my clients and my people in this community... bush medicine it helps but its not enough. We haven’t got the right tools. That’s why we need non-Indigenous medicine to come and help us there as well’. (H)</td>
<td></td>
</tr>
<tr>
<td>‘Thinking... awake all night ...even during the day I would stay inside all the time. That affected me really inside of me - it was really...bad’. (H)</td>
<td></td>
</tr>
</tbody>
</table>

You been walking around with those stoned eyes  
Freaking out at everything you see  
Now you’re alone and now you see things  
Gunja has got to you  
Pop Song chosen (B-F)

Photos or images chosen

- Health centre  
- Marijuana and homemade ‘bong’ (equipment used for inhalation of marijuana)  
- Bottles and cans of alcohol  
- Playing basketball and football  
- A bed and foot steps indicating walking round at night not sleeping  
- Tablets and medicine bottle  
- Photograph of the health centre  
- A client holding a dosette box  
- Children playing football  
- Bush tucker (catching a fish)  
- Group of young men buffalo hunting  
- Request to add animated character for dance, football, and soft ball  
- Photograph of bush medicine leaf  
- Photograph of community artwork depicting bush tucker eg turtle and ‘long bum’  
- Group of men at work for CDEP  
- Children playing at school sports  
- Animation: young man with hand line and spear

*A-K represent 11 individual informants – 10 mental health workers and one client*
### Table 11. AMHW responses: what worries take social strength away?

<table>
<thead>
<tr>
<th>Words used to describe worries which take away social strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>No activity</td>
</tr>
<tr>
<td>Family worry</td>
</tr>
<tr>
<td>Gossip</td>
</tr>
<tr>
<td>Jealousy</td>
</tr>
<tr>
<td>Violence</td>
</tr>
<tr>
<td>Work worry</td>
</tr>
</tbody>
</table>

#### Stories used to describe worries which take away social strength

- 'She should get a job...she only walk for gunja’ (A)
- 'I don’t know how I got sick but by looking it was relationship problem and family humbug as well its like when kids see their parents when they fight the kids they come into the stage where they can’t handle themselves that’s when the mental health illness gets developed inside of them.’ (H)
- ‘How did it begin? Thru my mental illness I had a bit of a problem that I wasn’t working, and I kept bludging on other people - that make me more sick. And especially the drug and alcohol got me causing that - so I have suffered from manic depression and mental illness’. (J)
- ‘Big problem with jealousy between men and women if they are all at the club’. (B-F)
- ‘If that person doesn’t want that story to go round if she hears that stories been going round this community she’ll get upset and her family and his family will go along asking and people and that problem will get bigger and bigger’. (H)

#### Photos or images chosen

- Family fighting
- Government car (indicating work)
- Art centre (indicating activity and work)

*A-K represent 11 individual informants – 10 mental health workers and one client*
Table 12. AMHW responses: what takes mental and emotional strength away?

<table>
<thead>
<tr>
<th>Words used to describe worries which take away emotional strength</th>
<th>Words and stories used to describe worries which take away strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>No support</td>
<td>'All things on top of you whatever the problem is deep inside small problem that you want to try and get at...holding you up'. (H)</td>
</tr>
<tr>
<td>Mixed up thoughts</td>
<td>'How it affected me... like I tried to harm myself a couple of times. I even overdosed myself with anything, trying to get rid of myself. It’s all those bad things that came into my life that really affected me, and I didn’t know that I had this depression within me. The way it affected me was my appetite. I wasn’t eating enough food. I wasn’t sleeping at night. Thinking... awake all night...even during the day I would stay inside all the time. That affected me really inside of me - it was really...bad’. (H)</td>
</tr>
<tr>
<td>Confusion</td>
<td>'Like I feel really scared like someone is doing a lot of threats on me, like someone is cursing me, you know. I had a lot of things in my mind - that I gonna self harm to myself’. (J)</td>
</tr>
<tr>
<td>Not knowing about illness</td>
<td>'Its not only the alcohol and other drugs but its that personal feelings of us individual people there sometimes you get those words inside of you, you don’t know how to get it out and all that is coming up into your head into your system inside developing that mental illness inside of us’ (H).</td>
</tr>
<tr>
<td></td>
<td>'Drugs, alcohol, anija (alcohol), amarda (marijuana), in my community. Like it takes my strengths away - especially when there’s a fight. I get involved in most of the fight trying to help my people - sometimes it helps me, sometimes its does really takes my strength away... and I get really bad inside. I get this really when I think about my people’. (H)</td>
</tr>
<tr>
<td></td>
<td>'How did it begin? Through my mental illness I had a bit of a problem that I wasn’t working, and I kept bludging on other people - that make me more sick. And especially the drug and alcohol got me causing that - so I have suffered from manic depression and mental illness’. (J)</td>
</tr>
</tbody>
</table>

You been walking around with those stoned eyes
Freaking out at everything you see
Now you’re alone and now you see things
Gunja has got to you
Pop Song chosen (B-F)

Photos or images chosen
Grave and cross
Sad face
Confused face

*A-K represent 11 individual informants – 10 mental health workers and one client*
How to tell the story and approaches to assessment and treatment

The previous discussion summarises local perspectives of mental health and mental illness. The researchers also gathered information about how that story might be shared, i.e. how to ‘tell the story’. The AMHW responses to this question are summarised in Table 13 and are described below:

1. Have a holistic approach: family, social activity, culture and health are all related
2. Use local language or Aboriginal English and relevant metaphors
3. Link with local AMHW or family to enhance sensitivity to cultural issues
4. Use pictures relevant to the local setting
5. Use story telling e.g. personal stories of recovery narrated by local people
6. Acknowledge both modern and traditional strengths and stressors
7. Show respect for both cultures and systems of knowledge: two way approach
8. Use indirect not direct approaches to assessment
9. Use local music: traditional music or modern popular music played by local bands

Holistic

The AMHWs described mental health in terms of a holistic view of life strengths and stressors. The photos, stories, and music chosen by AMHWs to tell the mental health story illustrated connections between family, culture, country and traditional activities.

*Before, families were close... singing, corroboree all night...dugout canoes, that’s how old people survived... teach dancing and singing... make people strong.* (One female and one male mental health worker)

The above is one of many examples that interweave themes of family, music, dance, ceremony, and fishing and hunting.

Language and metaphor

The AMHWs emphasised the importance of using local language and translated the local stories in both written and oral forms. The role of metaphor in communication was also important: a dugout canoe was chosen to represent mental health in the third community, while the metaphor of a tree with four branches was acceptable in the other two.

*Use a dugout canoe to show what keeps us strong (as a metaphor for well being).* (One female and one male mental health worker)

Metaphors were also evident within the interviews, for example the ‘jigsaw puzzle’ metaphor that was used for problem solving in the description of mental and emotional strength (see p. 71.)
# Table 13. How to tell the story and approaches to assessment and treatment

<table>
<thead>
<tr>
<th>Summary of strategies for telling the story and approaches to assessment and treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge interrelatedness of family and kinship, culture and social activities (holistic)</td>
</tr>
<tr>
<td>Local language, people, Aboriginal English</td>
</tr>
<tr>
<td>Link with local person, family/AMHW</td>
</tr>
<tr>
<td>Sensitivity and respect for gender and kinship</td>
</tr>
<tr>
<td>Two way (respect for both cultures and systems of knowledge)</td>
</tr>
<tr>
<td>Relevant metaphors/pictures</td>
</tr>
<tr>
<td>Story telling e.g. personal stories of recovery</td>
</tr>
<tr>
<td>Acknowledge both modern and traditional strengths and stressors</td>
</tr>
<tr>
<td>Indirect not direct approaches</td>
</tr>
<tr>
<td>Local settings, local artwork, local flags</td>
</tr>
<tr>
<td>Local music: traditional and modern</td>
</tr>
</tbody>
</table>

## Words and stories about telling the story and approaches to assessment and treatment

- ‘What they grand parents did before... if they do get those stories ...it will help them’ (H)
- ‘Yep also the culture family too, keep our culture strong, take them kids out bush, teach them dancing and dreaming, culture too as well, and that is a really important part of our lives’ (J)
- ‘Yeah! My mother and grandmother used to teach everything what they were taught before by their mothers – that how I want to teach my kids, my grandchildren, to do the same ...because back in those times, like to me it was strong, we didn’t have this mental health problem... because at that time we had good life ... we’ve enjoyed everything.’ (H)
- ‘Before families were close, singing corroboree dancing all night bring that back’ (H, I)
- ‘That client might tell his story, how he got better’ (B-F)
- ‘Talk to family or to skin group’ (to solve problem of suicide attempts) (B-F)
- ‘Use a dugout canoe to show what keeps us strong’ (as a metaphor for well being) (H, I)
- ‘Use that suicide song to show worries’ (a story of having a problem and keeping it inside) (H, I)
- ‘This healing music is the right music’ (traditional local music) (B-F)
- ‘Big problem with jealousy between men and women if they are all at the club’ (B-F)
- ‘I can’t change my people what they are thinking inside I can’t tell them I can’t force them its like waiting for the right time for that person to get to know you’ (H)
- ‘Helping my clients and my people in this community... bush medicine it helps but its not enough. We haven’t got the right tools. That’s why we need non-Indigenous medicine to come and help us there as well’. (H)
- ‘And it’s really good to get the family together, and the mental health team, to give you support and make sure you take your medication’. (J)

## Images chosen to tell the story and approaches to assessment and treatment

All of the images Table 5 – 13

## Related events observed or arranged

AMHWs:
- Waited in cars outside homes, did not enter private yards without invitation
- Were initially shy and shared more information with researchers after a number of visits
- Encouraged researchers to get to know clients and carers first before talking about research
- Talked about issues over time and did not give answers straight away
- Do not assess clients through direct questions, but talk to family, or just watch what clients do
- Preferred to work as a group and give feedback as a group rather than as individuals
- Chose a recovered client and an AMHW to tell their stories of recovery in English and local language
- Chose local popular and traditional music to accompany stories
- Gave researchers a traditional healing music CD to accompany stories

* A-K represent 11 individual informants – 10 mental health workers and one client
Family and local practitioners
The importance of linking with local people or family to tell stories was revealed throughout the interviews. Family was central to many of the strengths identified. Photos of family and images of local people were chosen throughout the story telling process, and activities with family were frequently linked with strengths. Gender and kinship issues were relevant at all times.

*Talk to family or to skin group (to solve problem of suicide attempts).* (Five female and male mental health workers)

The AMHWs in communities 1 and 2 were representative of the four-clan groups on the islands, in order to be able to relate to their own kin. They were also continually adapting their behaviour to meet social customs related to gender and avoidance relationships. Polite and culturally appropriate behaviour within that culture requires careful attention to which people you may speak to, look at, be physically close to, and how you behave toward others. Some of these social rules were taught to the researchers, but many were unspoken. The researchers relied on the AMHWs as cultural informants, to avoid breaking these rules wherever possible.

Pictures relevant to the local setting
The AMHWs chose pictures of local people and places to tell the story, and local artwork and their local community flag for the background. Animated characters were also chosen to support the stories, and to narrate some of the scripts.

Two way approach
The AMHWs gave clear indication that they wanted to use both Indigenous and non-Indigenous approaches to treatment.

*If we work together as a team, it’s like a two-way treatment. Aboriginal way and non-Indigenous way. Get them together, work together as a team. So I would like my people to learn the western side as well - not only our way.* (Female mental health worker)

Story telling
The AMHWs chose a story telling approach that personalised the stories as much as possible. They chose photographs of the client who had recovered and his family, and they chose photographs of themselves, and of their community. They chose photographs in preference to the cartoonised images and animated characters that were available from the urban story development.
Modern and traditional perspectives
The AMHW interviews showed that story telling needed to include both the ‘old’ and the ‘new’. This was evident in different ways throughout the interviews: the traditional ‘healing music’ was as popular as the local band playing country ballads, the social ‘strength’ of CDEP work, was paralleled by traditional past times such as hunting and fishing or ‘going to country’. The tradition of ‘story telling’ was modernised by use of modern technology such as video, computers, digital cameras, and compact discs.

Indirect approaches
The importance of an ‘indirect approach’ was described and demonstrated in a number of ways: through waiting outside the houses rather than walking in, through discussion of relationships first rather than the topic at hand, through talking with family first rather than approaching the individual with illness, and through observing that individual in the community rather than talking directly with them about their health for example:

- *I can’t change my people what they are thinking inside I can’t tell them I can’t force them its like waiting for the right time for that person to get to know you. (Female mental health worker)*

Music
The AMHWs recommended that both traditional and popular music be used to accompany their stories.

- *Use that suicide song to show worries (a story of having a problem and keeping it inside).*
  (One female and one male mental health worker)

- *This healing music is the right music (traditional local music).* (Five female and male mental health workers)

The popular songs which were chosen continued the themes of ‘kinship and family’, and ‘story telling and teaching children’ in two ways. Firstly, in each case an older family member wrote the song in response to a real concern about a younger relative. Secondly, the song was a narrative seeking to explain behaviour and offer different solutions or explanations.
**Song 1. Murryar**
*You been walking around with those stoned eyes*

*Freaking out at everything you see*

*Now you’re alone and now you see things*

*Gunja has got to you*

*The time has come to give it all away*

*Down with drugs and grog*

*If you could only see that man has changed the stars*

*Its not too late to change your life gotta know what’s good from wrong to right*

*Murryar, The time has come to give it all away*

(Pop song chosen by 5 female and male mental health workers)

The song is written for a 15-year-old cousin of the songwriter. The young cousin has substance misuse and mental illness problems.

**Song 2. Suicide**

*Young man behaved this way*

*There must be some reason for his behaviour*

*Problem he couldn’t solve*

*Never told anyone about it*

*Thought suicide on his mind*

*Suicide.*

This song was chosen by one female and one male mental health worker. This song is written for a young relative who killed himself.

**Differences and similarities between the urban and the remote stories**

The main changes to the existing resources in terms of strengths, after this phase of data collection, were the addition of the themes of ‘teaching children’, ‘dance’ and ‘music’. The other differences were the addition of local photos, local voices, local language, local artwork and local music. In particular there was a strong message about teaching traditional knowledge, and an emphasis on corroborees and music, both traditional music and popular music. ‘Flip charts’ were not chosen as representing strength by the AMHWs. ‘Knowing about mental illness, however, was seen as important, and was retained as ‘strength’ in the resources.
There were frequent references to the importance of teaching and sharing culture for the well-being of the individual as well as for the next generation. As these descriptions unfolded it became clear that activities such as teaching children, dance, music, art, and spirituality, were interlinked as in the following quotation:

*Yep also the culture family too, keep our culture strong, take them kids out bush teach them dancing and dreaming, culture too as well, and that is a really important part of our lives.* (Male ex-client)

It was thus often difficult to determine whether to record dance (or corroboree) as a ‘social’ or a ‘spiritual’ activity. On the other hand, there were modern activities, which were more easily categorised in this way, such as ‘music’ (the modern music played by the local musicians), ‘work’, and ‘exercise’. These separate categories of ‘strength’ justified the continued use of four separate themes, while recognising those activities could overlap.

The changes to the urban stories included the addition of ‘jealousy’ and ‘gossip’ to the broad concept of ‘family worry’ (Table 1-4). Another change was the extra detail related to loss of the traditional knowledge transfer between generations, and references to the ‘old ways’ and ‘those times’ which were lost. Overall the major change was the addition of local context to the resources. The existing resources had already undergone a prolonged development phase and iterative process, and had been informed by AMHWs and other service providers working in remote communities [13]. This process may have rendered the content and format of the existing resources relatively acceptable and meaningful in the remote setting.

**Summary of AMHW perspectives of mental health**

In summary the AMHW responses were grouped into two overall themes: ‘strengths’ and ‘worries’. These two overall themes were each divided further into four categories: ‘spiritual’, ‘physical’, ‘social’ and ‘emotional’ (Table 1-4). These themes were then combined with the AMHW perspectives of *how* to tell the story to help to treat people. The perspectives from both of these sets of responses were then incorporated into the brief intervention. The ‘brief intervention’ is divided into three components for detailed discussion as follows:

1. Assessment tools
2. Care-planning and brief intervention tools and processes
3. Psychoeducation resources
Incorporating Indigenous perspectives of mental health into the intervention

The brief intervention consisted of assessment tools, psychoeducation resources, care-planning tools. Each of these components is described in detail below.

Psychoeducation resources

The psychoeducation resources consisted of five different stories. These were culturally adapted through incorporation of the images and words that have been discussed in the preceding section, with additional MARVIN animated characters described below.

Animated characters

The AIMhi NT research team liaised with the MARVIN support company to develop a number of specific animated characters for the videos to help to tell the story. The characters developed by the research team were as follows:

1. AIMhi mental health worker.
   This character was dressed in a T-shirt wearing the AIMhi logo and became a useful narrator for some of the stories. He narrated with gestures and spoken words – speaking in both English and remote Top End language.

2. AIMhi teenager named ‘Bro’.
   This male teen character was dressed by AIMhi in a remote Top End design T-shirt and given additional animations which illustrated sadness, isolation, mania and hearing voices, fearfulness and anxiety (Figure 8.). These animations were shown in two of the stories.

3. AIMhi teenager named ‘Sis’.
   This young adult female character (aged 16-26 years) was used to illustrate symptoms of mental illness and was given animations, which suggested ‘jumbled’ or ‘mixed up’ thoughts, and mania – ‘high energy – can’t sit still’. The ‘sis’ character helped to tell the ‘Medication Story’, the ‘Grow Strong Story’ and the ‘B2M story’. The other animated characters that were used to tell the stories were as follows: an NT ‘auntie’ character, an NT boy, and an NT Uncle. These characters were already available through the MARVIN project.
Figure 8.

Teensage male character (‘Bro’)

Stay Strong Story 1
A young man tells this story in English and in remote Top End language. It incorporates traditional healing music, and was converted to animated format. The animated ‘AIMHI’ AMHW character supports the story line, directs attention to the main character throughout – but also adds a light-hearted touch through some of the animations (Appendix D). It is presented as a video with matching flip chart.

Stay Strong Story 2
This is a personal story told by an older adult woman about a journey of recovery from mental illness (Appendix F). The animated ‘Auntie’ character supports the story line. She directs attention to the main character throughout – and adds emphasis and interest through accompanying animations such as gesture, picking up a child, smiling and greetings.

The ‘Grow Strong Story’
This is a four-minute video that uses the metaphor of the mental health tree. It is animated and narrated by the AIMhi mental health worker character. It uses local language and artwork to illustrate strengths and stressors, common symptoms, diagnoses, early warning signs and treatment for mental illness. A young man and an older woman narrate this story. It is presented as a video with matching flip chart (Appendix E).

The ‘Medication Story’
This four-minute story illustrates the link between the nervous system and mental illness, and between stress and neurotransmitters. It uses the metaphor of a river to talk of the chemicals in the nervous system. It uses animation, traditional music, and plain English. It is presented as a video with matching information sheets and is narrated by an adult woman (Appendix H).

The ‘B2M Story’
‘B2M’ is a popular five member local band that plays a combination of western styles of music – pop, rock and roll and country. Many of their songs have a theme related to lifestyle and well-being. This story combines a B2M song (‘Murryar’) and a slide show of remote Top End images, with accompanying animations. It is presented as a four-minute animated video (Appendix G).

**The information sheets**

These are laminated double-sided A4 handouts that describe the nature of mental illness, diagnosis and treatment. Three handouts cover psychosis, anxiety and depression. The fourth is the ‘Medication story’ and was a pictorial version of the video (Appendices H,R).

**The ‘Kalu (no) worries’ flip chart**

This flip chart has a range of ‘tips’ and strategies for lifestyle changes [183].

**Assessment tools**

**The pictorial assessment tools**

The pictorial assessment tool incorporates the pictures and language that were chosen for the stories. This tool is a colour laminated flip chart with a matching recording sheet (Appendix I).

**Care-planning tools**

**Takeaway plan of goals and steps**

This plan is a double sided sheet which summarises the steps and goals of the intervention is was given to the client at the end of the treatment session (Appendix J).

**The pictorial care plan booklet**

This booklet summarises the steps and goals and combines the information from the pictorial care plan and the written care plan. It is delivered to participants 8 weeks after treatment two (Appendix K).

**The written care plan**

This double sided plan is a version of the information for the health centre file that is delivered to participants and to the health centre. It summarises the brief intervention and includes early warning signs, crisis planning, and diagnosis. (Appendix L)

**Brief intervention**

The themes generated by the qualitative exploration were incorporated into a brief psychotherapy session that is referred to as ‘the brief intervention’. The brief intervention
consists of two one-hour treatment sessions 6 to 12 weeks apart. These were conducted by the principal investigator with an Aboriginal Research Officer and where possible a local AMHW. They are described in detail below and are illustrated in Figure 9.

Session one
Each one-hour session has a four step format.

Step One
The first step involves discussion about important and supportive family members in response to the question ‘who keeps you strong?’ Additional prompts are as follows: ‘Who do you care for? Who worries for you? Who is watching and learning from what you do?’ The names and relationship of these people are recorded on the ‘family map’, which is the first page of the pictorial care plan (Appendix M).

Step Two
The second step involves review of client strengths using the ‘Grow strong tree’ with pictures representing strengths. This page is a collation of the images and words collected with the AMHWs during the resource development phase. The strengths are then circled as they were volunteered by the client, resulting in a pictorial representation of strengths for that person under the ‘Grow strong tree’.

Step Three
The third step reviews stressors by looking together at the tree which illustrates ‘What takes my strength away?’ This page is a collation of the images and words collected with the AMHWs which represent worries. The worries are then circled as they are volunteered by the client. The result is a pictorial representation of worries for that person under the ‘Grow strong tree’, (the ‘Grow strong tree’ on this page looks unhealthy, and has brown drooping leaves).

Step Four
The final step considers changes the client might wish to make. The lead-in to this section is as follows: ‘Thinking about your family, and thinking about what keeps you strong, and thinking about what is taking your strength away, what would be the most important thing that you would want to change right now, and we can talk together about how you might go about that? The goal-setting phase then explores one or two goals and steps to those goals. The steps are refined until they are activities which are immediate, circumscribed, achievable, and relevant to that person. The steps are determined by asking the following prompts:
1. What would you like to change?
2. Why is that important to change?
3. What would be good about making that change?
4. How do you think you could go about changing that?
5. What else could you do?
6. Who could help you?
7. When could you do that?

Two additional statements are used during the interview as follows: ‘no one makes changes all at once’, and ‘small steps can lead to big changes’. These motivational prompts are also written on the pictorial plan. The interview is preceded and followed by one of the 4-5 minute psychoeducation videos – and handouts are given at the end of each session. The researchers notify other people named on a plan where appropriate and practicable, for example family members or AMHWs. The ‘Stay strong story 1’ story and the ‘Grow strong story’ videos are shown in the first session - with handouts of both flip charts at the end of the session. The client is given a copy of the goals and steps they have chosen, wished luck with their goals, and assured that their progress will be reviewed at the next session in two weeks time.

**Session two**
The second session, 2- 6 weeks later, reviews the previous change plan (steps 1 – 4), and then asks about progress to goals. Each step is reviewed and scored with a tick if it has been achieved.

**Step Five**
This session includes exploration of barriers to goal achievement, and develops new strategies as appropriate.

**Step Six**
A written care plan is developed with the client for the clinic file, which incorporates a crisis relapse plan and early warning signs of relapse. The ‘crisis plan’ covers steps the client could take if they notice that they are becoming unwell. The ‘early warning signs’ are changes in mood and behaviour that suggest they might be becoming unwell. A new take away plan of goals and steps is then completed and given to the client. They are again wished luck with their goals and advised that their progress will be reviewed at the next session in 6 months time. Two different videos are shown in session two – the ‘Mental Health Medication Story’ and the ‘B2M Story’. Client participants receive two flip charts ‘Making change - No worries’
and two information sheets at this session. The handouts reflect the content of the videos. A copy of the written care plan is sent to the client four weeks after the session, and the pictorial care plan booklet containing the same detail is sent a further four weeks later.

**Step Seven**
If necessary, with client consent, the researchers arrange follow up with the local mental health team and/or the local GP in response to untreated illness or unidentified relapse.

**Follow up sessions**
Clients are offered a follow up intervention at six and twelve months. This involves a review of their progress, and an opportunity to set new goals and steps to goals. Videos and information handouts are not distributed at this session (approximately 30 minutes). Clients receive a new copy of the take away plan of goals and steps at the time. A copy of the new written care plan is placed in the health centre file.

**Summary of first qualitative phase of the study**
The treatment outlined above resulted from urban consultation followed by remote collaboration. The remote AMHWs led the development of a local story in mental health that was incorporated into a brief intervention. This qualitative data collection laid the groundwork for the experimental component of the study that compared the brief intervention with ‘treatment as usual’. These two phases represent a sequential mixed methods study. The randomised controlled trial is described in detail in the next chapter.
Figure 9. Detail of treatment

Detail of Treatment

Baseline

Assessed for eligibility
Informed consent obtained
Base line assessment
Client with carer

Treatment

Treatment Session One
Motivational care plan +
two videos (Stay Strong Story and
Grow Strong Story) + two flip charts
(Stay Strong and Grow Strong Story) +
Take away page of goals and steps

Treatment Session Two
Motivational care plan + two videos
(Medication Story and B2M story) +
flip chart (Kalu Worries) +
two information sheets +
Take away page of goals and steps

Follow up at 6 months,
12 months, and 18 months

Care plan copy sent to client
And copy in health centre file

Pictorial Care plan booklet
sent to client

Follow up sessions 6 monthly
Take away page of goals and steps
Care plan in health centre file
The experimental component of the study

Aim

The second research question was as follows: Does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’?

The experimental component of the study thus sought to discover whether the culturally appropriate treatment developed through the qualitative component of the study was effective. An eighteen-month repeated measures design was chosen in which data were collected at baseline, six, twelve and 18 months. The design included follow-up of participants for a minimum of twelve months post-treatment.

Randomised controlled design

The study design allowed treatment of both groups by introducing a delayed treatment group. The delayed treatment group received the treatment six months later. This design provides a control group for comparison with the early treatment group in those first six months, while also allowing both groups to receive treatment during the trial. This plan allayed ethical concerns about withholding treatment that could reasonably be expected to improve outcomes. It also enhanced recruitment numbers as the trial then offered all participants access to the new treatment.

The participants were randomly allocated to two groups, an early treatment group and a late treatment group. The late treatment group received ‘treatment as usual’ for the first six months of the trial (Figure 10). At the time of the first assessment the researchers did not know which participants would be in the early treatment or the late treatment groups. They were allocated to these groups, after completion of baseline measures, using random numbers. Each client was assigned a research number at the time of recruitment, and this was linked with a set of random numbers in a two-step process as follows:
1. Participants were grouped into four and a random number was generated for each of the four participants using software Microsoft Office Excel 2003 software.
2. The two participants with the highest two random numbers were allocated to the early treatment group and the lower two were allocated to the late treatment group.
The treatment involved a two-session brief intervention. The two treatment sessions were two to six weeks apart. Each session followed a particular format that included the brief intervention plus videos, handouts and follow up information (Figure 9).

Sample size
The sample size for the study was an important consideration. It needed to be clear that any difference in outcomes was more likely to be due to the intervention than to chance alone. Sample size calculation refers to using power analysis to determine an appropriate sample size for testing research hypotheses. Power analysis is a statistical procedure that is used to estimate the appropriate sample size for testing a given statistical hypothesis. ‘Statistical Power’ is the likelihood of achieving a statistically significant result if the research hypothesis is actually true, in other words, the probability that the research results will be significant at the p < 0.05 level. By convention, if the likelihood is greater than or equal to an 80% chance, then the sample size would be considered adequate.

In order to calculate the sample size in this study it is necessary to know or estimate the expected change or ‘effect size’ the intervention is likely to cause. The ‘effect size’ is stated in terms of units of the expected standard deviation (SD) of the primary outcome measure. Standard deviation is a measure of the range of variation from the mean of a group of measurements. Effect size is expressed in SD units. A large effect size is conventionally described as a variation of 0.8 and over, a medium effect size is 0.5, and a small effect size would be 0.3 [184]. The expected effect size for this study was 0.5.

The sample size was based on statistical power calculation at a power level of 0.8 and type 1 error rate of 5%, that is, a p-value of 0.05. If the p-value is 0.05, the common understanding is that the observed relationship would be expected in 5% of occasions if the effect were exactly zero. One would expect one out of 20 samples to show an effect, when in fact the effect was zero. The primary outcome measure chosen was the Health of the Nation Outcome Scales (HonOS)[185]. The standard deviation for the HonOS total score which has been calculated using large samples of non-Indigenous populations is 4 [185]. Moderate to large effect sizes (0.5 SD to 0.8 SD using HonOS as the key outcome measure) required a target sample size of at least 50 subjects. The study thus aimed to recruit at least 50 Indigenous clients with mental illness.

Recruitment
A range of challenges impacted upon recruitment and retention of the communities and the clients - ultimately 49 clients and 37 carers were recruited at baseline. Four clients identified as having no carer. Clients were recruited through liaison with the local AMHWs and the regional mental health services. No carers declined to participate. The research team generated a client list in consultation with the local mental health team. The client lists in the first two communities had not been updated for some time, and the team took several months to generate a list for the use of the research team. The client lists then changed constantly over the next two years, as new clients were admitted and stable clients were discharged. The clients participating in this study were therefore not necessarily under the care of the mental health team at all times. A review of client lists at 18 months revealed that 40% of the research participants were no longer under the care of the mental health team. The criteria for engagement with the mental health team also changed over this time, with greater likelihood of review and discharge. The research team recruited one carer and one sibling who were eligible to participate, and who were not included on the client lists.

A total of 81 clients in three communities were assessed as eligible for the trial. 80% (57 people out of 71) of those who were invited to participate in the trial, agreed (Table 14.). Some eligible clients were not able to be located. Subsequently the third community was dropped due to the limited capacity of the AMHW team to sustain engagement with the research team. Eleven clients from the third community were then dropouts.

<table>
<thead>
<tr>
<th>Community</th>
<th>Eligible</th>
<th>Approached</th>
<th>Consented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community 1</td>
<td>38</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Community 2</td>
<td>32</td>
<td>29</td>
<td>20</td>
</tr>
<tr>
<td>Community 3</td>
<td>11</td>
<td>8</td>
<td>8 *</td>
</tr>
</tbody>
</table>

* Community 3 subsequently withdrew rendering all clients drop outs
Figure 10. Participant flow through randomised trial

Participant Flow through Randomised Trial

Enrolment

Randomised (n=49)

Early Treatment Group – Treatment at Base line

Allocated to intervention (n=24)
Received allocated intervention (n=24)

Follow-up 1

Followed up (n=22)
Lost to follow up (n=1)
Withdrew consent (n=1)

Follow-up 2

Followed up (n=21)
Lost to follow up (n=2)
Consent withdrawn previously (n=1)

Follow-up 3

Followed up (n=17)
Consent withdrawn previously (n=1)
Lost to follow up (n=5)
Deceased (n=1)

Primary outcome measure analyses
Base line (n=24)
Follow up 1 (n=22)
Follow up 2 (n=21)
Follow up 3 (n=17)
Nil exclusions from analysis

Late Treatment Group – Treatment at 6 months

Allocated to intervention (n=25)

Follow-up assessment (n=22)
Allocated to intervention (n=25)
Received allocated intervention (n=24)
Did not receive intervention (n=1)
Reasons:
Deceased (n=1), Lost to follow up (n=2)
Withdrew consent (n=1)

Excluded (n=32)
Not meeting inclusion criteria (n=2)
Refused to participate(n=14)
Community withdrawn (n=11)
Not located (n=5)

Analysis

Baseline

Randomised (n=81)

Allocation

Assessed for Eligibility (n=81)

Enrolment
Client and carer engagement

The AMHWs were essential in gaining the trust of the participants and carers, and in translating the project outline and meaning to potential participants. They introduced the research team to the clients and carers, showed the team how to find their houses, and taught the research team how to engage in assessment and treatment in a culturally appropriate manner. It was usually not polite to enter the yard of a house without invitation. Other important issues in this setting relate to shyness, recognition of need to be gender appropriate, care with discussions of cultural matters, and recognition that there are avoidance relationships which require that Aboriginal people remain distant from each other. There is much more to be learned about the kinship system and the social structure of these communities, but that was not the focus of this project. The AMHWs taught the research team important nuances of behaviour, and supported the development of relationships with participants and carers which were sustained over three years of assessment, treatment and follow up phases.

Informed consent and confidentiality

An Aboriginal Mental Health worker and a carer were present wherever possible at the time of gathering consent, and the carer also gave informed consent to participate as a carer. The ability of the clients to give informed consent was assessed by the principal investigator in consultation with the AMHWs and the research officers. Participants and carers and AMHWs were given an explanation of the project in plain English in spoken, written and pictorial format. Where necessary, translation to local language was provided by the AMHWs. In all cases the data was de-identified as soon as practicable, and stored in locked offices. All information has been presented as aggregated data or de identified quotations.

Participants

Most participants were current clients of the health centre and the regional mental health team as discussed above, and were referred by the AMHWs and the regional mental health team. Two carers and one sibling were not current mental health clients, but elected to join the project as a client after the recruitment of their family member. All participants were assessed as having chronic mental illness. Chronicity was assessed by the principal investigator and took into account duration of symptoms (greater that six months) and previous episodes of relapse. In this setting, inclusion criteria which focused on episodes of relapse only might have excluded clients who had been unwell and untreated for some time. Diagnoses included schizophrenia, drug induced psychosis, recurrent major depression, bipolar affective disorder
and schizoaffective disorder.

Inclusion and exclusion criteria
Adults with chronic mental illness were the target population. Organic mental illness, intellectual disability, inability to give informed consent, and age less than 18 years were criteria for exclusion.

Outcome measures
The outcome measures chosen addressed the following: severity of symptoms of mental illness, overall well-being, life skills, illness knowledge and compliance, and substance dependence. The intervention was also likely to affect the carer, the service providers and the health services involved in the trial. Hence measures of carer well being and audits of health centre and hospital files of participants were included. The detail of the trial design has been described above (p.91). The outcome measures chosen are outlined below.

Assessment interview and assessment tools
The assessment comprised separate semi-structured interviews with client, carer and AMHW in which data pertaining to demographics, family setting, psychiatric symptoms and lifestyle were gathered. The semi-structured interview covered a full current psychiatric assessment. The local AMHWs and the Aboriginal Research Officer (ARO) translated into local language or Aboriginal English as necessary to ensure accurate two-way communication.

The interview began with an introductory section of sharing stories about home and family. It involved a brief sketch of the houses of the principal investigator and the ARO, with a description of where they lived and the family members they lived with in Darwin. The researcher then sketched another house and invited the participant to talk about their own home and family. This brief introductory session led into the interview using the assessment flip chart.

The assessment flip chart comprised 26 items with pictorial prompts, with optional responses of ‘no worries’ ‘some worries’, or ‘big worries’ to each question (Appendix I). In general it was well understood, and clients remained engaged throughout the interview that lasted an average of one hour. The same research team (principal investigator and female ARO) conducted 90% of the baseline, and 6-month interviews. A new male research officer joined the team for 12 month and 18 month follow up interviews. The principal investigator and/or
the female ARO then continued to conduct the 12-month and 18-month client and carer interviews in partnership with the new ARO. The new ARO conducted occasional interviews with men alone when this was deemed more culturally appropriate.

Some abstract questions were difficult to translate and needed careful interpretation. Examples are as follows:

1. Inquiry about persecutory ideation was frequently answered in the positive as in ‘people saying bad things about me’. Such thoughts may indicate psychosis and delusional thinking, but this did not seem to be the case on every occasion. It seemed to indicate social discomfort and conflict, rather than illness. This might be more likely to occur in the setting of a small community, with a lot of engagement in each others’ lives and activities.

2. Questions related to manic behaviour resulted in positive responses that were unlikely to indicate mania. Inquiry about increased energy and rapid speech frequently attracted a positive response from carer or AMHW, which was later, qualified, for example as follows: ‘especially when he or she is out of gunja’. The response indicated agitation and purposeful behaviour, but not necessarily the increased energy characteristic of mania.

3. Other types of delusions such as thought broadcasting, thought insertion, and thought withdrawal were not pursued directly in most interviews, as there was no ease of translation. Detailed questioning about abstract concepts was not included in the assessment because of the need to sustain rapport and engagement, and concentration. Culture, language and mental illness were obstacles to engagement and attention. Prolonged questioning might be experienced as intrusive, boring, tiring or annoying. Many clients became restless after twenty minutes. Additional information was gathered from a range of sources over time rather than from one interview.

The most reliable indicators of psychosis were the combination of positive responses to ‘talking to self’, ‘inappropriate behaviour’ and ‘hearing voices’ when these were confirmed as culturally inappropriate experiences by family and/or AMHW. The distinction between psychotic symptoms in association with a schizophrenic illness, and those in association with a depressive illness was made through reference to the predominance of the mood versus psychotic symptoms and the overall social and occupational functioning of the participant in accordance with DSM IV criteria.

The client and carer interviews were administered simultaneously where possible. There were
two points of variation. The carer score for the 'worry' related to substance use was scored separately i.e. from the carer perspective - and the carer’s own K10 score was also recorded. In practice the interviews with carers were often separate to those with clients. If time was short the interview focused on three major points - general concerns, substance misuse, and the carer K10. The AMHW interview included an assessment of the home environment of the client, and the same semi structured interview and assessment flip chart was used to explore the AMHW’s knowledge of the client’s well being (Appendix Q).

Outcome scales
Instruments to assess psychological drug dependence, well being, life skills, psychiatric symptoms, knowledge of illness and treatment, and compliance were used. Instruments with known psychometric properties and validated in the cross-cultural setting were chosen where possible and are described below. All were adapted to include pictorial prompts and plain English as necessary.

**Kessler 10 (K10)**
The K10 is a 10-item scale designed as a brief standard screening measure of psychological distress. The usage of the K10 in Australia stemmed from its use in the ABS 1997 National Survey of Mental Health and Wellbeing of Adults (SMHWB)[186]. The K10 has also been included in a number of State surveys and it was also included in the 2001 National Health Survey (NHS) conducted by the ABS and administered to adults aged 18 years and over [154].

The K10 is now one of the consumer rated measures recommended by the Commonwealth government in the suite of outcomes measures in the National Outcomes and Case Mix Collection [187]. It was chosen by government mental health services in 5 out of 8 States and Territories in Australia, including the NT. The K10 also exists as briefer versions, the Kessler-6 (K6) and the Kessler 5 (K5). These briefer versions have been used in surveys of Indigenous populations. The K6 was adopted for the Canadian National Population Health Survey of 1994-95, where it was used in conjunction with an extensive collection of mental health measures [188] while the K5 was used in the National ATSI Health Survey as already described (see p. 44) [189]. The K5 has been shown to be a very good screening tool for detecting levels of distress that are associated with an independently determined current diagnosis of an anxiety disorder and/or depressive disorder [190-192]. As mentioned earlier the National Advisory Group on ATSI Health Information and Data (NAGATSIHID) met in
November 2006 and supported the validity of K5 items and the use of the tool in future surveys [156] (Appendix I).

**Severity of Dependence Scale (SDS)**
The 5-item Severity of Dependence Scale (SDS) was designed to measure the degree of dependence on a variety of drugs. It focuses on the psychological aspects of dependence such as impaired control over drug use. Higher scores correlate with a higher degree of psychological dependence. It has been translated into Vietnamese and Portuguese languages, and has been used in a trial in Brazil for alcohol dependence. Preliminary analyses have indicated cut-off scores of 4, 3 and 6 indicative of amphetamine, cannabis, and benzodiazepine dependence respectively [193]. A recent cross sectional study of in-patients with psychotic illness in Queensland reported that the SDS correctly identified 86% of patients with DSM-IV cannabis dependence at the cut-off of 2. This study concluded that the SDS is a brief, easily administered instrument that is a reliable and valid screening tool for cannabis dependence in psychotic populations. Meanwhile an SDS score of 3 and above was determined as the optimal cut-off score in a recent study of 90 alcohol users in Sydney. The study concluded that SDS is a valid, reliable uni-dimensional scale for measuring alcohol dependence [194].

There has been no study to determine a cut-off point in Indigenous people with chronic mental illness, those who are the subject of the present study. Taking into account the above findings, a cut-off score of 3 for both alcohol dependence and marijuana was chosen. In this study the tool was adapted slightly through addition of visual cues, to enhance understanding in the setting of limited literacy [195] (Appendix I).

**Partners In Health scale (PIH)**
The Partners In Health (PIH) scale was developed in South Australia as a measure of illness management and was adapted in the NT Indigenous setting for a trial in 2003 [196]. The 9 item scale was adapted to plain English and reduced to 5 items for the purposes of this study. The questions were supported by a visual scale to aid understanding and some of the wording was adapted to plain English (Appendix I).

**Health of Nation Outcomes Scales (HonOS)**
The HonOS was developed by the Royal College of Psychiatrists in the UK specifically for use with people with mental illness as a measure of severity of mental health disorder [185]. It is a 12-item instrument measuring behaviour, impairment, symptoms and social functioning.
Each item is rated on a 5-point scale. The clinician rates the consumer on each of the scales according to their assessment of the previous two weeks, drawing on all sources of relevant and useful information. The scales were developed following testing for acceptability, usability, sensitivity, reliability and validity.

The HonOS has been chosen as a key measure in the Commonwealth National Outcomes and Casemix Collection (NOCC). The Second National Mental Health Plan (1998-2003), agreed by all Australian Health Ministers in 1998, entailed a national commitment to introduce the routine collection of outcome and casemix data in specialized public mental health services [187]. HonOS has not been validated in the Indigenous setting but a recent trial in Queensland used a revised version of the glossary and instructions. The revisions sought to render the measures more culturally appropriate for Indigenous clients [197]. The revised version of the glossary and instructions was used in the course of this project. (Appendix N)

**Life Skills Profile (LSP)**
The Life Skills Profile was developed by an Australian clinical research group to assess consumers’ overall day-to-day functioning rather than clinical symptoms. The original LSP consisted of 39 items. The abbreviated Life Skills Profile (LSP-16) requires the clinician to rate the 16 items in four broad domains (withdrawal, antisocial behaviour, self-care and compliance) according to their assessment over the last three months [198].

The LSP-16 is also a component of the National Outcomes and Casemix Collection and has also not been validated in Indigenous consumers (Appendix O). As above, a revised version of the glossary and instructions developed in North Queensland was used in the course of this project [197].
The HonOS and LSP are both clinician-rated scales. The same clinician, the principal investigator, completed all of these measures.

**Measure of perceived helpfulness of education resources**
A brief 4-item scale was developed to allow the research team to gauge the perceived helpfulness of the different components of the brief intervention – video, flip charts, information sheets and goal-setting. This scale was completed with participants at the 6-month follow up interview post treatment (Appendix P).

**Measure of progress toward goals**
The clients identified goals and steps to their goals during the first treatment session. These
were reviewed at the second treatment session. A brief clinician-rated measure was developed to score progress toward goals at the second session. The scoring was as follows:

0 – no progress (it was clear the client had not thought about the goals again in any way)
1 – little progress (no step achieved but evidence of planning for change)
2 – some progress (one step achieved)
3 – good progress (two or more steps achieved)
4 – goal achieved

Hospital file audit
Hospital admission, discharge diagnosis, and mental health act detention data was gathered from the hospital files. These data provided further information about psychiatric history and diagnosis. It also provided additional information about client progress between follow up measures, and episodes of relapse requiring hospital treatment. This audit was included in order to maximise the number of sources of information used to determine diagnosis and progress of clients. This was particularly important given the current lack of culturally specific diagnostic tools and outcome measures. Involuntary detention is more likely to occur with episodes of illness which are more severe, and which are linked with non-compliance or poor insight. The incidence of involuntary detention of clients over time was included as an additional indicator of outcome in clients. (Appendix Q)

Community file audit
A file audit at baseline and at 18 months gathered the following information:

- Mental health assessments recorded in preceding 3 months
- Care Plans developed and reviewed
- Medication detail

The audits were conducted by the principal investigator and two research officers. These file audit data provided an additional source of information to determine diagnosis and progress of clients. Mental health assessments were more likely to occur with relapse of illness. They might also indicate more regular review of clients, and an improvement in quality of service delivery, which was also an outcome of interest. The medication detail would prove useful given that the research team had no control over routine treatment, and yet change in medication might be a factor in change of outcomes (Appendix P).

Analysis
There were four data collection points in the trial – baseline, 6 month follow up, 12 month
follow up and 18 month follow up. The data were transferred from hard copy to computer at the completion of each of the four data collection points. The data was stored using the Microsoft Access database and analysed using the statistical data analysis programme ‘Stata’ [199]. The primary comparison was conducted at 6 months, 12 months and 18 months and compared outcomes of the ‘early treatment’ group with the ‘late treatment’ group. The secondary comparison examined changes over time; comparing baseline measures with 6 month, 12 month, and 18 month findings. The following discussion will outline the approach to data analysis.

**Intention to treat analysis**

‘Intention to treat’ analysis is a method to correct for differential dropout rates between patients from one arm of the study and another, or to correct for dropouts in a single arm study. Data are analysed regardless of whether or not the patients received the intended intervention. ‘Intention to treat’ analyses in randomised controlled trials thus ensure all randomised patients are included in the final analysis [200]. In line with this principle all clients in this study were treated in the groups in which they were assigned. Those who did not receive treatment continued to be allocated to that treatment group. All data were analysed bearing in mind that if the data from those who did not receive treatment was not analysed this could give an inflated estimate of clinical effectiveness.

**T test**

The $t$ statistic is used to test hypotheses about an unknown population in which the expected scores, the mean of those scores and the spread of those scores is not known. The $t$ test allows use of a sample from the population (e.g. a treated sample) as the basis for determining whether or not the treatment has had any effect. The goal of this study is to evaluate the difference between means of two populations (or treatment conditions) using the results from two separate samples and the difference over time using repeated measures of the same sample. Hence the $t$ test may be an appropriate choice for analysis of data from this study, provided that there is a normal distribution of scores.

A second consideration is whether or not the direction of change in scores is known. There are two types of $t$ tests, ‘one tailed’ and ‘two tailed’, depending upon whether or not the direction of change is anticipated. In the setting of known expected direction of change a one tailed test is used. In this study there is evidence from similar studies that this intervention would improve outcomes (lower scores) on the HONOS, hence a one tailed test was used in
comparision of outcome scores.

Analysis of the study data (using the Shapiro-Wilk test) showed a normal distribution of scores, hence one tailed t tests are appropriate for comparison of HonOS scores over time, and measures of difference between group scores at the assessment time points.

There are two important caveats to use of multiple tests. Firstly, the more tests you do, the more risk there is of type I error (increased likelihood that the variation that we are seeing is due to chance). The total probability of type I error accumulates from all of the separate tests of the experiment. Secondly, t test analysis must be interpreted with care in the setting of missing data.

In a small study such as this, every client outcome counts. The fewer participant observations available for analysis, the larger is the effect size required to reach statistical significance. In other words the intervention may be effective but the study may not have enough statistical power to show that this is the case.

There are two essential approaches to handling missing data. The first is that of simply deleting incomplete observations. This conventional method can waste data, sacrifice power, and can yield biased results. The second approach is that of replacing the missing data with an estimate, or best guess, at a replacement score. Estimating, or imputing, the missing information may be a more methodologically sound approach.

In this study not all of the participants were assessed at each time point. There were dropouts and also clients who were lost to follow up. The data analysis needed to take missing data into account and an alternative to the t test is considered below.

Mixed model regression
Mixed model regression can be used to investigate the relationship between one dependent variable, such as outcome scores, with a number of independent variables considered simultaneously such as age, gender and treatment allocation. This model enables the analysis of unbalanced, clustered data.

The mixed model regression takes into account that the data are not independent, as is the
case in this repeated measures study. This model can be used to learn more about the relationship between several independent or predictor variables, and a dependent or criterion variable. The relationship can be represented by a regression equation that describes the degree to which one variable is a function of the other. This equation can be used to construct a regression line on a scatter diagram. The direction in which the line slopes depends on whether the correlation is positive or negative. The regression coefficient signifies the degree to which the line slopes upwards or downwards.

‘Mixed modeling’ with linear regression provides a one-step means to handling missing data through estimating ‘maximum likelihood’ of missing variables. This model of analysis is thus able to use all of the data and not sacrifice power, and is able to complement and enhance the results of the $t$ test analyses [201, 202]. The analysis is discussed further in the results chapter (see p.139).

As a result of the above considerations $t$ test analyses of between group differences were complemented by mixed model regression analyses. The analyses compared the mean outcome scores of the two treatment conditions with ‘treatment as usual’, and compared outcome scores over time.

**Summary**
The present study aimed to deliver a brief intervention using a methodology that allowed comparison with a control group, while ensuring that all participants eventually received the intervention. The mixed methods design incorporated qualitative approaches and a randomised controlled trial. Mental health research usually faces a number of challenges in the field of RCTs. In general, numbers are small, resulting in the potential of loss of power. Also, external validity can be compromised by rigid inclusion and exclusion criteria which limit the trial to particular subgroups who do not then reflect the overall treatment population. This is particularly important given the high rates of comorbidity in normal clinical practice. Length of trial, too, is often an issue. An improvement observed within one week may not translate to sustained improvement. The use of manualised treatments is common, and this is also a source of difficulty in research transfer. The treatments may require special skills and training which may limit the usefulness of the study findings for practitioners in the real world. Finally there are usually a number of outcome measures used, and potentially different interpretations of response and clinical significance [203, 204].
This study faced similar challenges. Low numbers limited the power of the study, and the design incorporated numerous outcome measures. On the other hand this study has avoided some of the above concerns by:

- Developing a brief treatment which requires few specialist skills
- Having a reasonable length of follow up (12 months post treatment)
- Using broad inclusion criteria which result in a ‘real world’ client population
- Delivering the treatment in the actual setting of the target population

Overall, despite a range of challenging factors related to geography, climate and cultural context, the research team treated and followed up almost every participant, adhering to the standard protocol in almost every case. The data were collected at four time points, and stored and analysed according to considerations presented above. The results of the next stage of the study are outlined in the next chapter.
RESULTS

Results: the qualitative component of the study

The findings below address the following research question:
‘Can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?’

A range of resources was developed for the purposes of the intervention, including tools for mental health assessment, psychoeducation, and care-planning. The next section examines the degree to which the local Indigenous perspectives of mental health have been incorporated into the intervention as follows:

- Comparison of the content and process of the intervention with the themes of the qualitative findings
- Description of the response of clients to the intervention in terms of the strengths, worries, goals, and steps to goals they identified
- Report of their progress toward their goals and their assessment of the helpfulness of the intervention

Comparison of the content and process of the intervention

Analysis

The AMHWs chose photographs, music, and language to describe mental health and mental illness. These recommendations were described in Tables 1 – 13 (p.73). They also identified particular approaches to assessment and treatment. The steps in the process that they recommended and demonstrated are summarised again below (Table 15.). These images, sounds and approaches were incorporated into the content and process of the assessment and care-planning tools, the psychoeducation resources and the brief intervention as described earlier (p. 86).

This section seeks to clarify whether or not the tools and resources represented the perspectives of the AMHWs. Each resource is analysed in terms of the content and process and the results are summarised in Tables 15 - 17. The analysis involved the examination and reading of all AMHW recommendations summarised in Tables 1 – 13 and comparison with each of the resources in turn.
### Table 15. Approaches to assessment and treatment

Process: approaches to assessment and treatment recommended by AMHWs

- Have a **holistic** approach: family, social activity, culture and health are all related
- Use local **language** or Aboriginal English and relevant metaphors
- Link with local AMHW or **family** to enhance sensitivity to cultural issues
- Use **pictures and metaphors**
- Use **story telling** e.g. personal stories of recovery narrated by local people
- Acknowledge both **modern and traditional** strengths and stressors
- Show respect for both cultures and systems of knowledge: **two way** approach
- Use **indirect** not direct approaches to assessment
- Use local **music**: traditional music or modern popular music played by local bands

### Table 16. Content of resources: what keeps you strong?

<table>
<thead>
<tr>
<th>Spiritual/cultural</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art/Dance/Ceremony</td>
<td>Good tucker</td>
<td>Art centre, activities</td>
<td>Support/counseling</td>
</tr>
<tr>
<td>Totems/dreaming/spirits</td>
<td>Medicine</td>
<td>Elders/Family/kinship</td>
<td>Thinking positive</td>
</tr>
<tr>
<td>Hunting and fishing</td>
<td>Health centre</td>
<td>Work</td>
<td>Knowing mental illness</td>
</tr>
<tr>
<td>Lore/stories</td>
<td>Exercise</td>
<td>Hunting and fishing</td>
<td>Making changes</td>
</tr>
<tr>
<td>Going to country</td>
<td>Elders/Family</td>
<td>Teaching children</td>
<td>Family/kinship</td>
</tr>
<tr>
<td>Language</td>
<td>Stories</td>
<td>Music</td>
<td></td>
</tr>
<tr>
<td>Elders/family/kinship</td>
<td>Two way treatment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 17. Content of resources: what takes your strength away?

<table>
<thead>
<tr>
<th>Spiritual</th>
<th>Physical</th>
<th>Family and social</th>
<th>Mental and emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture worry</td>
<td>No bush tucker</td>
<td>No activity</td>
<td>No support</td>
</tr>
<tr>
<td>No ceremony</td>
<td>Not taking treatment</td>
<td>Family worry</td>
<td>Mixed up thoughts, paranoid</td>
</tr>
<tr>
<td>Lore trouble</td>
<td>Physical illness</td>
<td>Violence</td>
<td>Confusion</td>
</tr>
<tr>
<td>No hunting/fishing</td>
<td>No exercise</td>
<td>Work worry</td>
<td>Don’t know about mental illness</td>
</tr>
<tr>
<td>Losing old ways</td>
<td>Can’t sleep</td>
<td></td>
<td>Sadness and worry</td>
</tr>
<tr>
<td></td>
<td>Too much grog</td>
<td></td>
<td>Hearing voices or seeing things</td>
</tr>
<tr>
<td></td>
<td>Too much gunja</td>
<td></td>
<td>Self harm or suicide</td>
</tr>
</tbody>
</table>
Content and process of assessment tools

The first tool to be examined is the pictorial assessment tool. It will be described in terms of the content of the tool and the process by which it was used.

Content
The pictorial assessment tool was used to support the formal psychiatric assessment. The assessment in this study was developed to provide a baseline measure of mental health. In order to be successful in that endeavour it needed to support cross-cultural communication of abstract concepts (Appendix I). It used terms chosen by the AMHWs for most items. Simple diagrams and clip art also accompanied questions. The images and words in the tool represented the stressors described in Table 17.

This tool did not focus on strengths, did not incorporate all of the terms in the strengths table (Table 16.) and did not incorporate photos. This was not the purpose of the assessment tool. The process of focussing on strengths was a component of the treatment that was being studied, and hence was reserved for the resources that supported the brief intervention.

Nevertheless there were a number of ways in which the assessment tool did uncover strengths, and was an intervention in itself. Firstly, the pictorial prompts often represented the positive aspect of an item, such as a picture of healthy food for ‘diet’, and of a person playing sport, for ‘exercise’. Other items covered included: ‘culture worry’, ‘family worry’, ‘work worry’, and ‘physical health’. Exploration of these items frequently resulted in responses that described why these items were not a worry, and hence the way in which they provided strength. The item ‘hunting and fishing’, for example, was often linked with information about favourite hunting and fishing spots.

The second way in which the assessment tool was also an intervention, was in its description of new concepts. The exploration of knowledge of ‘early warning signs’, required explanation of the concept in order to assess that knowledge. The diagrams that were used to aid communication of such concepts also resulted in a psychoeducation process. In summary, the assessment tool incorporated much of the strengths and all of the stressors content recommended by the AMHWs and was also a brief educational intervention.

Process
The format of the tool is a coloured, laminated flip chart with a matching recording sheet. It
addressed assessment in a holistic way by incorporating questions about family, physical health, work, and culture. The language chosen was plain English and Aboriginal English. Family and AMHWs were invited to participate in the assessment, and were also interviewed separately wherever possible. Pictures and metaphors assisted understanding. Modern and traditional stressors were explored. A two-way approach was encouraged by engagement of AMHWs in the assessment process, and through (tactful) exploration of potential cultural causes of stress.

There were three ways in which the assessment tool design supported an indirect approach.

1. The introduction involved sharing about home and family before commencement of the formal interview. As described earlier, this component included a brief sketch of the houses of the principal investigator and the ARO, with a description of where they lived and the family members they lived with in Darwin.
2. The flip chart design allowed the interview to take place side by side without direct eye contact or confronting body language.
3. The pictorial prompts allowed exploration of the detail of psychiatric symptoms by pointing at pictures, which allowed the interview to flow with fewer direct questions.

Table 18 summarises the aspects of the assessment tools, which corresponded to the AMHW recommendations.

Content and process of care-planning tools
These plans summarised the steps and goals of the intervention and were given to the client at the end of the treatment session. The pictorial tool summarised goals and steps and was described earlier (‘Takeaway plan of goals and steps’ – Appendix J). The written plan has similar content and format without the pictures. It summarises the brief intervention in plain English and includes family, strengths, stressors, goals, steps to goals, early warning signs, crisis planning, and diagnosis (Appendix L).

In terms of content, most of the words and pictures chosen by the AMHWs to represent strengths and stressors were incorporated into these tools. In terms of process, the tools approached care-planning in a holistic way by incorporating matching images and words to represent four areas: family and social health, physical health, spiritual and cultural health, and mental and emotional health. The language chosen was plain English and Aboriginal
English. *Family* and AMHWs were invited to participate in care-planning. *Pictures* and metaphors assisted understanding. *Modern and traditional* stressors were explored. A two-way approach was encouraged, with traditional healers incorporated as potential members of the treating team and referral for cultural treatment noted as an option in follow up. The care-planning tools incorporated indirect approaches in similar ways to the assessment tools through: discussion of family and strengths before discussion of worries, flip chart design which allowed the interview to take place side by side, and pictorial prompts which allowed the interviewer to avoid direct questions. A summary of the way in which the care-planning tools sought to incorporate the suggestions of the AMHWs is presented in Table 18.

**Content and process of brief intervention**

The brief intervention incorporated motivational counselling and problem solving strategies. It was delivered in two one-hour sessions two to six weeks apart (Figure 9.). Each session had a four-step format:

1. Discussion about important and supportive family members
2. Review of client strengths using the ‘Grow strong tree’ with pictures representing strengths
3. Review of stressors using the ‘Grow strong tree’ with pictures representing stressors
4. Consideration of changes the client might wish to make, and formal goal-setting

In terms of content of the intervention, the care-planning tools and psychoeducation resources supported the brief intervention, and all of these tools and resources incorporated the pictures and words recommended by the AMHWs.

In terms of process, the brief intervention aimed to be holistic through discussion about strengths and stressors and goal-setting in the context of four areas: family and social health, physical health, spiritual and cultural health, and mental and emotional health. The language chosen was plain English and Aboriginal English. The intervention incorporated family in three sections: firstly, through engagement of carers in the treatment sessions, secondly, through incorporation of carers on the family map, and thirdly by involving family in the goal-setting phase of the care-planning. This section incorporated a standard question: ‘Who could help with that step?’ which usually led to discussion about the support that was available within the family and the supportive network for that person within the community.
Pictures and metaphors assisted understanding throughout the brief intervention, and were helped by music, animated characters and spoken language in the videos. The videos and music incorporated story telling by Indigenous narrators, who highlighted their own or others experience of mental health and illness. Modern and traditional strengths and stressors were explored through pictorial prompts and the video stories.

A two-way approach was encouraged, through acknowledgement of cultural causes and cultural solutions to troubles. The intervention also aimed to incorporate a two-way approach to mental health terminology. The resources included the words the client used to describe their illness in Aboriginal English, as well as the formal descriptors and diagnoses that the mental health services would use.

The brief intervention used the care-planning tools to guide an indirect approach to treatment as discussed above, through: the discussion of family and strengths before discussion of worries, the flip chart design which allowed the interview to take place side by side, and pictorial prompts which allowed the interviewer to avoid direct questions.

The way in which the brief intervention sought to incorporate the advice of the AMHWs is summarised in Table 18.

Content and process of psychoeducation resources

Stay Strong Story 1
This is the local story that was developed with AMHWs in the first two communities. It is told in English and in remote Top End language, incorporates local pictures and traditional healing music, and includes an animated ‘AIMhi’ AMHW character. These characters were developed in Central Australia prior to this project. They are cartoonised characters that have local Indigenous appearance. This character supports the story line, directs attention to the main character throughout – and also adds a light-hearted touch through some of the animations e.g. he steps out of a lap top computer on his arrival and flies away in a lap top on departure (Appendix D).

The story tells the personal tale of someone who has mental illness ‘I got that manic depression’ and who has made positive changes in his life ‘I stopped drinking and drugging’. He describes both modern and traditional strengths eg ‘dancing and dreaming’ and ‘football’.

111
He also shared his personal stressors, which included ‘bludging [imposing] on other people’, and ‘I wasn’t working’. It is illustrated by images of the island, his family, the local AMHWs, and the health centre. He encourages the observer to seek two way help from both family and the mental health team.

*And it’s really good to get the family together, and the mental health team, to give you support and make sure you take your medication.* (Male ex client)

Table 18 compares the content and process of the psychoeducation resources with the recommendations of the AMHWs.

**The ‘Grow strong story’**
This is a four-minute video that uses the metaphor of the mental health tree. It is animated and narrated by the AIMhi mental health worker character. It uses local language and artwork to illustrate strengths and stressors, common symptoms, diagnoses, early warning signs and treatment for mental illness (Table 18.).

In this video the main character narrates with gestures and spoken words – speaking in both English and remote Top End language. It includes other animated characters of different ages and gender (‘sis’ and ‘auntie’ and ‘bro’). The younger characters exhibit emotions and behaviours that match identified stressors. They demonstrate sadness, isolation, mania, hearing voices, jumbled thoughts, fearfulness and anxiety. ‘Bro’ also displays positive behaviour that matches identified strengths – fishing, work, football, and saying ‘no’ to alcohol. It incorporates the recommendations of the AMHWs in the same way as the ‘Stay strong story’ using pictures, a holistic approach, music, two way messages, modern and traditional experiences, and story telling.

**The ‘Medication Story’**
This four-minute story illustrates the link between the nervous system and mental illness, and between stress and neurotransmitters. It uses the metaphor of a river to talk of the chemicals in the nervous system, and the way in which they can get out of balance. It uses animated characters, background traditional music and plain English. It tells a story about staying in balance in life through a range of activities: family, hunting and fishing, dance. It encourages the observer to seek help to stay in balance from family or traditional healer or the health centre or the AMHW. It provides indirect advice about compliance as follows: ‘Medication taken for one day will help balance for one day; medication taken every day will help balance
“every day”. It incorporates the recommendations of the AMHWs in the same way as the previous two video resources.

The ‘B2M Story’
‘B2M’ is a five member local band that is very popular on the islands and plays a combination of western styles of music – pop, rock and roll, and country. Many of their songs have a theme related to life style and well-being. This story combines a B2M song (‘Murryar’) and a slide show of remote Top End images, with accompanying animations. The images are of the islands, the health centre, the AMHWs and local personalities. The local young men in the band use modern music to present a story of substance misuse and mental illness. The lyrics encourage a young cousin who is ‘walking around with those stoned eyes’ to ‘make a change’ and ‘give it all away’. It is presented as a four-minute animated video and uses similar strategies to the above resources in terms of the AMHW recommendations. These are summarised in Table 18.

The information sheets
These are laminated double-sided A4 handouts that describe the nature of mental illness, diagnosis and treatment. Three handouts cover psychosis, anxiety and depression (Appendix R). The fourth is the ‘Medication story’, which was a printed version of the video of the same name (Appendix H). All include pictures and plain English and reference to elders and traditional healers, family and AMHWs, and modern and traditional strengths and stressors (Table 18.).

The ‘No Worries’ flip chart
This flip chart has a range of ‘tips’ and strategies for life style changes and it incorporated local pictures, local artwork, and the local flag.
Table 18. Local perspectives of mental health: content and process

<table>
<thead>
<tr>
<th></th>
<th>Holistic</th>
<th>Plain English or local language</th>
<th>Family and AMHW</th>
<th>Two way</th>
<th>Pictures or Metaphor</th>
<th>Story Telling</th>
<th>Modern and Traditional stressors</th>
<th>Indirect</th>
<th>Local Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Tool</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
</tr>
<tr>
<td>Care Plan</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Brief Intervention</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Psychoeducation - videos</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Psychoeducation - Fact sheets</td>
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<tr>
<td>Psychoeducation - flip charts</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Summary

The above discussion describes in detail the way in which the resources sought to translate the AMHW recommendations into mental health assessment and care-planning tools. The intervention (and the related tools and resources) was analysed in terms of content and process and compared with the AMHW recommendations summarised in Table 15-17. Table 18 summarises the discussion. The following section describes the response of AMHWs and the clients to the use of the tools.

Engagement with the intervention

The foregoing section and the following discussion draw together the results of the qualitative component of the study, and seek to answer the first research question. The question considered whether a culturally appropriate brief intervention, which incorporates Indigenous perspectives of mental health and mental illness, can be developed. The following discussion provides further insight into the resonance between the brief intervention and the local perspectives of mental health, by considering the response of the clients and carers and AMHWs to the intervention. The first aspect of the response that is considered is the degree of engagement of participants with the different phases of the study. This is followed by a detailed analysis of the content of the client responses. This analysis allows the qualitative data that was collected over the 18 months of the trial to strengthen the understanding of Indigenous perspectives of mental health and mental illness. This understanding is then compared with the original resources.
AMHW engagement

The AMHWs were well engaged in the first phase of the trial that involved development of the resources. The second six months involved baseline interviews and first treatment sessions and did not appear to engage their interest or attention to the same extent. They were frequently absent at this time. After six to twelve months, however, they were once more engaged in the work with the research team, and more actively participated in interviews and goal-setting. The AMHWs were interviewed about the clients at each time point. This resulted in 47 (96%) interviews at baseline, 36 (%) interviews at 6 months, 42 (%) at 12 months and 19 (53%) at eighteen months. The study was not designed to assess the factors which linked with engagement of the AMHWs. It may be relevant that the engagement increased after the research team gave formal feedback sessions at six months. The research team also released a number of the resources for use at that time. This may have assisted in placing the research in the context of their work place.

This feedback was given in two sessions, one session was conducted with the AMHW team in their office, and the second was shared with the general health centre staff. The research team also provided further feedback opportunities to the AMHW team at three follow up workshops in Darwin over the subsequent six months. Anecdotal comments suggested that they believed the intervention was useful, and that their clients had responded well to the process. The finding that one of the AMHWs sought counselling from the research team during a time of personal stress, and again sought a further session of goal-setting some months later is further positive feedback. The AMHW specifically requested the brief intervention care-planning approach. The client response to the intervention will be discussed below.

Engagement and retention of clients

There was a high rate of engagement with the trial from clients and carers at baseline. Most (80%) of the eligible clients and carers who were approached agreed to participate. Forty nine clients were recruited and assessed at baseline. 6 months post baseline 44 clients (90 %) were interviewed. Twelve months post baseline 42 (86%) clients were interviewed. Engagement at 18 months was still high, and 36 out of the 47 remaining clients (74%) were assessed 18 months post baseline. The missing interviews were usually not the result of withdrawal from the trial, but resulted from deferral of invitations to be interviewed. Three of the 49 clients (6%) formally withdrew from the trial. Two of the withdrawals appeared to be related to
relapse of illness and symptoms of agitation. The clients who did remain engaged were increasingly at ease with the process and more responsive to interview requests.

**Carer engagement**

Carers became difficult to engage soon after they were recruited, and the trend continued throughout the 18 months. There were fewer full interviews with carers in each round, and wherever necessary carer interviews were shortened to key questions rather than the full interview. The expected number of carer interviews at baseline was 45, at 6 months was 44, at 12 months 42 and at 18 months was 25, bearing in mind the drop outs (Figure 10). Carer information was not sought if the clients were not assessed at any given data collection point. Thirty (67%) full carer interviews were conducted at baseline, 24 (53%) at 6 months, 19 (43%) at 12 months and 6 (24%) at 18 month follow up. A higher number of brief carer interviews were obtained as follows: 38 (84%), 25 (56%), 25 (57%), 11 (44%) at 18 months. Carers were often interviewed opportunistically, for example at the airport or at the local shop. These interviews were brief and tended to explore client substance use, violence and compliance. When considering the engagement of carers the interviews of most relevance were those related to ‘treatment condition’. Treatment occurred at baseline and six months, and at these time points the engagement was still good. There was, however, markedly decreased carer engagement over time. Possible reasons for their increasing lack of engagement are discussed below.

1. Lack of interest

The 12 month and 18 month follow up session were follow up sessions only. They did not involve treatment, seeing videos and hearing stories. They may have been of less interest. Alternatively they carers may have judged the intervention as not useful, and may have become disengaged for that reason.

2. Lack of time

The carers were usually employed, and were usually supporting other family members as well. They were often the only breadwinners for a large household and extended family. It is possible that while they were keen for their family member to receive treatment, they were reluctant or unable to devote precious leisure hours to engagement with the process themselves. It is likely that they had competing priorities for their time. They may have believed that the first sessions were the most important, in order to link their family member with the project. Once that was achieved they may have rated later sessions as less important.

3. Lack of energy
The K10 scores of carers indicated high levels of distress, hence they may well have had limited energy to devote to any extra activity of caring such as engagement with the study. The carers were usually living in the same home as the client at baseline although many of the living arrangements of clients and carers changed frequently over the 18 months. The ‘worries in the home’ findings (described later) indicate high levels of domestic violence, self-harm and substance misuse in the home that may have limited their ability and energy to engage elsewhere (Figure 21). Having made the first effort to engage their family member with the study, they may have then found difficulty maintaining that effort.

4. Carers may have become less concerned about their family member over time. Any of the above may have contributed to the increasing lack of engagement with carers. It is not clear which are most likely, as the study did not address the carer outcomes and response to the intervention directly.

**Client response to the intervention**

The following discussion outlines the strengths, worries, goals and steps that clients identified in response to the intervention. The most frequent responses in each category are then compared with the words, images and processes recommended by the AMHWs.

**Figure 11. Most commonly identified strengths at baseline**

Client strengths (n=45)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Tucker</td>
<td>31</td>
</tr>
<tr>
<td>Fishing/Hunting</td>
<td>26</td>
</tr>
<tr>
<td>Family</td>
<td>25</td>
</tr>
<tr>
<td>Dance</td>
<td>24</td>
</tr>
<tr>
<td>Exercise</td>
<td>21</td>
</tr>
<tr>
<td>Music</td>
<td>20</td>
</tr>
<tr>
<td>Work</td>
<td>16</td>
</tr>
<tr>
<td>Going to country</td>
<td>15</td>
</tr>
<tr>
<td>Activity</td>
<td>10</td>
</tr>
</tbody>
</table>

**Client response in terms of strengths**

Bush tucker, hunting and fishing, family, and (traditional) dance are the strengths most commonly identified by clients (Figure 11).
Client response in terms of worries

The worries identified by clients were also represented in the resources. Family worry, sadness, self-harm behaviour and substance misuse were the most frequently identified stressors (Figure 12). Other common stressors were: ‘silly thinking’, ‘memory worries’, and worry about ‘being violent’. ‘Silly thinking’ related to a question seeking to uncover delusional thoughts. Prompts for this question included ‘jumbled’ thoughts, ‘silly’ thoughts or ‘paranoid’ thinking. ‘Worry family’ related to identification by the client that they had engaged in behaviour that worried their family.

Client response in terms of goals

Goals from both groups are presented in Figure 13. Cutting down or stopping marijuana and alcohol use was the most frequently identified goal. When the substance misuse was not a primary goal it was often a step to a different goal – such as hunting or fishing.
Figure 12. Client worries at baseline

Client baseline worries
n=49

Percentage

Type of worry

- Culture
- Self Care
- Diet
- Medication
- Sleep
- Alone
- Side Effects
- Exercise
- High Mood
- Accommodation
- Hunting
- Understanding
- Hallucination
- Work
- Self Harm
- Physical Illness
- Memory
- Violence
- Family Worry
- Silly Thinking
- Alcohol/Marijuana
- Smoking
- Sadness
- Family Self Harm
- Worry Family

Some worry
Big worry
Figure 13. Client goals chosen at treatment one and two

Client goals

- Early warning signs
- Alone
- Worry
- Sleep
- Medication
- Violence
- Think positive
- Voices
- Exercise
- Teach children
- Confusion/mixed up thoughts
- Smoking
- Sadness
- Culture
- Work
- Hunting and fishing
- Family worry/humbug
- Alcohol and/or marijuana

Activity

Percentage of goals chosen
Figure 14. Steps to goals

Client steps to goals

Steps

- Diet
- Smoking
- Knowledge/learning
- Teaching children
- * MH treatment
- Exercise
- Leisure activity
- Thinking differently
- Finances
- Work
- Cultural activity
- Hunting or fishing
- Alcohol/gunja
- Family support

* MH treatment = Mental Health treatment

Percentage of steps chosen
Client response in terms of steps

The steps represent an aspect of the intervention for which there were no specific prompts within the resources. The clients were invited to develop their own steps to their goals. The analysis of client steps was conducted as follows:

1. Examination and reading of all participants’ responses to ensure familiarity with steps
2. Grouping of steps into clusters
3. Thematic analysis of the clusters
4. Graphical presentation of findings

The steps to the goals are summarised in Figure 14. Examples of goals and steps are shown in Table 19. The steps were grouped into themes. The table illustrates the themes of ‘thinking differently’, ‘family support’, ‘limit use’, ‘control spending’, ‘finances’ ‘hunting’ ‘culture’, ‘teaching children’, ‘mental health (MH) treatment’ and ‘knowledge’. ‘Leisure activities’ included watching television, listening to music and visiting. ‘Knowledge’ included learning more about mental illness or treatment through reading information sheets or flip charts.

A secondary set of categories was developed to look more closely at the steps toward less substance use and the steps toward changing family humbug. These are presented in Figures 15 and 16. These are not mutually exclusive and individuals often chose more than one of these strategies.

Figure 15. Summary of strategies for changing substance use

![Strategy for changing marijuana or alcohol use](chart)
Table 19. Examples of goals and steps to goals

<table>
<thead>
<tr>
<th>Goal</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy</td>
<td>Family support</td>
<td>Hunting/ finances</td>
<td>Hunting</td>
<td>Hunting/ family support</td>
</tr>
<tr>
<td>I want to do more fishing and hunting</td>
<td>Talk to my nephew about going hunting and fishing more</td>
<td>Save money for hand line</td>
<td>Walk to the beach once a week on the weekend</td>
<td>Hunt behind the airstrip with my brother on Saturday</td>
</tr>
<tr>
<td>Strategy</td>
<td>Thinking differently</td>
<td>Family support</td>
<td>Limit use</td>
<td>Control spending/ hunting /gunja</td>
</tr>
<tr>
<td>I want to cut down gunja</td>
<td>Make up my mind</td>
<td>Talk to Aunty</td>
<td>Say wait to friends, smoke less</td>
<td>Buy fishing line instead of gunja next pay</td>
</tr>
<tr>
<td>Strategy</td>
<td>Culture/ family support</td>
<td>Culture/ family support</td>
<td>Culture</td>
<td>Culture/ teaching children</td>
</tr>
<tr>
<td>I want to learn more culture law</td>
<td>Sit with Aunty</td>
<td>Talk old language with grandfather</td>
<td>Go to ceremony to learn</td>
<td>Teach children old language</td>
</tr>
<tr>
<td>Strategy</td>
<td>Mental health Treatment</td>
<td>Mental health Treatment</td>
<td>Mental health Treatment</td>
<td></td>
</tr>
<tr>
<td>I want to change medication</td>
<td>Go home and take medication</td>
<td>Check increased dose with nurse</td>
<td>Put reminder to take it on fridge</td>
<td></td>
</tr>
<tr>
<td>Strategy</td>
<td>Knowledge</td>
<td>Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I want to know more</td>
<td>Watch ‘cross roads’ DVD (about substance misuse)</td>
<td>Read flip charts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategy</td>
<td>Culture</td>
<td>Culture</td>
<td>Culture</td>
<td>Culture</td>
</tr>
<tr>
<td>I want to do more culture</td>
<td>Walk out bush and get pandanus leaves and dye</td>
<td>Make a mat or basket instead of playing cards</td>
<td>Buy needles for weaving</td>
<td>Ask at the shop or the women’s centre about needles</td>
</tr>
</tbody>
</table>

Strategy for changing marijuana or alcohol use

The strategies that clients chose to change substance use are presented in Figure 15. ‘Control spending’ was a common strategy. An example of this strategy is ‘Buy food before grog’. Avoiding cues was another common strategy. Examples are as follows: ‘Dodge the smokers’, ‘Don’t go club’, ‘Only sit with family who don’t smoke’. ‘Treatment’ steps related to seeking formal treatment for substance misuse through one of the residential treatment facilities, or attending Alcoholics Anonymous meetings.

Strategy for changing family humbug

‘Family humbug’ is an Aboriginal English term. It can be defined as a stressful situation related to family obligation. The verb ‘to humbug’ refers to a process in which an individual harasses a family member and demands that family obligations are met. The stressful
situations identified by clients were related to the obligation of sharing money, marijuana, alcohol and/or cigarettes. Examples of the strategies are outlined below in Table 20 and summarised in Figure 16. The ‘Stop borrowing’ and ‘Stop lending’ strategies are self-explanatory.

Table 20. Examples of strategies to change family humbug

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control spending</td>
<td>‘Only lend one day a week’</td>
</tr>
<tr>
<td>Talk about it with family</td>
<td>‘Ask Auntie to talk to sister’</td>
</tr>
<tr>
<td>Avoid family</td>
<td>‘Move to live with other family’</td>
</tr>
</tbody>
</table>

Figure 16. Summary of strategies for changing family humbug

Strategy for changing family humbug

Preferred strategy

- Stop borrowing
- Stop lending
- Control spending
- Avoid family
- Talk about it with family

Percentage of steps chosen toward this goal
Case study

The following de-identified case study is an example of a client response to the intervention (Figure 17). The responses to each section of the intervention have been pieced together into a narrative. No new information is introduced in this process. There are four steps to the intervention: review of family, strengths, stressors and goals. The following narrative combines the goals and steps chosen at the two treatment sessions that were six weeks apart.

Figure 17. Brief case study

Robbie’s story

‘Dad, Auntie, Katie Jean and Paula help to keep me strong. Strong things I like to do are to go hunting and fishing, to dance in Aboriginal ceremony, and do my hobbies like art and music. Things which take my strength away are arguing with my brothers about money, increased mood and energy, physical illness, family worries, violence, thoughts of self harm, and suicide. Strong changes I want to make are to go hunting more with my Dad, and to work at the Art Centre. I want to talk to Dad about going hunting more, I want to talk to Nick at the art centre about stretching canvases, and I want to talk to centre link too, about working casual hours. And I want to stop arguing so much with my brothers about money, I want to stop borrowing and lending and keep my money in the bank’.

Follow up

At six month follow up ‘Robbie’ reported that he had paid off his debts, and managed to stop fighting with his brothers over money. He had increased his hours of work at the Art Centre and was taking an exhibition of his artwork interstate. At the next visit he reported that he had sold three paintings for $1,000 each and had put the money in the bank.

Comparisons of client responses with the content of the resources

The above discussion outlines the strengths, worries, goals and steps that clients identified in response to the intervention. Table 21 below summarises the five most frequent responses in each category, in order that these can be compared with the words, images and processes recommended by the AMHWs.

There are three main messages that emerge from the analysis of the client response to the resources and the intervention. Firstly, that the clients’ strengths and worries tended to reflect the main themes incorporated into the resources: cultural activities, hunting and fishing, family, and substance misuse. Secondly, that the client’s commonest goals were to change substance use and family worry, and that they were amongst the most frequent worries reported. In other words, what was most commonly identified as a problem was most likely to be chosen as a goal. Thirdly, that the steps and goals also reflected the perspectives which
were incorporated into the resources.

In summary, the comparison of client responses suggests that the content of the resources was appropriate to the values and priorities of the clients. There were, however, some new themes that emerged. These are discussed below.

**Table 21. Summary of five most frequent responses in each category**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Worries</th>
<th>Goals</th>
<th>Steps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Tucker</td>
<td>Worry family</td>
<td>Alcohol/marijuana</td>
<td>Family support</td>
</tr>
<tr>
<td>Hunting/fishing</td>
<td>Family self harm</td>
<td>Family worry</td>
<td>Alcohol/marijuana</td>
</tr>
<tr>
<td>Family</td>
<td>Sadness</td>
<td>Hunting/fishing</td>
<td>Hunting/fishing</td>
</tr>
<tr>
<td>Dance (culture)</td>
<td>Smoking</td>
<td>Work</td>
<td>Cultural activity</td>
</tr>
<tr>
<td>Exercise</td>
<td>Alcohol/marijuana</td>
<td>Culture</td>
<td>Work</td>
</tr>
</tbody>
</table>

**New or divergent themes**

**Conflict between traditional and modern influences**

The goal-setting phase revealed detail of the strengths and worries in people’s lives. One of the new themes that emerged was the way in which traditional and modern values were in conflict. The traditional value and strength of sharing with family is linked with the experience of stress in the modern world. This stress relates to obligations to share which conflict with other needs, such as the need to manage finances and household budgets. Clients and carers were frequently without food or money due to debts between family members.

A common example of this worry was that of a young adult or teenage child ‘humbugging’ (harassing) their older family members for money or for marijuana, cigarettes or alcohol. The older family members often felt extremely reluctant to encourage this drug use. But on the other hand, they felt the need to show love to their child by giving to them. A further twist on this dilemma is that teenagers have threatened to harm themselves when their requests were refused. Another example of traditional values creating conflict in the modern world was that of ‘culture worry’. People often responded to this prompt by describing the stress of not being able to fulfil traditional responsibilities, attend ceremonies, dance well, or speak ‘old language’ as well as their elders. There was thus a theme of a culture in transition, with stress in relation to the shift from traditional to modern values and lifestyles.

**Smoking is a frequent worry but not a popular goal for change**

Smoking was a more frequent worry than alcohol and marijuana. People reported worry about
the health effects of smoking, and they were concerned about the trouble it caused amongst their family members. Cigarettes were a frequent cause of conflict within families, and a common theme in the reports of ‘family humbug’. It is therefore notable that smoking was not chosen as a goal as frequently as marijuana and alcohol.

One possible reason for the choice of marijuana and alcohol over cigarettes might be that the main impetus for goal-setting was concern about worrying family. It is possible that clients were choosing their goals not only in terms of their own level of concern about a given issue, but also in terms of the degree of concern it was believed to cause their family. ‘I worry family’ was the most frequently chosen worry of all. The impact of marijuana and alcohol on families was described in terms of family humbug, violence, family separation, incarceration, and worsening of symptoms of mental illness such as feeling ‘paranoid’. Marijuana and alcohol are also likely to be more expensive habits than smoking cigarettes. Cigarettes, on the other hand, were associated with family humbug, but did not appear to link with relapse of illness, violence and other sequelae. The greater impact of marijuana and alcohol use on family relationships may explain why it was a more frequently chosen goal.

Another possible reason for the relatively infrequent choice of cigarettes as a goal for change may be that the health effects are less visible and longer term. It was easier to assess illness symptoms with both AMHW and clients in terms of concrete behaviour rather than abstract internal experiences. This tendency to live ‘in the now’ is discussed in the next section. It may be that the consequences of alcohol and marijuana use are more immediate and visible than the gradual onset of health effects secondary to long-term smoking.

Emphasis on behaviour rather than feelings and thoughts
AMHWs were interviewed about their clients every six months for 18 months. They preferred to report progress in terms of observed behaviour rather than internal experiences. A frequent response to the question ‘how is -?’ would be ‘he’s all right, I saw him sitting down with family just now’. In general, discussion of feelings and thoughts needed to be translated into behaviours in order to assist understanding.

Between-community differences
The resources were developed through engagement with three communities. The third community withdrew after the qualitative component of the trial, but the qualitative data gathered was included in the development of the themes and the resources. There were two
areas of difference in perspective between the communities. Firstly the AMHWs in the third community preferred a dugout canoe as the metaphor for strength (rather than a tree), and secondly they emphasised ‘bush medicine’ as an alternative treatment. There were no differences in terms of the other themes which were gathered and summarised in Table 22.

**Progress to goals and perceived helpfulness of the intervention**

The above discussion represented a detailed analysis of the *content of the client responses* to the intervention. Another measure of client response was gained through questionnaires that were administered after treatment.

Two questionnaires were completed to assess progress and helpfulness of the intervention. The first was a clinician-completed measure at the time of the second treatment session. The second was completed by clients six months post treatment. The questionnaires are described in detail in the methods chapter (p.100).

**Progress to goals**

Three quarters of the clients (76.5%) made at least some progress toward their first goal between treatment one and treatment two (Table 22.). Nearly one third of clients (32.3%) achieved their second goal between treatments.

**Table 22. Clinician-rated progress toward goals between treatment sessions**

<table>
<thead>
<tr>
<th>Progress toward goal (% , n = 32)</th>
<th>None</th>
<th>Little</th>
<th>Some</th>
<th>A lot</th>
<th>Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 1</td>
<td>6</td>
<td>18</td>
<td>14</td>
<td>47</td>
<td>16</td>
</tr>
<tr>
<td>Goal 2</td>
<td>16</td>
<td>26</td>
<td>3</td>
<td>23</td>
<td>32</td>
</tr>
</tbody>
</table>

**Client-rated progress toward goals**

Six months post-treatment clients were asked to rate their progress toward goals and their ratings were similar to those of the clinician-rated scale. Most clients (69%) reported that they had made at least some progress. Nearly one third of clients (29%) of clients assessed their own progress toward their goals as being at ‘extremely good’. Forty per cent of clients rated their progress as ‘some’, 29 % rated their progress as ‘a little’, and 2% as ‘none at all’.

**Perceived helpfulness and self assessed progress**

At the same time, six months post treatment; clients were asked to rate the helpfulness of the intervention. 60% of clients reported that the flip charts had been ‘some’, ‘a lot’, or
‘extremely helpful’ (Figure 18). Videos, information sheets and the talking treatment were reported of at least some help in 77%, 61% and 61% of cases respectively. These findings are positive, but they may not reflect true responses to the intervention, as the responses were not anonymous. Clients may have preferred to respond politely in the positive rather than to indicate dissatisfaction with the process.

**Figure 18.** Perceived helpfulness

The exploratory phase of the study sought to understand the local perspectives of mental health, and to adapt the content and process of the intervention to that perspective in order to render it more ‘culturally appropriate’. The forgoing discussion sought to analyse the resources themselves in terms of content and process, and to examine the response they evoked in clients in terms of engagement with goal-setting.

The qualitative data collection laid the groundwork for the randomised controlled trial, which compared the brief intervention with ‘treatment as usual’. The final phase of data analysis allowed the qualitative data related to the randomised controlled trial to be compared with the qualitative data that had been gathered prior to the RCT. The new data set above was richly descriptive and allowed the voices of clients and carers to be heard. It provided cross checking and triangulation of the perspectives gathered in the initial data collection. The qualitative data collection is summarised in Figure 19.

![Perceived helpfulness of intervention](image)

**Summary of results of the qualitative component of the study**

The exploratory phase of the study sought to understand the local perspectives of mental health, and to adapt the content and process of the intervention to that perspective in order to render it more ‘culturally appropriate’. The forgoing discussion sought to analyse the resources themselves in terms of content and process, and to examine the response they evoked in clients in terms of engagement with goal-setting.

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The data collected during the intervention phase provides more insight into the detail of the worries and concerns and the strengths of clients. There is resonance between the themes developed in the exploratory (pre intervention) phase, the content and process of the intervention and resources, and the response of clients to the intervention. This suggests that the process and content of the brief intervention and the supporting tools reflect Indigenous perspectives of mental health, and therefore that the brief intervention may be culturally appropriate. The finding that rates of client retention were high strengthens this conclusion. Further evidence of acceptability and ‘cultural appropriateness’ of the intervention is as follows: clients engaged with goal-setting, clients made progress to goals, clients reported that the intervention and resources were helpful, and client goals and the steps toward goals reflected the content of the tools. The next chapter reports the findings of the experimental component of the study.

Figure 19. Summary of mixed methodology
Results: the randomized controlled trial

The findings below address the following research question. ‘Does the brief intervention improve client mental health outcomes compared with treatment as usual?’ The assessment, psychoeducation and care-planning tools and resources developed in collaboration with the AMHWs in the first phase of this study were used in the second phase to deliver a brief intervention to clients with chronic mental illness. The intervention combined client and carer psychoeducation, with development of a collaborative care plan using motivational and problem solving approaches. Participants were randomly allocated to early treatment and late treatment groups. The early treatment group received the treatment at baseline while the late treatment group continued to receive ‘treatment as usual’. The late treatment group received the treatment at six months, at which time the early treatment group was receiving ‘treatment as usual’.

The first comparison of interest is that of the early group after treatment (they were treated at baseline) with the late group before they received the brief intervention (they were receiving ‘treatment as usual’). This compares the treatment of one group with ‘treatment as usual’ in the other. The second comparison of interest is that of the late group after treatment at six months with the early treatment group which had then been receiving ‘treatment as usual’ for six months. This provides a second comparison of treatment with ‘treatment as usual’. A final comparison of interest is that of within-group changes over time (Figure 20.).

The next section describes the baseline findings, the observed changes in key outcome measures over the 18 months, and the between group differences which were found.

Figure 20. Treatment timeline

TAU = treatment as usual

Outcomes data collected at 0, 6, 12, and 18 months
Client characteristics

Eighty per cent of clients with mental illness referred to the study by the local mental health service agreed to participate in the project. Forty nine participants and 37 carers were recruited. Seven carers were caring for two or more clients and four clients identified no carer. No carers declined to participate at baseline and 96% of the clients in the early treatment group attended at least one treatment session. Eighty eight per cent of clients (22) in the late treatment group attended at least one treatment session. Four clients did not receive treatment. One client committed suicide in the first 6 months of the trial and a second client killed himself 12 months later. Fifty seven per cent of the clients are male, and the average age of clients is 33 years. There were no significant differences between the groups at base line in terms of age, diagnosis, overall substance use (Chi square 1.38, p =0.24), alcohol use (Chi square 0.23, p =0.63) or marijuana use (Chi square 3.64, p=0.057) (Table 23.). There were also no significant differences between baseline HonOS, LSP, K10 and SDS scores (two tailed t tests). Nearly twice as many late treatment group clients used marijuana, compared with those in the early treatment group.

Table 23. Social and baseline clinical characteristics of patients

<table>
<thead>
<tr>
<th>Score (standard deviation)</th>
<th>All (n= 49)</th>
<th>Early treatment group (n=24)</th>
<th>Late treatment group (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, year</td>
<td>33</td>
<td>33.4</td>
<td>32.2</td>
</tr>
<tr>
<td>Men</td>
<td>28 (57)</td>
<td>15 (62.5)</td>
<td>13 (52)</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>18 (37)</td>
<td>9 (37.5)</td>
<td>9 (37.5)</td>
</tr>
<tr>
<td>Schizoaffective disorder</td>
<td>1 (2)</td>
<td>1 (4)</td>
<td>0</td>
</tr>
<tr>
<td>Major depressive disorder</td>
<td>22 (45)</td>
<td>9 (37.5)</td>
<td>13 (54)</td>
</tr>
<tr>
<td>Substance induced psychotic disorder</td>
<td>5 (10)</td>
<td>3 (12.5)</td>
<td>2 (8)</td>
</tr>
<tr>
<td>Bipolar Affective Disorder</td>
<td>3 (6)</td>
<td>2 (8)</td>
<td>1 (4)</td>
</tr>
<tr>
<td>Substance use, n (%)</td>
<td>40 (82)</td>
<td>18 (75)</td>
<td>22 (88)</td>
</tr>
<tr>
<td>Marijuana use</td>
<td>32 (65)</td>
<td>12 (50)</td>
<td>21 (84)</td>
</tr>
<tr>
<td>Alcohol use</td>
<td>31 (63)</td>
<td>15 (62.5)</td>
<td>15 (60)</td>
</tr>
<tr>
<td>Both marijuana and alcohol use</td>
<td>23 (47)</td>
<td>8 (33)</td>
<td>15 (60)</td>
</tr>
<tr>
<td>No substance use</td>
<td>9 (18)</td>
<td>6 (25)</td>
<td>3 (12)</td>
</tr>
<tr>
<td>HonOS score</td>
<td>23.4</td>
<td>23.12 (5.99)</td>
<td>23.64 (5.5)</td>
</tr>
<tr>
<td>LSP score</td>
<td>9.2</td>
<td>9.62 (6.47)</td>
<td>8.76 (4.6)</td>
</tr>
<tr>
<td>K10 score</td>
<td>27.6</td>
<td>26.08 (9.37)</td>
<td>29.04 (8.64)</td>
</tr>
<tr>
<td>PH score</td>
<td>23.7</td>
<td>21.92 (10.08)</td>
<td>25.36 (10.16)</td>
</tr>
<tr>
<td>SDS marijuana score</td>
<td>7.63</td>
<td>8.09 (1.97)</td>
<td>7.38 (3.4)</td>
</tr>
<tr>
<td>SDS alcohol score</td>
<td>6.90</td>
<td>7.8 (3.36)</td>
<td>6.3 (3.35)</td>
</tr>
</tbody>
</table>
Diagnosis
Diagnosis in a setting of language and cultural difference is challenging. Nevertheless despite the language and contextual differences it was possible to group clients into diagnostic categories that were broadly consistent with Diagnostic Statistics Manual (DSMIV) criteria [205]. This grouping took place at the closing stages of the study using multiple sources of information to assist in diagnosis. The sources were: the content of the 6 monthly interviews with client, carer and local AMHW, the observation of that person over the two years of the study, and the clinical file.

Those who attracted a diagnosis of schizophrenia tended to have longstanding illness, persistent psychotic symptoms, and significant impairment in occupation and social functioning. The diagnosis of a primary affective disorder was made when depressive symptoms were dominant. Psychotic symptoms were often present; however they were not associated with markedly impaired social and occupational functioning, and were concurrent with depressed mood. These participants for example continued to work, did not require care from others, and sustained a range of social relationships. Those with depressive illness without psychotic symptoms similarly tended to sustain occupational and social functioning, despite revealing high levels of distress on the K10, particularly on the items measuring worthlessness, hopelessness, and sadness.

There were five young people who had been experiencing psychotic symptoms for one or two years, who had little associated impairment in social and occupational functioning, and who were psychologically dependent on alcohol and/or marijuana. These were the group who attracted a diagnosis of drug-induced psychosis rather than schizophrenia. The high rate of comorbidity with substance misuse was a complicating factor in terms of all diagnoses. In most cases it was not possible to be certain of the degree to which the substance misuse was cause as opposed to comorbid disorder. Many participants from all categories also had concurrent anxiety symptoms. The few participants attracting a diagnosis of bipolar illness described or exhibited episodes of grandiosity, increased energy and agitated behaviour. The episodes were usually observed and well documented in file notes. The diagnoses are summarised in Table 23.

Substance dependence at baseline
Forty people (82%) used marijuana and/or alcohol, and nine did not. More than half (57%)
used both alcohol and marijuana. A score of 3 or more on the Severity of Dependence Scale (SDS) was taken to indicate psychological dependence on either alcohol or marijuana. Most of the participants (92%) who used substances were psychologically dependent on that substance (Table 23.).

Well being, substance dependence and self-management at baseline
Five measures were used to assess the mental health of clients and the impact of mental illness on their lives: HonOS, LSP and K10, SDS and PIH. The first three scales measure well being, mental health, and disability, while SDS measures psychological dependence on substances and the PIH measures self-management skills. Mean scores at baseline are summarised in Table 23. A score of more than 16 on the K10 indicates a medium to high risk of a depressive or anxiety disorder. Most clients and carers were in this category. Eighty six per cent of clients and 73% of carers had medium to high risk of depression or anxiety disorder at baseline.

Home environment
A number of aspects of the home environment were recorded at AMHW interview: the presence of mental illness in others in the home, domestic violence in the home, self-harm behaviour exhibited by others in the home, and the number of people in the house. These findings showed that the participants were living in stressful environments. There are high rates of associated domestic violence, mental illness, self-harm behaviour and substance misuse in the household suggesting an environment of high stress (Figure 21). The average number of people in the house was between five and six people.

Figure 21. Stress in the home

[Bar chart showing the percentage of clients experiencing different types of problems in their home: Domestic violence 64%, Mental Illness 72%, Substance misuse 89%, Self harm behaviour 75%]
Summary of client characteristics and client setting

The client participants were diagnosed with chronic mental illness, and recorded high rates of emotional distress (K10), symptoms of mental illness (HonOS), and comorbid substance misuse (SDS). They were living in homes with high rates of domestic violence, self-harm, and mental illness, and their primary carer was also likely to be emotionally distressed. The next section will review the overall response of the participants to treatment.

Client outcomes

The response of participants to treatment involves comparison of outcomes scores in the two treatment conditions (intervention and ‘treatment as usual’), and comparison of scores over time with baseline. There are thus two elements to the research question as follows:

1. Effectiveness of the treatment
   This element of the study requires examination of the difference between two interventions, treatment and ‘treatment as usual’.

2. Maintenance of treatment effect
   This aspect requires examination of difference over time; whether or not the treatment effect is sustained.

The $t$ test analysis compared the differences between scores of early treatment and late treatment groups. Mixed model regression analysis was then used to compare the mean scores of the ‘intervention condition’ with the control condition, and to compare change in mean scores over time. The analysis is described in detail in Chapter 3 (see p.102).

Changes in mean outcome scores over time

The client outcome measures show a pattern of improvement in well-being, life skills, symptoms and knowledge from baseline to 18 months (Figures 22-23.). The mean HonOS, LSP and K10 scores of the total group decreased over time. The early treatment group mean HonOS score changed from 23.12 at baseline to 18.09 (-5.03) in the intervention condition, while the late treatment group changed from 23.64 at baseline to 16.15 (-7.49) in the intervention condition. The average change across both groups was thus 6.26. A decrease in scores represents improvement in client mental health outcomes. The PIH scores increased over time. Higher scores suggest improved self-management skills. The SDS scores show a positive response to the intervention in the early treatment group alcohol users and a similar response in the late treatment group for both alcohol and marijuana users (Figure 23).
summary, there is improvement in both groups over time, particularly in the six months following the intervention. At this time point the first group had received treatment while the second group received ‘treatment as usual’. The two groups then tended to diverge at 12 months suggestive of a response of the late treatment group to treatment. By eighteen months post baseline (eighteen months post treatment for the early treatment group and twelve months post treatment for the late treatment group) both groups approach the same mean difference from baseline and show sustained improvement at 18 months in comparison with baseline.

**T test analyses: between group differences**

There is a trend toward improvement in the mean change in scores between both groups from baseline to 18 months (Figures 22-23). Significant differences between the two groups are seen between baseline and 6 months in K10 (t=−1.67, df=41, p=0.051) and SDS alcohol scores (t=−1.84, df=31, p=0.037), and between 6 and 12 months in SDS marijuana scores (t=2.22, df=26, p=0.017). There are three trends overall:

- A positive response post-baseline in both groups.
- A difference between the groups suggesting an improvement in each group post-intervention
- Improvement in scores over time
Figure 22. Change in mean HonOS, LSP and K10 scores over time

Mean HonOS scores over time

Mean LSP scores over time

Mean K10 scores over time

P=0.068

P=0.051

P=0.18
Figure 23. Change in mean PIH and SDS alcohol and marijuana scores over time

Mean PIH scores over time

Mean SDS alcohol scores over time

Mean SDS marijuana scores over time
Mixed model regression

Confounding factors related to missing data may influence the t test analysis, as may Type 1 error through multiple tests, hence linear regression analysis was also conducted (see p. 103). This is a mixed model regression, implemented via Stata version 10 [206]. The central issue in analysing multiple informant data is how to represent multiple outcomes for different informants in a statistical model where the outcome variable is continuous rather than dichotomous. T test analyses use a pooling strategy for the data by taking the arithmetic mean of the multiple informant data. Pooling informant data does not permit the assessment of potential differences in condition effects across the various informants.

Mixed model regression permits the informant-specific information about mental health outcomes to be included in a single regression analysis, at the same time adjusting for the correlation between informant responses. In the multivariate model the correlation between informants is accounted for in the estimation of the regression coefficients and their standard errors.

The mixed model regression allows for the simultaneous testing of fixed and random factors (hence mixed). The main fixed factor is the experimental condition; other potential fixed factors are community, age, and sex. These are modeled as fixed factors because their effects (where present) are assumed to be the same for all patients. The analysis in this study is measuring the difference between scores over time and in treatment conditions controlling for age, sex, and community. The random factor is the patient [206].

The multivariate approach is especially important in the handling of missing data. In the presence of missing data, use of likelihood-based methods of estimation exploit the correlation among informant data and allow for information on all subjects for whom there is at least one response to be included in the regression analysis. This model of analysis is potentially able to use all of the data. This results in a gain in precision and a reduction in bias [201, 202].

The multivariate approach, however, assumes that missing data are missing at random. The following discussion considers the likelihood that missing data in this study are missing at random.
Missing data

The most likely systematic bias in missing data in this study is that those who were most unwell were less likely to be assessed, or that improved patients who feel they no longer require treatment drop out. Most of the missing data in this study resulted from deferral of interviews. Three clients formally withdrew and two committed suicide. The mean baseline scores indicated generally high rates of emotional distress and many of the clients were at moderate to high risk of suicide at assessment. It is not clear whether the two clients who committed suicide were more unwell than the rest of the group. The withdrawals, however, from the information available, did appear to relate to relapse of illness. These three clients may have been more unwell than the rest of the group. The following discussion considers the reasons for the rest of the missing data and described the approach to data collection. The argument concludes that systematic bias in the missing data is unlikely.

Reasons for missing data in this study are listed below:

- Unwell physically
- Relapse of mental illness
- Hospitalised for physical or mental illness
- Busy doing other things in the community
- Working
- Out of the community
- In alcohol rehabilitation

The research team visited each community for follow up for two to three days every fortnight until interviews were completed. The data collection phases at each time point took two to six weeks. This allowed time for a number of attempts at follow up of each individual if necessary.

The arrangement of follow up appointments required personal contact. Clients do not have telephones and mail was not an effective communication strategy. Once the research team was familiar with the clients and carers they visited client homes for follow-up in most cases, and either conducted the interview at that time or made a convenient time to return. Often, however, clients were not at home and the team soon adopted an opportunistic approach to follow up.
The researchers visited client homes and drove around the community looking for individuals and groups of people. Clients were approached to arrange or participate in interviews wherever they were seen. The health centre, the airport and the shop all provided opportunities to catch up (as people were often waiting for a length of time). Those who worked (clients and carers) were visited briefly with permission where possible at their workplace. Interviews were then conducted at homes during lunchtime or after work.

Interviews were arranged and sometimes conducted at the art centre, the school, the council, card games, and at the local shop. The CDEP workers were visible mowing lawns and cleaning up around the community. They, too, were easily approached to organise an interview. Overall, however, full time workers were difficult to access. The clients (and carers) who worked full time were unavailable for most of the day, while the research team was usually unavailable after hours as the flights arrived at 9 am and departed at 4 pm.

**Were people who were more unwell more likely to be missed?**
Relapse of illness led some people to be restless and walking around the community. Others were more likely to be at home. Some people who were unwell sought out the team for help through unscheduled visits. Some were more receptive to research team approaches at times of illness, and some were less so.

**Were people who were well more likely to be interviewed?**
Wellness led some people to be working and difficult to follow up, and others to be busy doing other things such as visiting, shopping, or travelling away from the community. Some were more interested in research team assessment when they were well, and others were less so and saw it as irrelevant.

In summary, a range of factors encompassing wellness and illness contributed to lack of follow up and missing data. The spread of data collection over weeks allowed time for change in the client and carer environment and state of mind, and also rendered systematic bias unlikely. It is thus probable that these missing data were missing at random or nearly so.

**Summary**
As a result of the above considerations *t* test analyses of between-group differences were complemented by random effects mixed model linear regression analyses. The analyses compared the mean outcome scores of the two treatment conditions with ‘treatment as usual’, and compared outcome scores over time. These findings are presented in Tables 24-29).
Analyses

Similar analyses were conducted for all the main outcome measures, namely HonOS, LSP-16, PIH, K10 and SDS. Negative change scores on four of the instruments represent improvement (and positive scores deterioration). The fifth instrument, the PIH, is scored in the opposite direction and positive change scores represent improvement. The effect of time is represented by the variable ‘month’, and the ‘phase’ variable represents either the post-assessment condition or the control condition (Figure 24). Every assessment but that which is ‘post assessment’ is thus seen as a ‘control’ assessment. The comparison by ‘phase’ allows comparison of the pre and post-treatment measurements for both groups. This analysis thus allows the effect of the intervention to be seen separate to the non-specific improvement that occurs in both groups after assessment.

Age, sex and community differences were not significant (p=.186, .226 and .445 respectively).

Figure 24. Treatment condition and time by group

The table below shows the relationship between baseline HonOS scores and HonOS scores over time (‘month’), and in different treatment conditions (‘phase’). The analysis shows a significant relationship between HonOS score and phase and month (Table 24). The scores are lower under the condition of intervention and lower with increasing time (i.e. when the month value is higher). The analysis thus shows an advantage for the intervention condition that is sustained over time.
Table 24. Mixed model regression: effect of condition and time on HonOS score

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>11.95</td>
<td>25.73 - 30.42</td>
<td>0.000</td>
</tr>
<tr>
<td>Phase</td>
<td>-2.88</td>
<td>-5.13 - 0.62</td>
<td>0.012</td>
</tr>
<tr>
<td>Month</td>
<td>-1.19</td>
<td>-2.08 - 0.30</td>
<td>0.009</td>
</tr>
</tbody>
</table>

The findings for LSP show a similar pattern (Table 25).

Table 25. Mixed model regression: effect of condition and time on LSP score

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>9</td>
<td>7.97 - 10.06</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Phase</td>
<td>-1.32</td>
<td>-2.34 - 0.25</td>
<td>0.016</td>
</tr>
<tr>
<td>Month</td>
<td>-1.66</td>
<td>-2.08 - 1.23</td>
<td>≤0.001</td>
</tr>
</tbody>
</table>

There are similar findings for the relationship between baseline K10 scores and K10 scores over time (‘month’), and in different treatment conditions (‘phase’). The analysis again shows a significant relationship between K10 score and phase and month (Table 26). The K10 analysis thus also shows an advantage for the intervention condition that is sustained over time.

Table 26. Mixed model regression: effect of condition and time on K10 score

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>28.07</td>
<td>25.73 - 30.42</td>
<td>≤0.001</td>
</tr>
<tr>
<td>Phase</td>
<td>-2.88</td>
<td>-5.13 - 0.62</td>
<td>0.012</td>
</tr>
<tr>
<td>Month</td>
<td>-1.19</td>
<td>-2.08 - 0.30</td>
<td>0.009</td>
</tr>
</tbody>
</table>

SDS and PIH show somewhat different patterns. The PIH and substance use analyses are shown in Tables 27-29. PIH findings support an improvement in self-management over time that is not specific to treatment condition. SDS findings show improvement over time in both alcohol and marijuana dependence and a significant advantage to the treatment condition for alcohol users (p=0.05) with less response evident in marijuana users (p=0.064).
Table 27. Mixed model regression: effect of condition and time on PIH score

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>22.87</td>
<td>20.41</td>
<td>25.32</td>
</tr>
<tr>
<td>Phase</td>
<td>-1.21</td>
<td>-4.07</td>
<td>1.64</td>
</tr>
<tr>
<td>Month</td>
<td>1.67</td>
<td>0.55</td>
<td>2.79</td>
</tr>
</tbody>
</table>

Table 28. Mixed model regression: effect of condition and time on alcohol SDS

<table>
<thead>
<tr>
<th>SDS Alcohol</th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>6.94</td>
<td>5.94</td>
<td>7.94</td>
</tr>
<tr>
<td>Phase</td>
<td>-0.91</td>
<td>-1.82</td>
<td>-0.0009</td>
</tr>
<tr>
<td>Month</td>
<td>-0.39</td>
<td>-0.77</td>
<td>-0.008</td>
</tr>
</tbody>
</table>

Table 29. Mixed model regression: effect of condition and time on marijuana SDS

<table>
<thead>
<tr>
<th>SDS Marijuana</th>
<th>Coefficient</th>
<th>Confidence interval</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.98</td>
<td>7.05</td>
<td>9.14</td>
</tr>
<tr>
<td>Phase</td>
<td>-0.98</td>
<td>-2.02</td>
<td>0.057</td>
</tr>
<tr>
<td>Month</td>
<td>-0.44</td>
<td>-0.85</td>
<td>-0.02</td>
</tr>
</tbody>
</table>

Discussion of quantitative results

This phase of the study proposed the following question:
‘Does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’?’

Analysis of outcomes

Overall the trends across all analyses of HonOS, LSP and K10 are similar and suggest that the brief intervention has improved outcomes compared with ‘treatment as usual’. These trends are observed in the regression analyses, the t test analyses and in the change in mean scores over time (Figure 21-22, Tables 24-26). It is important to note that the client-rated measures and the clinician-rated measures show similar outcomes. The results suggest positive response
to treatment in the early treatment group, followed by positive response to treatment in the late treatment group. There is a trend for the late group to have a more marked response than the early group, especially notable in the SDS scores of marijuana users.

Comparison with other outcomes data
The results in this study can be compared with outcome measures in other populations. HonOS, LSP and K10 scores are collected routinely in Australian mental health services. This outcomes data is collected from two settings: ambulatory (those in the community receiving out patient or community mental health services), and inpatient (those who are hospitalised for mental illness). Generally ‘ambulatory’ patients receive lower scores than those who are scored at the time of admission to hospital. The 2005 Australian Mental Health Outcomes and Classification Network summary score profiles of nation wide data reported the following mean scores: HonOS – 9.5 (SD 6.2), LSP – 10.5 (SD 6.2) and K10 – 23 (SD 8.6) [207].

Two other data sets show similar scores. The mean HonOS scores overall in a Victorian mental health services community sample (rated twice in the same setting on two occasions up to three months apart) were similar to the above (10.5 – 11.5 points) [208]. A New Zealand study in 2004 which included 8 district health boards and analysed 4800 ratings found similar mean total HonOS scores of 12.01 for males and 10.35 for females [153]. In contrast, the mean K10 and HonOS scores at baseline in this study are 27.6 and 23.4. These are much higher than those reported elsewhere. The mean LSP of 9.2 is slightly lower than that reported in the nation-wide data [207].

The above discussion shows that the group were comparatively unwell at baseline. In general it would be expected that an unwell group would show more resistance to change. They are likely to have lowered energy and concentration and organisation skills. The finding that this comparatively very unwell group of clients responded favourably to this brief intervention is clinically important. The clinical significance of these changes is discussed further in the next section.

Clinical significance of change
The degree of change in these outcome measures is an important indicator of the social meaning of that change. Parabiaghi studied HonOS change in nearly 5,000 patients and concluded that in severe illness seven-point changes were needed to be confident ‘that a real
change had occurred'[209]. Figure 22 shows a 7.59-point change for the late group in this study at 12 months, which suggests ‘real change’ by these criteria if similar changes are noted in individuals in the study. It is not clear to what extent the treatment itself as opposed to aspects of the research process produced these improvements. Another way to examine the effect of the treatment is to calculate the effect size.

The change in scores of both groups between baseline and 6 months, for example, suggests that there has been a non-specific response to the treatment. The change in score of the late treatment group after 6 months, however, is more likely to represent change secondary to the intervention. It is arguable that the first 6-month improvement represented the response to the generic research intervention, while the response of the late group after treatment might represent specific response to treatment (given that the non-specific response has already occurred). It is thus reasonable to examine the difference in late group scores from six months to twelve months, and consider that change as indicative of the effect of this treatment. Figure 22 shows a change of 4.63 points in the late group HonOS scores between these time points.

This change can then be translated into an ‘effect size’. Cohen classed ‘effect size’ values into three different categories of ‘small’, ‘medium’ and ‘large’ [184]. The effect size is calculated by dividing the change in means by the standard deviation of the pre-treatment scores (see also p 92.)

The baseline HonOS standard deviation in this study was 5.7. The change in score for the late treatment group between six months and 12 months was 4.63. The resultant effect size is therefore 0.81. This suggests that the effect size is large and possibly of clinical importance.

How does this effect size compare with other treatments? The national data set reports effect sizes for mental health service settings. The effect sizes are reported according to the different phases of treatment. The effect size reported for ambulatory (community) settings between ‘any review’ and ‘any discharge’ is 0.57, and between ‘any review’ and ‘any review’ in the community is 0.09 [207]. In other words improvement in mental health outcomes leads to discharge from services, while little change occurs in outcome measures of clients who continue in treatment. The present study population may be viewed as a combination of these two groups, as some were discharged from the mental health team during the course of the study. The effect size of 0.81 in this study is notably larger than that seen in the national data
set relating to community-based treatment. In conclusion, the effect size of 0.81 is likely to represent a 'clinical meaningful change', particularly in comparison with national benchmarks.

Limitations of the methodology

Power
The sample size was determined by a power calculation based on a standard deviation of 4 in the HonOS scores and a 5% two-sided significance level. In order to show a moderate to large effect size the study needed to recruit a minimum of 50 participants. 49 clients were recruited at baseline and 37 were retained at 18 months. The power of the study to determine differences between the groups was limited by these low numbers.

Fidelity of treatment
The research team aimed to deliver the same intervention to each individual in each group. In practice there were variations in setting, length of treatment, and content of treatment. The principal investigator delivered all treatment sessions – with assistance from the AROs and the local AMHWs in most cases. This was the most consistent component of the protocol. There were otherwise a number of minor variations from the standard process that applied to both treatment and follow up assessments. The variations related to factors in the client, the setting, and the AMHWs. Participants and carers were often very difficult to locate for a range of reasons. Most participants received two treatments, although some were not located in time and only received one.

On three occasions clients were acutely unwell and treatment did not take place. The interventions at that time varied from booking a new time for assessment (usually a week or two hence), to providing acute assessment and treatment if no other options were available. At one time one of the clients was unwell with a relapse of mania, his medication was reviewed, and he was given advice about his new treatment regime.

Most participants watched all four videos, and received the flip charts, the information sheets, the care plan and the care plan booklet. Some, however, did not have time or concentration for all of the videos, left flip charts behind, and did not receive their information sheets or care plans. Some treatment sessions were held in the hot, noisy and dusty setting of the youth workshop, most were held in air-conditioned health centre offices, some were conducted outside under trees, and some in people’s homes. The length of treatment varied according to
a number of factors such as client concentration, client competing priorities, and flight
deadlines for the research team. Treatment time varied from 20 minutes to one and a half
hours. The average length of a treatment session was fifty minutes.

Carers, in general, did not attend treatment sessions with participants – despite determined
tries to locate them and to encourage them to come. In these cases the carer was often
aware of the care plan goals. In other cases, however, the carer was engaged with the plan
and involved in the process. AMHWs were present for most of the treatment sessions, but
there were a number of occasions when they were not available. They were sometimes closely
engaged in the treatment, especially when treating their own family members. They were
often only engaged from a distance, perhaps assisting in finding the client but then continuing
with their own work.

**Observer bias**

All treatment and all clinician rated measures were delivered and rated by the principal
vestigator. This design of the study thus did not allow the investigator and clinician-rater to
be blind to treatment condition. The file audits were conducted by three research officers, and
the lack of cross-rater reliability calibration represented a further limitation of the
methodology. It is likely that observer bias was introduced into the measures, no matter to
what extent the investigators aimed to rate without treatment condition in mind. On the other
hand K10, SDS and PIH scales were all client-rated measures. These measures were not
limited by observer bias, and the results show similar patterns to the clinician-rated measures.

**Validity of outcome measures**

Further research is needed to ascertain the validity of the clinician and client-rated outcome
measures in the Indigenous population. They have not yet been analysed in terms of construct
validity, inter-rater reliability, and test-retest reliability for Indigenous people. That is,
although these measures have been used in a range of *non-Indigenous* mental health settings
and have been shown to reliably measure wellbeing and psychiatric symptoms in those
settings, they have not been tested in this same way for Indigenous people. It is therefore not
certain that they are valid and reliable measures for this population. This is a limitation of the
methodology of the experimental component of this study. The mixed methods approach, on
the other hand, allows validation of some of the findings through triangulation using other
sources of data.

**Role of AMHWs in outcomes**
The AMHWs were integral to the engagement and retention of clients in the course of the study. They contributed to the tools and the psychoeducation resources. They did not conduct the treatment but were usually engaged in finding the clients, and then acted as observers of the session. The design of the study did not explore the response of AMHWs to the treatment or any change in their approach to clients as a result of the study. This is a limitation of the study and calls for further research to establish the ‘active ingredient’ in the intervention.

Clinical versus statistical significance
Although the findings show statistically significant changes on all outcome measures, it is not clear to what extent these represent clinical significance and meaningful change for each individual.

Additional qualitative data: medication, file audits, early warning signs and carers
Medication is an important component of relapse prevention (see p. 7). The improvements noted in both groups may have related to changes in medication regime. Data was gathered to attempt to clarify whether medication regimes of participants changed over time. The first data that are described below are the client reports of whether or not they are ‘taking’ medication.

Medication prescribed
The following table (Table 23) illustrates the number of participants who stated that they were currently ‘taking’ medication for mental illness. This response will vary according to prescription of medication by service providers, and whether or not clients are complying with that prescription. This item is thus a measure of compliance and prescription. The prescription of medication was managed by the local mental health service in the course of delivery of ‘treatment as usual’. On the other hand improved compliance was expected to be an indirect effect of the intervention. If clients were prescribed medication more often it is likely that there would be an increase in the number who indicated that they were taking medication. If clients improved in terms of their compliance with prescribed medication it would also be more likely that they would indicate that they were taking medication.

The results show that the early treatment group were more likely to be taking medication at baseline than the late group (Table 30.). In contrast the late treatment group were more likely to be taking medication at six months than the early group. Overall, the percentage of clients taking medication between baseline and 18 months did not change. The results suggest that
there may have been an increase in medication prescription and/or medication compliance in the late treatment group after baseline and prior to the six-month assessment. The results do not suggest that the improved outcomes noted in the early treatment group at six months are related to an increase in medication prescription and/or compliance in the early group. The results also do not provide evidence that ‘treatment as usual’ changed over time in terms of increased prescription of medication.

The above discussion does not allow separation of information about prescription of medication (a measure of service behaviour) from that of medication compliance (a measure of client behaviour). Further information about compliance was gathered through the self-rated Partners in Health scale. This scale combines an item focused on compliance, with items that measure knowledge of symptoms, treatment and early warning signs (Appendix I). As discussed above, the PIH analysis suggests that both groups improve over time in terms of these self-management attributes (see p. 144.).

The study was not designed to identify changes in medication compliance alone, or to monitor medication dosage, although this information is relevant to relapse prevention. The data gathered about medication are able to confirm that taking medication is not likely to be the ‘active ingredient’ in the improved outcomes. Further information about service provider behaviour during the RCT was gathered through file audits. These are described in the next section.

Table 30. Client self report of medication compliance

<table>
<thead>
<tr>
<th>Time point (n, %)</th>
<th>Whole group</th>
<th>Early</th>
<th>Late</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>24 (49)</td>
<td>15/24 (62)</td>
<td>9/25 (36)</td>
</tr>
<tr>
<td>6 months</td>
<td>24 (61)</td>
<td>12/23 (52)</td>
<td>12/16 (75)</td>
</tr>
<tr>
<td>12 months</td>
<td>20 (49)</td>
<td>10/20 (50)</td>
<td>10/21 (48)</td>
</tr>
<tr>
<td>18 months</td>
<td>17 (46)</td>
<td>10/18 (55)</td>
<td>7/19 (37)</td>
</tr>
</tbody>
</table>

Community File audit

The client progress through treatment could be tracked through two filing systems: that of the primary care setting and that of the in patient setting. File audits were conducted in each of these settings. The community file audit measured four items: number of mental health assessments in the last three months, care planning activity in the last three months, early warning signs recorded on the care plan, and client treatment goals on the plan. The file audit
showed that there were very few recorded assessments or care plans in the file. The findings do not show any increase in recorded activity over time (Table 31). On the contrary, there were more frequent assessments and care plans recorded at baseline than at 18 months. This suggests that there was no marked change in practice of the local treating team, either in response to the research activity, or related to change in the model of ‘treatment as usual’ (see p. 49).

Table 31. Community File audit: recorded assessments and care plans

<table>
<thead>
<tr>
<th>Time point (n, %)</th>
<th>Assessment</th>
<th>Care Plan</th>
<th>EWS</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline n=49</td>
<td>19 (39)</td>
<td>4 (8)</td>
<td>0</td>
<td>4 (8)</td>
</tr>
<tr>
<td>18 months n= 47</td>
<td>4 (8)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Hospital file audit
The hospital file audit recorded admissions to hospital in the previous 12 months and compared the baseline audit with the audit at 18 months. There were only seven admissions recorded at baseline and four admissions at 18 months. The average length of stay was 15.6 days at baseline and 27.25 days at eighteen months. The prolonged (70 day) stay of one client influenced this finding. 71% were involuntary admissions at baseline while 25% were involuntary at the eighteen-month audit. The numbers are too small in this data set to draw conclusions about the impact of the trial on admission to hospital and involuntary detention.

Early Warning Signs
Inquiry about early warning signs of relapse took place at each assessment interview. The results below show that the clients were able to identify early warning signs (Table 32.). There is a fairly good response at baseline to this item, with more than half of respondents identifying at least one early warning sign. The results do not suggest that the ability to identify early warning signs improved throughout the course of the study. Examples of ‘other’ early warning signs were: ‘staying inside’, ‘thinking a lot’, feeling ‘cranky’, ‘mixed up thoughts’, ‘not interested in things’, ‘restlessness’, and hearing voices.
Table 32. Early warning signs identified

<table>
<thead>
<tr>
<th>Type of EWS (n, %)</th>
<th>Total</th>
<th>Mood Change</th>
<th>Appetite Change</th>
<th>Sleep Change</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>49</td>
<td>29 (59)</td>
<td>22 (45)</td>
<td>19 (39)</td>
<td>5 (10)</td>
</tr>
<tr>
<td>6 months</td>
<td>43</td>
<td>17 (39.5)</td>
<td>7 (16)</td>
<td>14 (32.5)</td>
<td>7 (16)</td>
</tr>
<tr>
<td>12 months</td>
<td>42</td>
<td>12 (28.6)</td>
<td>14 (33.3)</td>
<td>11 (26.2)</td>
<td>16 (38)</td>
</tr>
<tr>
<td>18 months</td>
<td>37</td>
<td>10 (27)</td>
<td>6 (16.2)</td>
<td>6 (16.2)</td>
<td>9 (24.3)</td>
</tr>
</tbody>
</table>

Further analysis of the interviews revealed that the rate of recognition of warning signs was higher than the above table indicates as not all interviews were complete. Of those who were asked the question about warning signs (43 were asked at base line, 38 at 6 months, 31 at 12 months and 25 at 18 months) the rates of recognition of at least one warning sign were 37 (86%), 28 (73%), 31 (100%) and 25 (100%).

Carer K10

The carers were interviewed at each follow up time point. The interview sought to understand progress of clients as well as carer well being. Thirty carers were interviewed at baseline, 24 at six months and 19 at twelve months. Only six carers were interviewed at 18 months. The mean carer K10 scores are shown in Figure 25. The 18-month scores were not included given the low numbers. A number of clients were also carers. Four couples and a mother who cared for her three sons were both client and carer. There are two findings: that the carers have high distress levels, and that there is a modest trend toward improvement in carer well being over time.

In most, but not all, of cases the clients and carers shared the same house. The AMHW interviews include an assessment of ‘worries in the home’. The initial responses were reported earlier (see p.134). The baseline home worries were compared with those reported by AMHWs at 18 months. These results showed that ‘domestic violence’ in the home was reported at 27% (decreased from 64%), that 63% of client homes housed others with ‘mental illness’ (previously 72%), and that ‘self harm behaviour’ in the home had decreased to 26% (previously 75%). These findings may reflect a positive impact of the intervention on both clients and carers.
Figure 25. Mean carer K10 scores over time

Mean carer K10 scores over time

Mean score

0 5 10 15 20 25 30 35
0 6 12
Month

Early treatment group  Late treatment group

Early treatment group

Late treatment group
Interpretation of quantitative and qualitative results

Improvement of both groups over time

There are a number of reasons why the study may have resulted in improved outcomes in both groups as follows:

- Engagement of AMHWs in development of psychoeducation resources was likely to affect assessment and treatment of all clients.
- A number of clients were related, and relatives were allocated randomly to each treatment group. It is possible that there was transfer of knowledge or strategies for change between relatives in different groups.
- The assessment process alone, without treatment, may have been educative for clients and carers.
- The ‘Hawthorne effect’ is an experimental effect in the direction expected but not for the reason expected. People’s behavior and performance can change following any new or increased attention.
- The research team offered clients who were relapsing, not treated, or non compliant immediate referral to the local mental health service.
- The research team provided feedback to the health centre and to the local mental health team after baseline treatment that may have changed behaviour or approaches of the usual treating team.
- The model of service delivery changed concurrently as described below.

Changes in ‘treatment as usual’

It is possible that the findings of the study are linked with changes in ‘treatment as usual’.

There was an important change to the model of service delivery in the two communities near to baseline in this study. The psychiatric nurse manager of the local mental health team resigned. The resignation resulted in a rotating roster of nurses to the position for 4 months (4 to 6 weeks each). It is unlikely that the change from a stable position to a rotating position was necessarily positive at that time. The new staff members needed to establish relationships with the mental health team and the health centre, and were limited by the short-term nature of their rotations. However, the position stabilised at about four months post-baseline, and the same staff member has been in the role since that time.

From that time a mental health nurse has been resident in one of the communities 3 to 4 days per week. This provided increased resource to the mental health service. The previous
arrangement had involved day visits two to three times per week. The second community was less affected by these changes, and continued to receive the same amount of service of fortnightly visits from the local team (it is a one and a half-hour drive away, with limited access by road in the wet season). These changes to the model of service delivery, although important, did not directly affect all of the clients in this study. Forty one per cent of the clients were resident in the second community, and a number of the clients were discharged from the care of the local mental health service during the course of the study. Thirty nine per cent of the clients in the trial were no longer under the care of the local mental health team at 18 months.

Although it is possible that the changes observed in the groups over time are linked with changes in ‘treatment as usual’, the following points highlight the reasons this is not likely to be the case:

1. The two groups behaved differently throughout the study and the outcome scores varied according to treatment condition. Outcome changes secondary to change in ‘treatment as usual’ would be expected to affect both groups equally.
2. There was a marked improvement in the early treatment group (and not the late treatment group) in the first six months. The positive changes in ‘treatment as usual’ were not in place until at least 4 months after baseline.
3. Forty one per cent of the participants (those living in the second community) were unlikely to be directly affected by changes in ‘treatment as usual’.
4. There is no evidence that participants were more likely to be treated with medication, more likely to be assessed, or more likely to have a care plan in their file over time. These activities are directly related to the delivery of ‘treatment as usual’.

Response to intervention condition and improvement over time
There is a clear improvement in the primary outcome measure (HonOS) related to treatment condition, and a sustained improvement over time. The above discussion reviews environmental factors that may have contributed to these changes. The following discussion considers specific findings that might indicate the ‘active ingredient’ in the intervention.

Is there improved illness self-management?
Yes. The PIH scores provide some evidence of improved self-management. This is not a short term effect of the intervention and there are no significant differences between treatment conditions. It may, however, be a factor contributing to the sustained effect of the
intervention over time. The clients were assessed on four occasions and treated on two occasions. The assessment process was educational as discussed earlier and it would not be surprising if the clients experienced an additive effect in terms of knowledge over time.

**Is there less substance misuse?**
Yes. There is evidence that alcohol and marijuana dependence decreases in response to the intervention. It is likely that this effect is one of the ‘active ingredients’ of the brief intervention, as these findings are related to treatment condition and sustained over time.

**Did carer behaviour change?**
This is uncertain. The study was not designed to show whether or not the carers behaved differently toward the clients. Different carer behaviour such as support of client goal-directed behaviour, or replacement of negative responses (EE) with more supportive responses might be expected to link with improved outcomes. The study indirectly reported carer behaviour in terms of carer engagement in the study, carer distress and household behaviour, and the role that clients assigned to family in their care plan goals. These indirect findings are discussed below.

**Engagement of carers**
The engagement of carers in the study at baseline was very good although there was less engagement of the carers over time. Thirty (81%) carers were interviewed at baseline, and 24 (65%) at six months. Family engagement thus may have been relevant to the improved outcomes over time.

**Carer distress**
There was modest improvement in carer distress levels between baseline and twelve months. The improved outcomes of the clients may be linked with this modest improvement in carer distress.

**Household stress**
There was improvement noted in the reported worries in the household between baseline and 18 months. This suggests that the improved client outcomes may have linked with general changes in behaviour of others within the household.

**Role assigned to carers and family in client treatment**
The engagement of carers in the study overall, and their assignment of roles within the care plans was high. All of the carers in this study were family members. ‘Family support’ was the most frequent step chosen by clients overall, and ‘talking to family’ was the most frequent
step chosen toward the goal of changing ‘family humbug’. This suggests that the clients valued the engagement of carers in their treatment plan. On the other hand, it is notable that in terms of steps toward changing substance use and ‘family humbug’, ‘avoiding’ family was also an important step. The finding that ‘worrying family’ and ‘family worry’ and ‘family self harm’ were three of the most frequent client worries is also important in this discussion.

It is likely family engagement was an active ingredient in the improved outcomes but there is also evidence that family members are a source of distress. There is likely to be a complex picture behind these findings, and it is likely that some family members are supportive and others are not. The degree of support from the same family members may also vary at different times. The differences may represent generational changes in behaviour (children less supportive than grandparents for example) or behaviours linked with substance use in the family (substance users are more likely to ‘humbug’ while sober relatives are more likely to provide support). This study was not designed to answer these questions and the important role of family in terms of these outcomes deserves careful attention in further studies.

**Did AMHW behaviour change?**
AMHWs were a central component of the intervention. The resources incorporated their recommendations, their words and their photographs. The intervention involved them in a number of roles: as interpreter, as observer, as carer (AMHWs were related to most of the clients and were identified as carer for three) and as co-therapist. Many of the goals that clients chose incorporated assistance from AMHWs in the steps along the way. These were classified as ‘family support’ or ‘mental health treatment’ in the steps analysis. The study was not designed to monitor changes in AMHW behaviour in response to the intervention, nevertheless it is likely that the AMHWs were an essential ingredient in the improved outcomes of clients.

**Are clients more likely to be prescribed medication?**
No. They are not more likely to be prescribed medication. The file audits and the interview data show little change in medication prescription or client self report of ‘taking medication’. It is unlikely that medication is the active ingredient in the success of the intervention. The study was not designed, however, to study the effect of different medication regimens or dosage changes.

**Are clients more likely to have a care plan?**
No. The file audits show that the clients are not more likely to have a care plan in their file at
18 months in comparison with baseline.

**Are clients more likely to have been assessed in the last three months?**
No. The file audits show that the clients are not more likely to have been assessed in the preceding three months at 18 months in comparison with baseline.

**Are clients likely to have improved self efficacy?**
This is possible. Self efficacy, our belief in our ability to succeed in specific situations, is identified as an important component in problem solving therapy, motivational interviewing, and illness self-management. The study was not designed to specifically measure self efficacy, but the focus on strengths and self-chosen goals was designed to promote this concept. The PIH self-rated items explore illness and treatment knowledge, medication compliance, and progress toward goals. The client PIH self-ratings improved over time suggesting improved confidence in illness-management and providing indirect support for improved self efficacy. An additional client-rated measure of progress six months post-intervention also showed that the clients believed they were making progress.

**Summary**
This study proposed two research questions as follows:

1. Can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?
2. Does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’?

The qualitative component of the study showed that the assessment and treatment tools that were developed in collaboration with AMHWs reflected the perspectives of that community. The use of the tools resulted in high levels of engagement and retention in the study, good collaboration with goal-setting, and marked resonance between the goals and steps chosen by individuals and the values embedded within the tools.

Key findings of the RCT are summarised as follows:

1. Both groups generally show improved mean scores after baseline although at this time only one group had been treated. Subsequently there is a cross-over in nearly all mean scores. The early treatment group shows greater change in scores between baseline and six months (post-intervention), and the late treatment group shows greater change in scores six months to 12 months (post-intervention). This cross-over effect supports
the conclusion that both groups show benefit from treatment post-intervention.

2. The t test analyses show that there are significant between-group differences in mean outcome scores post-intervention suggesting a benefit for the treatment condition.

3. The regression analyses confirm the t test findings and show a positive relationship between intervention condition and HonOS, LSP, K10 (well being, illness symptoms, and life skills) outcome measures. They also confirm the finding of sustained improvement over time.

4. The regression analysis of PIH scores shows a positive trend over time suggesting improved self-management skills in both groups, however there is no relationship with treatment condition.

5. The SDS (substance dependence) findings on t test analysis suggest that there is a difference in response to the treatment between groups, and between alcohol users and marijuana users. The alcohol users in the early treatment group show positive response to the treatment at six months while the marijuana users in the late treatment group show positive response to the treatment. The regression analyses show a significant advantage for treatment condition for alcohol users (p=0.05) that is nearly significant in the marijuana users (p=0.064). Both marijuana and SDS users show significant improvement over time.

The design of the trial did not allow the individual mechanisms of change to be determined with certainty, however it is likely that the active ingredients of the brief intervention are improved illness self-management and decreased substance use. Family and AMHW engagement, and self efficacy, are also likely to be important ingredients for success of the intervention.

The results of this study are described in detail above and suggest that:

- The intervention and supporting tools incorporated local perspectives of mental health.
- The brief intervention improved outcomes compared with ‘treatment as usual’.
- The improvement was sustained over time.

The results contribute to understanding the local perspectives of mental health, highlight the potential of brief interventions in this setting, and confirm that RCT methodology can be undertaken in the remote Indigenous community setting. The next chapter summarises these findings within the context of the prior research in each of these areas.
CONCLUSIONS

The aim of this chapter is to summarise the findings related to each research question and explain these findings within the context of this study and prior research. The conclusions based on the findings of this study are presented, and the limitations of this research and indications for further research are discussed. The chapter concludes with the implications of these findings for policy and practice.

This study proposed two research questions as follows:

- Can a culturally appropriate brief intervention be developed which incorporates local Indigenous perspectives of mental health and mental illness?
- Does the brief intervention improve client mental health outcomes compared with ‘treatment as usual’?

The conclusions of this study are that the intervention and supporting tools did incorporate local perspectives of mental health, that the brief intervention did improve outcomes compared with ‘treatment as usual’, and that the improvement was sustained over time.

This study provides insight into the factors which influence relapse, and the relapse prevention strategies discussed in the introductory chapter. These factors include: social determinants, comorbidity, and cultural safety. The relevance of this study to these influences is discussed in detail below. This study also contributes to the evidence base related to relapse prevention strategies in Indigenous mental health. The results are discussed in terms of that evidence, and examined for resonance and contrast with this body of knowledge, and implications for future research directions.

Indigenous perspectives of mental health

A recent analysis of Indigenous perspectives of mental health by Ypinazar described the importance of family, country, story telling, ceremonies, and identity as well as the negative influences of fear, shame and stigma [54]. This study uncovers similar themes and reinforces those findings. It also provides another layer of insight into the day-to-day concerns of Indigenous people in remote communities. There is a theme of dynamic interconnectedness of family, land and spirit, and cultural identity. There is also an emerging picture of a culture in transition, in which modern values compete with traditional activities and understandings. The study highlights the contradictions of modern community life. Traditional strengths have become modern stressors. Family relationships continue to be a source of strength, but those
same relationships cause distress in the setting of limited resources and substance misuse. The support, advice, counsel, and knowledge offered by family is valued and sought after. On the other hand, family members are in conflict about ownership, about individual responsibility, and about appropriate behaviours. This study throws light on these conflicts as important drivers of stress, and reports on the strategies that were chosen by clients to tackle them.

**Cultural safety**

Many have called for cross-cultural safety in health services. The concepts are enshrined in a number of national reports and frameworks [5, 19, 29, 42]. Cultural safety in mental health services allows the experience of the patient and the Indigenous workers within that system to be understood. It avoids stereotypes and allows cultural differences to be appreciated. A number of different approaches to cultural safety have been proposed such as: employment of Indigenous workers and expansion of the Indigenous workforce; support and mentoring for AMHWs, support of traditional healing practices, and employment of cultural consultants [28, 210]. In parallel with such system-wide approaches there have also been recommendations that focus on clinician-client interactions. These recommend: family involvement, care with engagement and trust, allowing opportunity to be seen from a distance, and use of an ‘emic’ approach [47, 55, 56]. Despite these recommendations there are neither guidelines nor cross-cultural assessment and treatment tools currently available for use in mental health services. This study has contributed to the discussion about mental health and cross-cultural safety in a number of ways.

1. Firstly, it supports the importance of **cultural consultants**. The AMHWs, in the role of cultural consultants, guided the research team in ways that helped to ensure the success of the research. The key contribution of the AMHWs was their shared perspective of mental health in their community, and the approaches they recommended to delivery of the brief intervention. These insights were likely to be integral to the effectiveness of the intervention.

2. Secondly, it provides more detail of **strategies**, which may be used to enhance cross-cultural communication and cultural safety. One important recommendation was that of an indirect approach to engagement of client and family to mental health assessment. Indirect approaches were incorporated into the format of the resources and the approach of the intervention. The pictorial flip charts shift the format of the interview from direct questions to open inquiry, while the intervention addresses family and strengths before worries and
concerns. This indirect approach enhanced rapport and communication.

A number of authors have emphasized the link between cultural safety, communication and empowerment [45, 128]. Communication allows the voice of clients to be heard. Cultural safety implies that clients can understand and question their own treatment. There is evidence that communication with clients and engagement with AMHWs is limited in the mental health setting [128, 129]. This study provides a framework for clinical interaction that enhances communication. The high rate of engagement and retention of clients in the research supports this conclusion.

3. Thirdly the study has proposed a model of clinical practice that aims to embed cultural awareness within assessment and treatment tools. The 4 step brief intervention allows the story to unfold through the client description of their family, strengths, stressors and goals for change. It is an approach to incorporation of the ‘emic’ perspective consistent with Kleinman’s description of cultural competence [47]. Furthermore, the 4-step approach may generalise to use with children, the elderly and other cross-cultural settings.

4. Fourthly, despite many recommendations for cultural appropriateness in the health literature there is little evidence that such approaches are linked with improve mental health outcomes. This study contributes a framework and tools to guide practitioners in assessment and treatment, while also providing some evidence that culturally appropriate approaches improve outcomes.

Nevertheless, there are a number of potential limitations to the contribution of this study to cross-cultural practice as follows:

- The pictorial tools were developed in remote communities in the Top End, and the perspectives they reveal may not resonate with other communities
- The tools may require training for successful use
- The tools may require the presence of AMHWs in order to be effective
- The tools were developed for adult clients and may have limited applicability to younger clients
- System wide constraints to cross-cultural service delivery may limit the effectiveness and sustainability of new interventions
These limitations have been tested to some extent by the further work of the broader AIMhi project. The research team undertook a ‘Care plan training project’ in 2006 and 2007, which tested the response of a range of service provider populations to adapted versions of the tools developed in this study (see p. 12). Feedback from the training project suggests that the clinicians see a role for the tools in their work with adults, but also in work with children, families and the elderly. The feedback and observation of the trainers also shows that clinicians and non-clinicians find goal-setting difficult, and tend to confuse goals and steps.

The training has also shown that the shift in ‘mind set’ from clinician-generated solutions to those of the client is not easily achieved. The formal evaluation of this training project will be completed in 2008, and will help to inform the future of the research transfer of this study. There may be a role, for example, for these tools to be presented at induction training of remote staff, and professional development of service providers in cross-cultural settings. Further research might study the use of this approach in community-wide goal-setting and strategic planning, in other settings such as schools, and other populations across the life spectrum.

**Data collection, outcome measures and research**

Outcome measurement and data collection are essential components of service planning and quality improvement. This study provides a practical approach to assessment, and provides tools that may assist in culturally appropriate outcome measurement. The assessment interview was brief and yet fairly comprehensive. It was successfully completed with clients on more than 150 occasions despite mental illness and differences of language and worldview. It incorporated brief outcome measures such as the ten-item K10 and the five-item SDS that allowed fairly confident completion of the clinician-rated measures – HonOS and LSP. The high rate of engagement and retention of clients in the research suggests that this assessment process was acceptable. Further research is needed, however, to determine the degree to which these outcome tools are culturally valid, and to study the construct validity, inter-rater, and test-retest reliability of the outcome measures.
Mental health promotion

There is recognition that successful health education across cultures requires different strategies. There is also recognition that improved mental health literacy in the broader community may link with improved outcomes through change in attitudes and behaviour. Story telling, painting, promotion of cultural identity, and touch screen technology, have each been recommended as strategies for Indigenous health promotion [51, 137, 150]. There is limited evidence, however, to guide strategies for development of cross-cultural mental health promotion resources. The recognition of the importance of mental health literacy underpins a number of current national mental health literacy initiatives [141]. These initiatives, however, have not yet been adapted to the needs of Indigenous people in remote communities.

The present study used flip charts, information sheets, computer, and video to share information about mental health with a population known to have mental illness. The content and format were informed by engagement with local Indigenous practitioners in a participatory action research model. The study confirms that Indigenous people prefer to use story telling and local language, local artwork and local music to convey health information. It also confirms that use of computers and information technology is acceptable. The interest in hearing language and music, and seeing pictures as opposed to written words, suggests that multi-media strategies may be particularly apt in this setting.

This study illustrated one approach to development of resources with local Indigenous people, and shows that this may be an effective way to deliver health education. It demonstrates that clients engaged well with the intervention, found the education helpful, and showed improved outcomes secondary to the intervention. It is not clear from these findings, however, which aspect of the intervention linked with improved outcomes. The psychoeducation and goal-setting components may have had differential impact on outcomes, attitudes and behaviour.

Further research may clarify the best approaches to health promotion for the broader Indigenous community, and how to measure improved outcomes on a wider scale. These questions have also been addressed to some extent in further work of the broader AIMhi project that has conducted two mental health literacy surveys in 2005 and 2007. These surveys have explored the attitudes of RSPs to mental illness and treatment, and the impact of the AIMhi mental health promotion strategies. The findings from these surveys are presently
being analysed. Meanwhile, questions remain about how best to deliver mental health promotion strategies in remote communities, the way in which promotion, prevention and acute care can be supported through information technology, and whether or not a change in mental health literacy is linked with improved outcomes.

**Self-management and recovery orientation**

Many authors have proposed self-management and recovery orientation as strategies for improving outcomes, empowering consumers, and enhancing cost effectiveness of services [73, 74, 131, 133]. There is also evidence that distrust, stigma and limited knowledge of treatments impact upon pathways to care for Indigenous people [54, 67, 128]. Self-management has four central components: recognition of early warning signs, compliance, understanding of treatment options, and collaborative goal-setting.

There has been little guidance in the mental health literature about recognition of early warning signs (EWS) in the Indigenous setting, although there has been a major focus on such early intervention in the broader population [131]. This study shows that Indigenous clients understand the concept of EWS, and sheds light on the nature of those signs. It also provides pictorial tools and resources to assist in the discussion about relapse between clinician and client.

Compliance and treatment understanding are further important components of self-management. There has been increasing recognition that compliance may be limited in cross-cultural health settings by the skill of service providers in cross-cultural communication and engagement, rather than the interest of Indigenous clients in engaging in treatment [48, 49, 51, 52]. This study provides evidence that Indigenous clients can comply with treatment through the finding of high rates of retention in the trial, and that understanding of treatments can improve.

Goal-setting is another important strategy for care-planning and self-management [81, 133]. There has been little guidance available for approaches to goal-setting in the Indigenous setting. This study provides evidence that goal-setting is an acceptable approach, as well as providing insight into the values of the clients in the study, and the strategies they choose for change.
This study has shown that outcomes improve following an intervention that aimed to focus on delivery of a number of these aspects of self-management. The study does not demonstrate which features of the intervention were effective, however it is likely that the following are important ingredients: knowledge of illness and treatment, self efficacy, and AMHW and family engagement. The study provides evidence that an intervention that incorporates self-management principles is acceptable and is linked with improved mental health outcomes. Further research is indicated in order to confirm the usefulness of this approach and to examine its relevance to other client populations, such as those with chronic disease.

**Comparison with brief therapies**

The present study incorporated features of brief psychotherapies with established effectiveness. The following section compares and contrasts the intervention with these different therapies.

**Motivational therapy**

Miller and Rollnick described motivational enhancement as a client-centred counselling for eliciting behaviour change [100]. In this approach the counsellor supports change in a non-confrontational way, through development of empathy and support of client self efficacy. The counsellor provides a range of options for change, and also assists by heightening the sense of discrepancy between present behaviour and broader goals (where one is versus where one wants to be). Self-efficacy and hope are key messages that are conveyed.

The underpinning therapist skills for this approach include development of empathy, skilful reflective listening, eliciting self-motivating statements and incorporating understanding of the readiness to change model. This model recognises that personal change proceeds along a predictable sequence which can be facilitated by awareness of that sequence [101]. There is a close link with cognitive behavioural therapy as the process can be used to changing the way issues are conceptualised, which can change behaviour.

The 4-step intervention in this study incorporated many of these principles. Empathy and rapport were established through the family map and discussion of strengths. At the same time these two steps began the process of cognitive dissonance or discrepancy. These steps established ‘where the client wants to be’, and were followed by a discussion of their personal stressors. Common points of dissonance were: the recognition that family was a strength and
yet a stressor through fights related to money or alcohol, that hunting and fishing was a
strength and yet a stressor (through not doing enough) and that family gave strength and yet
the client’s marijuana use (for example) was worrying family and causing family
unhappiness.

The pictorial nature of the tool encourages open questions and a non-confrontational
approach, and the tool encourages hope and self efficacy through reminding of strengths, as
well as the incorporation of ‘change talk’. For example, one page shows footprints leading to
change with motivating statements such as ‘small steps lead to big changes’.

In summary the intervention of this study incorporated key principles of this approach, while
emphasising family and ‘whole of life’ strengths and stressors. The intervention has thus
provided another version of MI to add to the ‘tool kit’ of therapists seeking to promote
behaviour change in their clients. The tools guide the process in a way that minimises the
amount of training that is needed to use them. The adaptation of the tools through the
collaborative process with AMHWs has resulted in a process that is more suited to cross-
cultural settings.

**Problem Solving Therapy**

Problem Solving Therapy is another approach which supports change in a non-confrontational
way, through development of empathy and support of client self efficacy. This approach
encourages the patient to identify specific problems and formulate specific solutions through
development of option lists for change, and practical interventions. It allows the patient to
move from a sense of being overwhelmed, to a focus on smaller life issues and realistic
strategies for change. It is brief, and requires little training or ongoing supervision.

The therapy described in this study is similar to this problem solving approach. It incorporates
‘consideration of specific problems’ through the step which identifies stressors, ‘considering
solutions’, through looking at the two pages of family and strengths, and ‘choosing a specific
solution’ through goal-setting and developing practical steps toward that goal. The key steps
are thus similar to problem solving therapy and the approach in this study has the same
advantages of brevity, and requiring little training or supervision. The use of pictures is
potentially more effective for those with cognitive impairment or for children.
**Brief interventions**

‘Brief interventions’ involve a combination of techniques, including motivational interviewing, feedback to patients of likely adverse consequences of current drug use, self-monitoring, developing a contract for future use, providing strategies to cut down use, and regular follow-up. The intervention in this study provided some similar techniques: motivational interviewing, strategies for cutting down, and a ‘take away plan’ that represented a ‘contract’ for change.

**Summary**

In summary the tools, which are described in this study, incorporate key principles of the brief therapies described above. The main differences are three fold: a focus on family, a ‘whole of life’ approach to strengths and stressors, and use of a supporting pictorial tool.

The brief intervention of this study has targeted the early stage of the change process. A natural stage of behavioural change is that of relapse. There is a need to further develop the approach described in this study in order to address ‘maintenance’ of behaviour change. This could be explored through a further study, which uses a longer intervention such as 10 sessions, rather than only two as described here.

Further research might also consider whether the ‘family’, ‘whole of life’ and ‘pictorial’ aspects of the approach are effective in non-Indigenous settings. A cross-cultural translation of the tool might be developed which incorporated language and pictures appropriate to non-Indigenous clients and specific developmental stages: childhood, adolescence, adulthood and old age.

**Comparison with similar studies**

This study has described a trial of a brief intervention, which has shown improvement in outcomes in terms of symptoms of illness, life skills, and psychological dependence on marijuana and alcohol. The study population have comorbid psychosis and/or depressive illness and substance misuse.

A number of studies in the non-Indigenous setting have sought to integrate treatment of psychosis with that of substance use in the setting of comorbidity [108-110]. Two studies by Barrowclough and Baker, recruited clients from the community with psychosis or depression
and comorbid substance misuse[109, 110]. The interventions involved CBT, and MI, and were delivered in the context of a randomised controlled design with 12-month follow up. Both studies reported improvement in client wellbeing and substance use. The study by Barrowclough involved intensive treatment with a smaller sample of individuals and families (36 client-carer dyads), and showed improved outcomes for the treated group, but was unable to show whether the improved outcomes were secondary to the intervention or to the increased therapy time compared to routine care. The study described by Baker recruited a larger client population with psychosis and ‘hazardous drug use’ (130 clients) and delivered a less intensive intervention (10 session CBT plus MI intervention) in comparison to ‘treatment as usual’ [110]. Findings were similar to those of Barrowclough, with improvement in substance use in both groups (participation effects) and short-term benefits in mood.

Meanwhile a pilot study by Kavanagh also showed improved outcomes in terms of substance use in a dual diagnosis population [108]. This pilot study was hospital based, randomised 25 acutely unwell clients with early psychosis and comorbid substance use to treatment or ‘treatment as usual’, and delivered a more brief motivational interviewing intervention than those described above. Three hours of face-to-face counselling were delivered through six to nine sessions over 7 – 10 days, plus weekly phone calls for four weeks. Two key additional findings were that of difficulty in engagement of clients, and a link between improved outcomes and living with a relative or partner.

Each of these studies found similar results, and the results of the present study confirm some of the key findings. Firstly, it strengthens the evidence that brief interventions, which address comorbid disorders in an integrated approach, can be effective, even in acutely unwell populations. Secondly, it confirms that those receiving ‘treatment as usual’ and those in the ‘active’ treatment arm may both improve. This results in uncertainty as to the active ingredient of the intervention, but resonates with other research that has shown that very brief interventions for substance use can result in change [102]. Thirdly the present study suggests, in line with the research described above, that family engagement may be an important active ingredient in successful interventions.

This study also leaves similar outstanding questions. To what extent can these studies translate to the real world and lead clinicians in relevant services to adopt these approaches? To what extent is engagement of family the key to the success of these studies? What
adaptations and tailoring of these approaches to age, readiness to change, and treatment setting, are needed in order to improve outcomes? What are the cost benefits of such treatments? These questions highlight areas for further research in this field.

**Engagement of families**

There is evidence that education of individuals and families can improve outcomes for people with schizophrenia in non-Indigenous populations. There is also evidence that expressed emotion (EE) is a generalized risk factor across a wide range of disorders [98]. The value of family psychoeducation and the role of EE in the setting of Indigenous clients with mental illness, however, have not previously been explored.

This study sought to engage families in a brief intervention that focused on psychoeducation and goal-setting. The present study showed high rates of carer distress, and stressful living environments at baseline. The clients described ‘worrying family’ and having ‘family worry’ as being key areas of concern. It is thus likely that EE was a factor in client distress and vulnerability to relapse. The study found that family were central to both the ‘strengths’ and the stressors of the clients, and hence provides support for the importance of engagement with family. The fact that family members were often not present during the assessments and follow up sessions, may have been offset by the emphasis that was given to involvement of family in goal-setting. The study showed improved client outcomes as well as mild improvement in carer well-being, and some evidence that household stress, as measured by AMHW report of self harm behaviour, mental illness and domestic violence, appeared to diminish over the course of the study.

This study was not designed to measure the extent to which these family changes contributed to the change in outcome for clients, and whether or not EE was a predictive factor for that change. Further research might study the response of carers more closely and measure whether family support and engagement, or conversely EE, predicts client outcomes. There is a need for improved understanding of the role of EE in stress and relapse for clients, of whether improved outcomes are linked with low EE environments, and whether EE can be lowered by targeted family interventions.
AMHW engagement

The role of AMHWs in assessment and treatment is a key recommendation in the SEWB framework. There are many challenges to effective partnerships with AMHWs including language, literacy, worldview, and racism. This study showed that collaboration with AMHWs in development of mental health resources and delivery of a brief intervention resulted in improved outcomes for clients. The study did not explore the AMHW perspectives of the overall study, nor changes in their behaviour in response to the intervention. An important area for further study would be the challenges and enabling factors for two-way partnerships in the workplace.

Mixed methods research design

The present study engaged with local practitioners to explore local perspectives of mental illness. These perspectives were integrated into a brief intervention for clients and the intervention was compared with ‘treatment as usual’. The clients were mentally ill Indigenous people who speak English as a second language. The research design thus needed sensitive exploratory approaches, as well as rigorous experimental method. The strength that qualitative approaches brought to the RCT in this setting was two fold: an understanding of people’s personal experiences, and rich detail of the processes around the RCT. The qualitative data provided background and context that gave greater meaning to the RCT results. The RCT brings the potential to generalize research findings and to eliminate confounding influences. The study confirms that the integration of quantitative and qualitative methodology allows research to answer not only ‘what’ intervention works but also to have a greater understanding of ‘why’ it works [170, 174, 179].

Changing policy and practice

The brief intervention of this study was developed in full awareness of the resource limitations and the capacity constraints of remote health settings. It was designed to be easy to learn and time-efficient. Nevertheless, no matter how simple and effective the intervention may be it will face challenges in translation to practice. The first of these challenges is that it requires integration of mental health treatment into primary care. Practitioners in primary care can be reluctant to take on the burden of mental health treatment. This reluctance can be driven by factors such as limited capacity and resources, the stigma of mental illness, and
limited confidence and skills of primary care practitioners.

Changing practice will also be challenged by the need for integration of mental health treatment with that of substance use. This integration has been recommended for more than a decade, and yet treatment often continues to be delivered separately, and treatment services struggle to share similar approaches [41]. Factors contributing to this struggle are stigma related to each of these population groups, the differing approaches and philosophies of these services, and high staff turnover in remote and rural settings.

A further challenge to the translation of these findings to ordinary clinical practice is that acute care dominates the Indigenous health setting. This focus is driven by the high need and limited acceptance of the relevance of approaches to early intervention and prevention.

There are also a number of enablers to the transfer of these research findings to practice. The most receptive audience to this intervention (delivered through the ‘Care plan training’ project) has been the staff of the Preventable Chronic Disease Strategy (PCD) of the NT (see p.13). The leadership of this programme and the PCD practitioners, especially nurses, recognise the importance of behaviour change to chronic disease outcomes. They are also familiar with the struggle to integrate preventive care and self-management into busy primary care settings, and are aware that many of their clients with chronic diseases are also suffering from emotional distress and mental illness. ‘Consistency with the mission of the partner organisations’ is an important facilitator of sustaining research transfer, and is the key enabler in the link between this research and the PCD strategy in the NT [91].

The above discussion underscores the importance of clarifying factors that enable research translation to policy and practice. Further research may help to inform this field and to maximise the effectiveness of research transfer in the setting of Indigenous mental illness.

**Final thoughts**

This study provides insight into Indigenous perspectives of mental health and new information about the experience of chronic mental illness in the remote Indigenous setting. The study reports high rates of recruitment and retention of study participants in a trial of a brief intervention that promotes client self-management. It also describes a successful model for individual and family engagement in treatment.
The study showed improved client outcomes in terms of: well being and life skills, alcohol and marijuana dependence, and self-management skills. The study also showed that these effects were sustained over time. These findings were particularly notable given the high baseline levels of distress of the participants.

The findings suggest that collaboration with AMHWs, family engagement, and self-efficacy may be important active ingredients in the brief intervention. It invites further exploration of relapse prevention strategies and their translation from research to practice, recognising that the evidence base for successful interventions is slender and the need for effective treatments is imperative.

The study confirms that intervention research is challenging in remote settings, but that completion is feasible, and research questions can be answered. In conclusion, it shows that a brief intervention in the setting of chronic mental illness and comorbid marijuana and alcohol dependence is effective in improving outcomes. This is a major contribution to relapse prevention strategies in Indigenous mental health.
References


30. Standing Committee on Aboriginal and Torres Strait Islander Health, Aboriginal and Torres Strait Islander Health Workforce National Strategic Framework, AHMAC: Canberra.
33. Teesson M, Comorbidity in Mental Health and Substance Use: Causes, prevention and treatment, in National Comorbidity Project National Workshop. 2000, National Drug and Alcohol Research Centre.


42. Australian Health Ministers’ Advisory Council’s Standing Committee on Aboriginal and Torres Strait Islander Health Working Party (Comprising the Northern Territory Queensland and South Australia), *Cultural Respect Framework for Aboriginal and Torres Strait Islander Health 2004 - 2009*. 2004, Department of Health, South Australia.

43. Royal Australian and New Zealand College of Psychiatrists, *Position Statement No. 50, Aboriginal and Torres Strait Islander Mental Health Workers*. Aboriginal and Islander Health Worker Journal, 2003. 27(1).


75. Haynes RB, et al., *Interventions for helping patients to follow prescriptions for medications.* 2003, Cochrane Database of Systematic Reviews.


97. Pekkala E and Merinder L, Psycho education for schizophrenia. 2003, Cochrane Database of Systematic Reviews.


165. General Practice and Primary Health Care Northern Territory, *Submission to the productivity commission health workforce study*. 2005, General Practice and Primary Health Care Northern Territory: Darwin, NT.


179. Bryman A, *Integrating quantitative and qualitative research: how is it done?* Qualitative Research, 2006. 6(97).


<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>AMHW</td>
<td>Aboriginal Mental Health Worker</td>
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<tr>
<td>NT</td>
<td>Northern Territory</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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<tr>
<td>AIHW</td>
<td>Australian Institute of Health and Welfare</td>
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<td>AIMhi</td>
<td>Australian Integrated Mental Health Initiative</td>
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<tr>
<td>NHMRC</td>
<td>National Medical Health and Research Council</td>
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<td>NQ</td>
<td>North Queensland</td>
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<td>RSP</td>
<td>Remote Service Providers</td>
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<td>Health of the Nation Outcome Scales</td>
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<td>LSP</td>
<td>Life Skills Profile</td>
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<td>ATSI</td>
<td>Aboriginal and Torres Strait Islander</td>
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<td>SEWB</td>
<td>Social and Emotional Well Being</td>
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<td>Australian Medical Association</td>
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<td>Top End Division of General Practice</td>
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<tr>
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<td>Randomised Controlled Trial</td>
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<td>CDSM</td>
<td>Chronic Disease Self-Management</td>
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<td>SA</td>
<td>South Australia</td>
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<td>ABCD</td>
<td>Audit and Best Practice of Chronic Disease</td>
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<tr>
<td>CQI</td>
<td>Cycle of Quality Improvement</td>
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<tr>
<td>EE</td>
<td>Expressed Emotion</td>
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<td>MI</td>
<td>Motivational Interviewing</td>
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<td>Assertive Community Treatment</td>
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<tr>
<td>CGT</td>
<td>Collaborative Goal Therapy</td>
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<td>EBM</td>
<td>Evidence Based Medicine</td>
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<tr>
<td>PCIS</td>
<td>Primary care Computerised Information system</td>
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<tr>
<td>CCIS</td>
<td>Community Computerized Information system</td>
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<td>MARVIN</td>
<td>Messaging Architecture for the Retrieval of Versatile Information &amp; News</td>
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<td>5-item Kessler scale with additional questions</td>
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<td>RDH</td>
<td>Royal Darwin Hospital</td>
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<td>BIITE</td>
<td>Batchelor Institute of Indigenous Tertiary Education</td>
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<td>Department of Health and Community Services</td>
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<td>TEMHS</td>
<td>Top End Mental Health Services</td>
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<tr>
<td>PAR</td>
<td>Participatory Action Research</td>
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<tr>
<td>ARO</td>
<td>Aboriginal Research Officer</td>
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<td>SMHWB</td>
<td>Survey of Mental Health and Wellbeing of Adults</td>
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<td>DSM-IV</td>
<td>Diagnostic Statistics Manual</td>
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<tr>
<td>AMHOCN</td>
<td>Australian Mental Health Outcomes and Classification Network</td>
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<tr>
<td>PCD</td>
<td>Preventable Chronic Disease</td>
</tr>
<tr>
<td>RSP</td>
<td>Remote Service Provider (nurse, doctor, allied health worker)</td>
</tr>
<tr>
<td>CDEP</td>
<td>Community Development Employment Programme</td>
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GLOSSARY

The following definitions are applicable to this study.

1. ‘Relapse’
   Relapse is a subsequent episode of mental illness. It is a recurrence of symptoms of mental illness similar to those that have previously been experienced.

2. ‘Relapse prevention’
   Relapse prevention is a specific component of the recovery process. It entails maximising wellness for people with mental illness by reducing the likelihood and impact of relapse. It involves empowering people with mental illness to recognise early warning signs of relapse and develop appropriate response plans.

3. ‘Prodromal’ symptoms and signs, ‘early warning signs’ and ‘relapse signature’. These terms refer to the subjective and objective signs of relapse. They include actions and experiences that indicate that the illness may be recurring. The importance of their recognition is emphasised in the relapse prevention literature.

4. ‘Chronic mental illness’
   The present author defines chronic mental illness for the purposes of the present study, as ‘any current mental illness of six months or more duration, or a mental illness that has recurred at least once’. This definition excludes less severe self-limiting illness while capturing those illnesses that were likely to benefit from care-planning because of vulnerability to relapse.

5. ‘Psychoeducation’
   This refers to the process of sharing of information about mental illness and treatment with clients and carers.

6. ‘Dosette box’
   This is a plastic box which is an aid for medication compliance. It has a sliding cover, separate sections for storing medications (tablets or capsules), and is labelled by day and times.

7. ‘Community Development Employment Programme (CDEP)’
   This Australian Government-funded initiative provides part time employment of Indigenous people who would otherwise be receiving welfare payments only.
Appendices A-S

Aboriginal and Torres Strait Islander people should view the following appendices with care as they may contain images of deceased people.

The resources developed for this study were multi media and included sound through spoken word and music. The following documents are represent the script and images of the videos, without animated characters where those were a component of the story.
APPENDIX A

Ethics Approval

3 February 2005

Dr Tricia Nagel
Consultant Psychiatrist
Top End Mental Health Services
GPO Box 40596
CASUARINA NT 0811

Dear Dr Nagel

Re: 04/48 - Relapse Prevention Trial in Top End Aboriginal People with Chronic Mental Illness

Thank-you for your submission of 27 January 2005, addressing the concerns raised the Human Research Ethics Committee (HREC) with respect to your ethics application for the above project. Ethics approval for this project has now been granted, however the Consent Forms provided with the application do not have spaces for signatures of the client and carer. This omission should be rectified prior to commencement of the study. Once these corrections have been made, please provide us with copies of the revised forms.

The safe and ethical conduct of this project is entirely the responsibility of the investigators and their institution(s). As a condition of ethical approval you should report immediately anything which might affect continuing ethical acceptance of the project, including adverse effects of the project on subjects and the steps taken to deal with these, other unforeseen events, or new information that may invalidate the ethical integrity of the study.

This approval is for twelve months. A progress report is required before the end of this period. Approval for a further twelve months will be granted if the HREC is satisfied that the conduct of the project has been consistent with the original protocol.

The Committee must be notified and approve in advance any significant changes to the protocol. The Committee must also be notified at the completion of the project.

Yours sincerely,

The Very Reverend Dr Michael Nixon
Acting Chair
Human Research Ethics Committee
of NT Dept of Health & Community Services
and Menzies School of Health Research
APPENDIX B

Grow Strong Mental Health Story

Batji! Hello! People who understand mental illness and treatment can be well again sooner and stay well for longer. Some things keep us strong and well like hunting, lore, music, family, or work. When we are strong and well we are in balance.

But worry and sadness can make you unwell with mental illness. The more problems you have building up on top of each other, the more out of balance you can be. Drugs and alcohol can make you unwell too. Other causes of mental illness are head injury, birth injury, family history, and some medications. You might see things that aren’t there, or hear voices. You might feel very sad, or walk around all night, or even get violent. People with mental illness have chemicals in the brain out of balance.

There are three main sorts of mental illness: psychosis, depression, and anxiety. Psychosis is the illness of hearing voices, seeing things, and mixed up thoughts. Depression is the illness of feeling very sad inside. Anxiety is the illness of feeling very worried all the time. Treatment for mental illness can be two way, Indigenous way and western medicine way working together - through changes on the outside and changes on the inside.

Outside changes are about doing different things, like playing footy or going fishing. Other outside changes for better mental health might be to talk to elders, or to council, or to clinic mob, or to mental health mob. Inside changes are to know more about mental illness and treatment, and to remember about law and culture and totems.

Remember there are three common early warning signs of getting sick again: change of appetite, worry or restlessness, and change of sleep. There are different sorts of medication for different sorts of mental illness. Medication needs to change to suit the person: sometimes you need more, sometimes less, and sometimes different medication. Sometimes going to country is all you need, country is good to us, country is very important, country is good medicine.
Grow strong mental health

**People who understand mental illness and treatment can be well again sooner and stay well for longer**

**Hunting, law, music, family, and work - all help to keep us strong and well**

**But worry and sadness and troubles can make us unwell**

**Family Worry**

**Law**

**Hunting**

**Work**

**Music**

**Family**

**Trouble in our lives can cause mental illness**

**Mental illness might make you see things that aren’t there**

**Mental illness might make you feel very sad.**

**Mental illness might make you get violent.**

**Mental illness might make you hear voices.**

**People who are strong and well are in balance.**

**People with mental illness have chemicals in the brain out of balance.**
Depression is the illness of feeling very sad inside.

Psychosis is the illness of hearing voices, seeing things and mixed up thoughts.

Anxiety is the illness of feeling very worried inside.

There are three main sorts of mental illness – psychosis, depression and anxiety.

There are three main sorts of tablets for mental illness.

There are 3 common early warning signs of getting sick again:
1. Change of appetite
2. Worry or restlessness
3. Change of sleep

Anxiety is the illness of feeling very worried inside.

Anti Psychotics
Anti Anxiety tablets
Anti Depressants

The three main sorts of tablets for mental illness are anti psychotics, anti anxiety tablets and anti depressants.

There are three main sorts of mental illness – psychosis, depression and anxiety.

Put medication where you can see it so you remember to take it.

There are 3 common early warning signs of getting sick again:
1. Change of appetite
2. Worry or restlessness
3. Change of sleep

Take medication the same time each day - like when you get out of bed - so you remember to take it.

If you notice early warning signs of getting sick again – make changes and get help quickly.

Use a dosette or Webster pack each day so you remember to take it.

Take medication the same time each day – like when you get out of bed - so you remember to take it.

Sometimes going to country is all you need. Country is good to us. Country is important. Country is good medicine.

Mamak!
Keep family strong story

Auntie: Hello. Here’s a story about my niece. She was all right that girl until her mum passed away, she got sad. She was walking around all night, sitting inside the house all day, smoking too much gunja, hearing voices and talking all kind.

We talked with family and elders, we talked to clinic mob and doctor, trying to heal her both ways.

Niece: I was feeling empty inside, worrying, crying all the time.

Family helped me with my sad feelings, I felt better and stronger with help from my family. Clinic mob started me on tablets. AMHWs visit us making sure we are coping.

I never smiled for a long time until now. That aching feeling inside has gone.

I’ve got time for kids now, and I’m thinking more about my culture and my totems.

Auntie: I’m really proud of that girl cos I see a strong woman. She’s good for the family, and the community. I love that girl, we’ve all got to look after her.
This story is not included due to respect for ‘sorry business’ (funeral, loss and bereavement rituals).
Local grow strong mental health story
APPENDIX F

Stay strong story 2

Yeah! My mother and grandmother used to teach everything what they were taught before by their mothers – that how I want to teach my kids, my grandchildren, to do the same …because back in those times, like to me it was strong, we didn’t have this mental health problem… because at that time we had good life … we’ve enjoyed everything.

Yeah… myself and my kids, my two kids, who supported me all the way… and all that past about my people..about going out hunting and the corroborees …and everything that we used to have. All that have been faded away. That kept me strong in my life

Drugs, alcohol, anija (alcohol), amarda (marijuana), in my community. Like it takes my strengths away - especially when there’s a fight. I get involved in most of the fight trying to help my people - sometimes it helps me, sometimes its does really takes my strength away... and I get really bad inside. I get this really when I think about my people.

How it affected me… like I tried to harm myself a couple of times. I even overdosed myself with anything.. trying to get rid of myself. Its all those bad things that came into my life that really affected me, and I didn’t know that I had this depression within me. The way it affected me was my appetite.. I wasn’t eating enough food.. I wasn't sleeping at night. Thinking.. awake all night ...even during the day I would stay inside all the time. That affected me really inside of me - it was really...bad.

Depression. I didn’t know what it was first, then how I got sick, but by looking at myself, wondering, thinking, what’s this inside of me... and people used to tell me don’t trust the white people. They might give you wrong medications. I used to keep that in my mind, so I didn’t go and see the white people. I did that myself, how I got out is by putting my children first, and bringing all that what I’ve lost. It’s like a jigsaw puzzle... you try to solve the problem yourself. Well - I did that.

Helping my clients and my people in this community... bush medicine it helps but its not enough. We haven’t got the right tools. That’s why we need non-indigenous medicine to come and help us there as well. Because they’ve got the right tools that we don’t have. If we work together as a team, it’s like a two-way treatment. Aboriginal way and non-indigenous way. Get them together, work together as a team. So I would like my people to learn the western side as well - not only our way.
APPENDIX G

B2M story

WARNING: the following material may contain images, voice or footage of deceased Aboriginal people. Care should be taken.

Freaking out

Murryar

Nguiu

Wurrunkuj

Milikapiti

Pularumpi

You've been walking around with those stoned eyes

At everything you see

Now you're alone … you see things…

If I could change the world

We care for you...

It's not that easy

when you're all alone

Can't you see Murryar?

Gunja has got to you

Down with grog and drugs

The time has come

The time has come

for you to make a change

We care for you
Appendix H

Mental health medication story
Inside your head is your brain. Each person’s brain is very different. The brain is like our control centre. The brain is where our personality, our actions and emotions are controlled.

Each area of the brain has a special job to do. This picture shows where each different job is controlled in the brain. At the top of the brain, the red area receives messages FROM the body like how the body is moving or how it is feeling. The purple area sends messages TO the body telling it how and when to move. These different areas are always working together and talking to each other.

This picture shows how messages go around the brain and body. A message goes from the finger to the ‘feel body’ (blue) area of the brain saying that the finger is hot. A message is then sent to the ‘move body’ (orange) area saying that the finger needs to move away. The finger then moves away from the fire. These messages travel so fast that we don’t even notice them.

These messages are carried around the body by the nervous system. The nervous system is like our “knowledge system”. There are two ways that messages are carried around the nervous system. Part of it is electrical, like electricity. And the other part is chemical, carried by natural chemicals in the body.
Some things can make the balance in our nervous system go all wrong. Some of the things that can make our nervous system off balance are:
- drinking grog,
- using gunja
- too much stress

What happens to this person?

The person’s balance is all wrong like a river system with dams or bad chemicals

When the balance is all wrong, there is a ‘build-up’ of strong (or poisonous) chemicals in the nervous system. This changes the messages that are sent all around the nervous system. Instead of healthy messages that make our body and brain work properly, confused messages are sent around the brain and body. When the balance is all wrong in the person’s brain and body, they may get a mental illness.

Mental Illness

A person with mental illness needs to get the balance back. They need to get the chemicals in their brain balanced again.

Mental health medicine taken for one day will help balance for one day. Medicine taken every day will help balance every day. Some mental health injections (needles) will help balance for weeks. Mental health medicine needs to be checked regularly by your doctor. Sometimes you need more for balance, sometimes you need less, sometimes you need to change medicine.

Get the balance back

Family help
Ceremony
Healer
MH team/health workers
Medicine
Counsellor
Stop drugs and alcohol
Music
Dancing
Culture
Country
Work
Good food
Good sleep
Exercise

Look for problems with balance in you, & friends and family

GET HELP
APPENDIX I

Pictorial assessment tool

Severity of Dependence Scale

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<tr>
<td>1. None (0)</td>
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<tr>
<td>2. Light (1-2)</td>
</tr>
<tr>
<td>3. Moderate (3-5)</td>
</tr>
<tr>
<td>4. Severe (6-8)</td>
</tr>
<tr>
<td>5. Very severe (9-10)</td>
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</tbody>
</table>

Mental Health 'Early Warning Signs' are changes in how you feel or what you do which make you feel like you might be going in the wrong direction.

In the last four weeks how often did you feel? (K10 client)

- None of the time
- Little of the time
- Some of the time
- Most of the time
- All of the time

- Worthless?
- So sad nothing could cheer you up?
- So nervous nothing could calm you down?
- So restless you couldn't sit still?
- So nervous you couldn't sit still?
- Hopeless (without hope)?
- Tired out for no good reason?
- Depressed?
- So nervous you couldn't sit still?
- Nervous or anxious?
- Enraged or irritable?
- Drunk or hungover?
- Absent from work?
- Working more hours?
- Working less hours?
- Changed your job?
- Changed your residence?
- Changed your school?
- Changed your recreation?
- Changed your friends?
- Changed your hobbies?

Do you wish you could stop?
- Yes
- No
### Mental Health Assessment

**WHO ELSE LIVES IN THE HOUSE? (NUMBER, troubles):**

- [ ] Domestic violence
- [ ] Mental illness
- [ ] Substance misuse
- [ ] Suicide attempts

Will seek to complete with AMHW

### Severity of Dependence Scale

<table>
<thead>
<tr>
<th>Question</th>
<th>No worries</th>
<th>Some Worries</th>
<th>Big worries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think your use of _______ is out of control?</td>
<td>Never</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you think about missing a dose are you anxious or worried?</td>
<td>Never</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you worry about your use of ____?</td>
<td>Never</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you wish you could stop?</td>
<td>Never</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How difficult do you find it to stop or go without ____?</td>
<td>Never</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Partners In Health Questionnaire (adapted)

**Client**

<table>
<thead>
<tr>
<th>Question</th>
<th>No worries</th>
<th>Some Worries</th>
<th>Big worries</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know about what causes mental illness and what happens to me when I am sick</td>
<td>1 2 3 4 5 6 7 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know about treatment for mental illness</td>
<td>1 2 3 4 5 6 7 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know early warning signs of my illness</td>
<td>1 2 3 4 5 6 7 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I take medication regularly</td>
<td>1 2 3 4 5 6 7 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am making changes toward a healthy life style</td>
<td>1 2 3 4 5 6 7 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix J

Take away treatment plan

Changes for strength

Physical

Family and social

Good

Not so Good

Good

Not so Good

Step 1
Step 2
Step 3

Step 4
Step 5
Step 6

Step 1
Step 2
Step 3

Step 4
Step 5
Step 6
Appendix K

Pictorial care plan booklet

Date: 

Name: 

Things that help to keep me well, happy, and strong are:

I sometimes get sick with worries which I call _______________ and the mental health service calls ________________

Early warning signs of me getting sick are:
1. 
2. 
3. 

If I know I am getting sick I will do these things to get help quickly:
1. 
2. 
3. 

I trust this person to give advice about my treatment _______________ and to decide who will stay with me if I need to go to hospital or somewhere else for treatment.

Date: 
Appendix L

Written care plan
Mental Health Stay Strong Plan

**Principal Name**: 

**Other Names**: 

**DOB**: 

**DATE**: 

**Things and people that help to keep me strong are:** (spiritual, cultural, physical, family, social, mental and emotional)

<table>
<thead>
<tr>
<th>Things and People that Help to Keep Me Strong are: (spiritual, cultural, physical, family, social, mental and emotional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**These people help me if I get sick** (Names and contact details as appropriate)

| Aboriginal Mental Health Worker or Health Worker |
| Registered Nurse |
| General Practitioner |
| Allied Health / Healer / Other |
| Family member / Primary carer |
| Specialist / Area Mental Health Team |

**I sometimes get worries, which I call**

**The mental health service calls this**

**Some of the worries I have are:** (Tick or circle)

| Family trouble, humbug or worry | Problem remembering things or finding my way around |
| Not doing much, like hunting, fishing, or other things | Doing things which worry my family |
| Work worry | Culture worry |
| Not sleeping good | Sitting down alone – not mixing much with others |
| Not eating good tucker | Violent, strange, silly or bad behaviour |
| Too much cigarettes | Hearing voices or seeing things |
| Too much grog, or ganja, or other drugs or gambling | Feeling sad inside, no interest in doing things |
| Physical Illness | Feeling too much energy, can’t stop |
| Don’t want medicine or treatment | Mixed up thoughts, paranoid, silly thinking |
| Side effects of medicine – feel sleepy or tight muscles | Self harm behaviour or thoughts of suicide |
| Don’t know about mental illness or treatment | Feeling anxious or nervous or jumpy |
| Trouble cooking and shopping and caring for myself | Other worry |

**How I am now / current issues / progress toward previous goals**: Previous care plan completed? [ ] Previous care plan reviewed? [ ]

**A goal I have for changing worries – step by step**

Change is your own choice. Everyone can make changes. There are lots of different ways to change. Everyone is ready in his or her own time. Small steps can lead to big changes.

**Goal:**

<table>
<thead>
<tr>
<th>Goal:</th>
</tr>
</thead>
</table>

**Step 1.**

**Step 2.**

**Step 3.**

**Step 4.**

**What would be good about making this change?**

**Planning steps to your goal:**

- What can you do to make the change happen?
- Talk about the detail of making this change.
- How will you tell when the goal has been reached?
- What is the very first thing you will do?
- When will you do it?
- How will you make sure you will do it?
- Who can help you to do it?
- What has helped you make this change before?
Early warning signs of me getting sick are:

1. 
2. 
3. 
4. 

If I know I am getting sick I will do these things to get help quickly:

1. 
2. 
3. 

I trust this person to give advice about my treatment ___________________________ and to decide who will stay with me if I need to go to hospital or somewhere else for treatment.

Treatments that I am trying and who is involved: (Need to refer to medical summary or prescription for other medications?) Y / N

1. Medication

<table>
<thead>
<tr>
<th>Dose, Frequency and route</th>
<th>Drs Signature and Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Medication Relapse Plan (a good step by step plan would 1. optimise current medication e.g. mood stabiliser, antipsychotic or antidepressant 2. add adjuvant such as benzodiazepine or antidepressant 3. switch to a new medication e.g. new antipsychotic or antidepressant)

3. Compliance Strategies ☐ Dosette/ Webster Pack ☐ Side effect concerns addressed ☐ Reminders ☐ Other

4. Life style changes (substance use, counselling or other supports, diet, exercise, smoking, time-out, go bush, job training)

5. Cultural or spiritual activity or treatment

6. Other services / other treatments / treatment for physical illness

Risk Assessment

<table>
<thead>
<tr>
<th>Self Harm or suicide risk</th>
<th>Harm to Others</th>
<th>Vulnerability – cannot look after self</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Risk issues addressed by following actions:

☐ Dosette or Webster pack offered today ☐ Client psycho education / illness information given today
☐ Carer psycho education given today ☐ Referral for counselling or further support organised today
☐ Adult Health Check in last 12 months (BP, Weight, urine check) OR Adult Health Check arranged today
☐ Liver/Renal/Thyroid/BP/Weight/Lipid check in last 6-12 months ☐ New tests ordered today
☐ Mood stabiliser check in last 3 months or circle ‘not applicable’ ☐ New tests ordered today

Signatures:

Patient Carer AHW or AMHW Doctor RN/Allied Health RPN

Recorded on recall list ☐ Date of next review……../…………./…….

Care Plan completed at In patient Ward _________________________ or at Health centre _________________________

Remote Mental Health Care Plan – AIMHI NT 2006 – Version NQ

Aim to complete a care plan at least every three months
Appendix M
Treatment Care plan

Changes for strength
Who cares for you? Who do you care for? Who is watching what you do? Who would you make changes for? Who needs to make changes for you?

Community
Away from community

House
Community
Away from community

Good things about changing are

I want to change

Not so good things about changing are

Date:

Progress
Changes for strength
Date

Changes for strength

Step 1
Step 2
Step 3
Step 4
Step 5
Step 6

There are lots of steps to change

No one makes changes all at once
Appendix N

Health of the Nation Outcomes Scales
### Health of the Nation Outcomes Scale (HoNOS)

1. Rate each scale in order from 1-12
2. Do not include information rated in an earlier scale
3. For each item, rate the most severe problem that occurred during the period rated
4. The rating period is generally the preceding two weeks for inpatients at admission, for hospital outpatients, and for all clients of community–based services. The exception is at discharge from acute inpatient care, in which case the rating period should generally be the preceding 72 hours.
5. Specific help for rating each point on each item is provided in the Glossary.
6. As far as possible, the use of rating point 7 should be avoided, because missing data make scores less comparable over time or between settings.
7. All scales follow the following format:
   - 0 no problem
   - 1 minor problem requiring no action
   - 2 mild problem but definitely present
   - 3 moderately severe problem
   - 4 severe to very severe problem
   - 7 Not known / Unable to rate

<table>
<thead>
<tr>
<th>SCALE</th>
<th>PROBLEM</th>
<th>SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Problems resulting from overactive, aggressive, disruptive or agitated behaviour</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>2</td>
<td>Suicidal thoughts or behaviour; non-accidental self-injury</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>3</td>
<td>Problem drinking or drug taking</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>4</td>
<td>Cognitive problems involving memory, orientation, understanding</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>5</td>
<td>Problems associated with physical illness or disability</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>6</td>
<td>Problems associated with hallucinations and delusions</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>7</td>
<td>Depressed mood</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>8</td>
<td>Other mental and behavioural problems</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td></td>
<td>. . . type of Other Problem</td>
<td>□□</td>
</tr>
<tr>
<td>9</td>
<td>Problems making supportive social relationships</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>10</td>
<td>Problems associated with daily living; overall disability</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>11</td>
<td>Opportunities for using and improving abilities; where patient is living</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
<tr>
<td>12</td>
<td>Opportunities for using and improving abilities; occupational and recreational</td>
<td>□0 □1 □2 □3 □4 □7</td>
</tr>
</tbody>
</table>

TOTAL SCORE =
Appendix O

Life Skills Profile
Life Skills Profile (LSP39, LSP20 & LSP16)

1. Complete on day of or within 24 hours of three monthly review in ambulatory care.
2. The rating period is the preceding 3 months
3. Assess the patient’s general functioning over the past three months
4. Do not assess functioning during crisis when the patient was ill or becoming ill
5. Rate each scale in order from 1-16

<table>
<thead>
<tr>
<th>Question</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does this person generally have any difficulty with initiating and responding to conversation?</td>
<td>No difficulty</td>
<td>Slight difficulty</td>
<td>Moderate difficulty</td>
<td>Extreme difficulty</td>
</tr>
<tr>
<td>Does this person generally withdraw from social contact?</td>
<td>Does not withdraw at all</td>
<td>Withdraws slightly</td>
<td>Withdraws moderately</td>
<td>Withdraws totally/nearly</td>
</tr>
<tr>
<td>Does this person generally show warmth to others?</td>
<td>Considerable warmth</td>
<td>Moderate warmth</td>
<td>Slight warmth</td>
<td>No warmth at all</td>
</tr>
<tr>
<td>Is this person generally well groomed (eg neatly dressed, hair combed)</td>
<td>Well groomed</td>
<td>Moderately well groomed</td>
<td>Poor cleanliness of clothes</td>
<td>Extremely poorly groomed</td>
</tr>
<tr>
<td>Does this person wear clean clothes generally or ensure that they are cleaned if dirty?</td>
<td>Maintains cleanliness</td>
<td>Moderate cleanliness</td>
<td>Poor cleanliness</td>
<td>Very poor cleanliness</td>
</tr>
<tr>
<td>Does this person generally neglect her or his physical health?</td>
<td>No neglect</td>
<td>Slight neglect</td>
<td>Moderate neglect</td>
<td>Extreme neglect</td>
</tr>
<tr>
<td>Is this person violent to others?</td>
<td>Not at all</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Often</td>
</tr>
<tr>
<td>Does this person generally make and/or keep up friendships?</td>
<td>Friendships made/kept up</td>
<td>Slight difficulty</td>
<td>Considerable difficulty</td>
<td>No friendships made/kept</td>
</tr>
<tr>
<td>Does this person generally maintain an adequate diet?</td>
<td>No problem</td>
<td>Slight problem</td>
<td>Moderate problem</td>
<td>Extreme problem</td>
</tr>
<tr>
<td>Does this person generally look after and take his or her own prescribed medication when prescribed by a doctor</td>
<td>Reliable with medication</td>
<td>Slightly unreliable</td>
<td>Moderately unreliable</td>
<td>Extremely unreliable</td>
</tr>
<tr>
<td>Is this person wiling to take prescribed psychiatric medication when prescribed by a doctor?</td>
<td>Always</td>
<td>Usually</td>
<td>Rarely</td>
<td>Never</td>
</tr>
<tr>
<td>Does this person co-operate with health services?</td>
<td>Always</td>
<td>Usually</td>
<td>Rarely</td>
<td>Never</td>
</tr>
<tr>
<td>Does this person generally have problems (eg friction, avoidance) living with others in the house?</td>
<td>Always</td>
<td>Usually</td>
<td>Rarely</td>
<td>Never</td>
</tr>
<tr>
<td>Q0 No obvious problem</td>
<td>Q1 Slight problems</td>
<td>Q2 Moderate problems</td>
<td>Q3 Extreme problems</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>-------------------</td>
<td></td>
</tr>
</tbody>
</table>

14. Does this person have offensive (including sexual) behaviour?

<table>
<thead>
<tr>
<th>Q0 Not at all</th>
<th>Q1 Rarely</th>
<th>Q2 Occasionally</th>
<th>Q3 Often</th>
</tr>
</thead>
</table>

15. Does this person behave irresponsibly?

<table>
<thead>
<tr>
<th>Q0 Not at all</th>
<th>Q1 Rarely</th>
<th>Q2 Occasionally</th>
<th>Q3</th>
</tr>
</thead>
</table>

16. What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?

<table>
<thead>
<tr>
<th>Q0 Capable of full time work</th>
<th>Q1 Capable of part time work</th>
<th>Q2 Capable of sheltered work</th>
<th>Q3 Totally incapable of work</th>
</tr>
</thead>
</table>

TOTAL SCORE =

---

Principal reference:


**Description**

The Life Skills Profile (LSP) is a clinician completed, 39-item, rating scale developed by an Australian clinical research group to assess patients’ abilities with respect to basic life skills over the preceding three months. The profile has five scales: Self-Care, Non-Turbulence, Social Contact, Communication, and Responsibility. Casemix classification under MH-CASC requires the collection of an abbreviated 16-item version (covering the Withdrawal, Anti Social Behaviour, Self-Care, and Compliance scales).

**LSP items and Summary scores**

The items which constitute the 16 item short form of the Life Skills Profile, and the summary scores which may be derived from those items are identified in the Table.

Statistics for the summary scores should generally be reported as Means and Standard deviations. Statistics for the individual items need not usually be reported.

The Summary scores are computed using the equation shown below, with the result being rounded to the nearest whole number. If any item has not been completed (that is, has not been coded 0, 1, 2 or 3), it is excluded from the calculation and not counted as a valid item. If more than 50% of the items constituting any given Summary score are not valid then the affected Summary score is set as missing.

\[
Summary\text{ }score = \left( \frac{Sum\text{ }of\text{ }Item\text{ }scores}{N\text{ }of\text{ }valid\text{ }completed\text{ }Items} \right) \times Number\text{ }of\text{ }Items
\]

Standard values must be used for coding missing item and Summary scores. For individual items, the missing values are 7, 8 and 9. For the Summary scores, the missing value used should be 99.
References


Appendix P

Helpfulness and own progress to goals questionnaire

Research Number:
Date:

Did you find the AIMHI information helpful?

Flip charts?
Comments

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Little bit</th>
<th>Some help</th>
<th>Very helpful</th>
<th>Extremely helpful</th>
</tr>
</thead>
</table>

Videos?
Comments

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Little bit</th>
<th>Some help</th>
<th>Very helpful</th>
<th>Extremely helpful</th>
</tr>
</thead>
</table>

Information sheets?
Comments

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Little bit</th>
<th>Some help</th>
<th>Very helpful</th>
<th>Extremely helpful</th>
</tr>
</thead>
</table>

Talking about goals and steps to goals?
Comments

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Little bit</th>
<th>Some help</th>
<th>Very helpful</th>
<th>Extremely helpful</th>
</tr>
</thead>
</table>

I am making change toward my goals
Comments

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Little bit</th>
<th>Some change</th>
<th>A lot</th>
<th>Lots and Lots</th>
</tr>
</thead>
</table>
Appendix Q

Health centre and hospital file audit and AMHW interview about home worries

**BASELINE**

<table>
<thead>
<tr>
<th>Month Follow Up</th>
<th>6 M</th>
<th>12 M</th>
<th>18 M</th>
<th>24 M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes = 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No = 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DATE _________________________**

**COVER SHEET**

RESEARCH NUMBER ___________________

**BASELINE AUDIT**

6 MONTH FOLLOW UP AUDIT

12 MONTH FOLLOW UP AUDIT

18 MONTH FOLLOW UP AUDIT

24 MONTH FOLLOW UP AUDIT

**DATE _________________________**

**CLINICAL FILE AUDIT**

RESEARCH NUMBER ___________________

**BASELINE**

6 MONTH FOLLOW UP

12 MONTH FOLLOW UP

18 MONTH FOLLOW UP

24 MONTH FOLLOW UP

**DATE _________________________**

**CLINICAL FILE AUDIT 1**

Is a mental health assessment (contact with a mental health professional, examination, or review) documented in the preceding 3 months?

Is there involvement of specialist mental health services in assessment and treatment planning in those three months?

Regional mental health service or hospital staff?

Is there a care plan or treatment summary which shows:

- Early warning signs recorded?
- Treatment goals recorded?
- Relapse planning?

(Score yes for relapse planning if have two or more of: compliance addressed through education, dose adjustment for side effects, dosette, depot, what helps at time of relapse, triggers, crisis plan, who is involved?)

**CLINICAL FILE AUDIT 2**

The collection of this data is for the purpose of the diagnosis and the development of the GAF score. Info available in clinic file.


1. Date

Progress notes/case conference/discharge summary

Diagnosis

Problem

Background information

Treatment

2. Date

Progress notes/case conference/discharge summary

Diagnosis

Problem

Background information

Treatment

3. Date

Progress notes/case conference/discharge summary

Diagnosis

Problem

Background information

Treatment

**CLINICAL FILE AUDIT 3**

CURRENT MEDICATION:

- Risperidone Or/IM Dosette/webster pack
- Olanzapine Or/IM Dosette/webster pack
- Abilify Or Dosette/webster pack
- Seroquel Or Dosette/webster pack
- Lithium Or Dosette/webster pack
- Valproate Or Dosette/webster pack
- Zuclopenthixol Or/IM Dosette/webster pack

- Other ______________________________
- Other ______________________________

No current prescription or medication order documented?

**HOSPITAL FILE AUDIT**

Hospitalisations in last 12 months?

Length of stay overall (days)

Involuntary detention in last 12 months?

Diagnoses at discharge:

**WHO ELSE LIVES IN THE HOUSE? (NUMBER, troubles)**

- Domestic violence
- Mental illness
- Substance misuse
- Suicide attempts

Will seek to complete with AMHW.

Married/defacto

Employed

Children
Appendix R

Information sheet example: what is mania?
People who are full of energy, are acting strangely happy, and who have very fast thoughts and speech may have an illness called mania.

They might:

- Think they are the best or special in some way
- Walk round all night – no sleep
- Have strange or silly or very happy behaviour
- Get angry too quickly
- Talk too much and too fast and jumbled up
- Have so much energy that they can’t stop

What makes me manic?

These things can cause mania:

- Poor physical health
- Loss or bereavement
- Too much stress
- Too much Alcohol or Gunja or other drugs
- Stopping usual treatments
- Breaking Law
- Family History (someone else in the family has the illness)

People with mania or depression can also have psychosis as well – and will usually need treatment for both problems - see the psychosis pamphlet
INSIDE CHANGES

Know about treatment
Remember totems, family, elders
Remember what keeps you strong – spiritually, physically, socially and emotionally
Make changes so that you are doing what keeps you strong - spiritually, physically, socially and emotionally
Think with your head not with your heart

OUTSIDE CHANGES

Family support
Elders
Traditional healer
Clinic Mob
Mental Health Mob
Mood stabilizer and/or antipsychotic and/or anti anxiety tablets with dosette or Webster pack
Hunting, fishing, dance
Going to country

How do you make change?

• Everyone can make change - when they are ready
• There are lots of different ways to change
• Telling people they SHOULD change doesn’t help
• Letting them know you think they CAN change does help
• Everyone changes in his or her own time
• Small steps can lead to big changes

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0889227706 or trish.nagel@nt.gov.au
Appendix S

Relapse Prevention Publication
The need for relapse prevention strategies in Top End remote indigenous mental health

Tricia Nagel

Consultant Psychiatrist, Top End Mental Health Services, Casuarina, Northern Territory, Australia
Chief Investigator, AIMHI NT, Menzies School of Health Research, Darwin, Northern Territory, Australia
Senior Lecturer, Flinders University, South Australia

Abstract

The Australian Integrated Mental Health Initiative in the Northern Territory (AIMHI NT) is one site of a National Health and Medical Research Council (NHMRC) Strategic Partnership initiative seeking to improve remote indigenous mental health outcomes – in a context of increasing hospital admissions and high readmission rates. Remote indigenous mental health service delivery faces challenges of isolation, staff recruitment and retention, and cultural, language and literacy issues. AIMHI NT explored the challenges of mental health service delivery and relapse prevention in Top End remote Aboriginal communities through semi-structured interviews with General Practitioners, nurses, and Aboriginal Mental Health Workers. AIMHI NT sought views from a range of different practitioners and health centres, representing each of the three Top End regions - Katherine, East Arnhem and Darwin Rural. Remote service providers reported low levels of confidence in indigenous mental health assessment, and little formal training in mental health. They reported high rates of relapse of mental illness and high rates of comorbidity, but few relapse prevention activities and relapse prevention tools. The development of relapse prevention activities in primary care requires support and change at all levels – community, consumers and carers, service providers, health system, and health policy. AIMHI NT is engaged in a range of activities promoting relapse prevention in remote NT health centres, and has developed a care plan and care plan training package for remote service providers.

Keywords
remote, indigenous, relapse prevention, mental health, care plan package

Background

Northern Territory Hospital data show progressively increasing rates of admission to hospital of indigenous people since 1993 (Nagel, 2005a). Meanwhile indigenous community mental health indicators such as substance use and self-harm behaviour are also rising (Clough, Cairney, D'abbs et al., 2004; ShuQin Li, Measey & Parker, 2004). Eighty four percent of indigenous mental health admissions in the Top End in 2002–2003 fell into one of three categories – psychosis, depression or substance related mental disorder. The emergency re-admission rate in the same year was 23% (Nagel, 2005a). In other words nearly a quarter of those admitted were readmitted within 28 days. These figures do not simply reflect the high
rates of comorbid illness in indigenous people, or the limited access to specialist services – they highlight the recurring nature of mental illnesses such as psychosis and depression. Depression is as disabling as congestive heart failure, and its relapsing nature accounts for one of the highest levels of disease burden of any condition (Murray & Lopez, 1996). Top End Aboriginal people with mental illness are vulnerable to poor treatment outcomes through high rates of comorbid substance misuse, especially alcohol and marijuana (Nagel, 2005a; Teesson & Burns, 2001). This vulnerability is exacerbated by poor physical health, social disadvantage, and an enormous burden of grief and loss through physical illness, suicide, homicide, and incarceration (Australian Bureau of Statistics, 2000; Emotional and Social Wellbeing Working Party, 2003). Outcomes are also limited by the multiple challenges of distance, access to services, and cultural diversity (Bailey, Siciliano, Dane et al., 2002; Sheldon, 2001).

Identification of early warning signs and risk factor recognition are key recommendations of a number of recent national and international mental health reports (Commonwealth Department of Health and Aged Care, 2000; World Health Organization, 2001) and are the underlying premise of the chronic disease self-management movement (Bodenheimer, Lorig, Holman & Grumbach, 2002). The literature shows that targeted prevention strategies such as psychoeducation, family education, recognition of early warning signs, compliance prompts, and assertive outreach are effective in improving mental health outcomes – yet practice still lags behind this evidence (Falloon, Coverdale, Laidlaw et al., 1998; Pekkala & Merinder, 2002). Furthermore, whilst there is growing awareness that significant improvement or full recovery from mental illness is possible, relapse prevention strategies are often not in place in specialist services – much less at remote primary care level.

AIMHI NT, in partnership with the Department of Health and Community Services, is the Northern Territory site of a major NHMRC Strategic Partnership initiative that began implementing a framework of research activities in mid 2003. AIMHI NT employs two indigenous research officers and has been consulting with indigenous organisations since it commenced in June 2003. In the first year of the project AIMHI NT established base line measures, combining qualitative and quantitative measures. Admission and evacuation data showed increasing rates of hospitalisation of Top End Aboriginal people for mental illness over the last decade (Nagel, 2005a). This paper reviews the findings from the base line remote service provider (RSP) survey.

**Method**

**Snapshot of the services available**

The target population of mental health services in the Top End is 153,000 people. This encompasses larger urban centres such as Darwin and Katherine, and more than 100 small remote communities and small towns. Primary care services to remote communities are delivered through 40 community health centres, usually staffed by nurses and Aboriginal Health Workers, and a local or visiting medical practitioner. Regional mental health services visit the larger communities 4 to 6 weekly. Twelve communities have local Aboriginal Mental Health Workers.

**Procedure**

The nature of current services was explored through semi-structured interviews with remote General Practitioners, nurses, and Aboriginal Mental Health Workers (see Table 1). The sampling strategy sought a range of views from different practitioners, and from a range of different clinics across the Top End. Seventy percent of Top End health centres are represented in the survey. Four researchers conducted 41 interviews between December 2003 and July 2004. Qualitative data in each interview was coded according to themes. The computer program SPSS was used to facilitate analysis. Some of the findings are presented below.

**Results**

RSPs reported low levels of confidence and training in mental health – despite generally being experienced in remote health, and despite generally providing services to a large number of clients (see Table 1). RSPs adopted different processes for assessment, usually preferring an Aboriginal Mental Health Worker or health worker to be present, and to assess clients at home or sitting outside rather than in the clinic setting.
Table 1. Telephone survey of Top End remote service providers: Assessment

<table>
<thead>
<tr>
<th>Respondents</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric nurses</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Aboriginal Mental Health Workers</td>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>Remote GPs or District Medical Officers</td>
<td>7</td>
<td>17.1</td>
</tr>
<tr>
<td>Remote Clinic Nurses</td>
<td>15</td>
<td>36.5</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>41</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Training and experience in indigenous mental health?**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal training in mental health</td>
<td>17</td>
<td>41.5</td>
</tr>
<tr>
<td>Providing services to more than 20 clients</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td>More than 5 years experience with indigenous mental health clients</td>
<td>17</td>
<td>41.5</td>
</tr>
</tbody>
</table>

**Confidence in assessment and treatment of indigenous mental illness?**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non at all confident</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>Slightly</td>
<td>12</td>
<td>29.3</td>
</tr>
<tr>
<td>Somewhat</td>
<td>9</td>
<td>22.0</td>
</tr>
<tr>
<td>Fairly</td>
<td>8</td>
<td>19.5</td>
</tr>
<tr>
<td>Very</td>
<td>7</td>
<td>17.1</td>
</tr>
</tbody>
</table>

**Assessment and treatment of remote indigenous clients?**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family member involved in development of treatment plan</td>
<td>35</td>
<td>85.4</td>
</tr>
<tr>
<td>Adopt different process for assessment of indigenous clients</td>
<td>32</td>
<td>84.2</td>
</tr>
<tr>
<td>Clients are usually prescribed oral atypical antipsychotics</td>
<td>36</td>
<td>87.8</td>
</tr>
<tr>
<td>Usually prescribed depot antipsychotic medication</td>
<td>34</td>
<td>82.9</td>
</tr>
<tr>
<td>Compliance seen as a barrier to prescription of oral medication</td>
<td>34</td>
<td>87.2</td>
</tr>
<tr>
<td>Confident and knowledge of medication seen as a barrier to prescription</td>
<td>17</td>
<td>43.6</td>
</tr>
</tbody>
</table>

**Common causes of relapse of remote indigenous clients with mental illness?**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non compliance</td>
<td>34</td>
<td>82.9</td>
</tr>
<tr>
<td>-Alcohol misuse</td>
<td>34</td>
<td>85.0</td>
</tr>
<tr>
<td>-Marijuana misuse</td>
<td>40</td>
<td>97.6</td>
</tr>
<tr>
<td>-Petrol</td>
<td>20</td>
<td>48.8</td>
</tr>
<tr>
<td>-Kava</td>
<td>13</td>
<td>33.3</td>
</tr>
<tr>
<td>-Amphetamines</td>
<td>4</td>
<td>10.5</td>
</tr>
<tr>
<td>Lack of understanding of treatments</td>
<td>23</td>
<td>57.5</td>
</tr>
<tr>
<td>Physical Illness</td>
<td>15</td>
<td>36.6</td>
</tr>
<tr>
<td>Life events or cultural events</td>
<td>29</td>
<td>70.7</td>
</tr>
</tbody>
</table>

Table 2. Telephone survey of Top End remote service providers: Treatment

<table>
<thead>
<tr>
<th>Information about mental illness given to remote indigenous clients?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via pamphlets</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td>Via flip charts</td>
<td>6</td>
<td>14.6</td>
</tr>
<tr>
<td>Via video</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Via booklet</td>
<td>8</td>
<td>20.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information about mental health services given to indigenous clients?</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Via pamphlet</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td>Via flip charts</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>Via video</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>Via booklet</td>
<td>8</td>
<td>20.0</td>
</tr>
</tbody>
</table>

**Treatment and relapse prevention**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early warning signs of relapse usually identified</td>
<td>26</td>
<td>65.0</td>
</tr>
<tr>
<td>Early warning signs of relapse usually recorded in file</td>
<td>13</td>
<td>32.5</td>
</tr>
<tr>
<td>Care Plans usually developed</td>
<td>11</td>
<td>27.5</td>
</tr>
<tr>
<td>Barriers to linking with other services: Time</td>
<td>23</td>
<td>63.9</td>
</tr>
<tr>
<td>Barriers to linking with other services: Availability</td>
<td>34</td>
<td>87.2</td>
</tr>
<tr>
<td>Barriers to linking with other services: Knowledge of other services</td>
<td>22</td>
<td>64.7</td>
</tr>
</tbody>
</table>

**Other services involved in treatment plans?**

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol and drug services</td>
<td>27</td>
<td>65.8</td>
</tr>
<tr>
<td>Corrections, police, legal services</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>Domestic violence services</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>Counselling services</td>
<td>4</td>
<td>9.8</td>
</tr>
<tr>
<td>Accommodation services</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td>Traditional healers consulted by clients</td>
<td>26</td>
<td>63.4</td>
</tr>
</tbody>
</table>
They recognised that their clients relapsed frequently – the most likely causes were reported as non-compliance, substance misuse, cultural and life events, lack of understanding of illness, and physical illness. The most common substances misused were reported as alcohol and marijuana.

Education about illness and treatment was given verbally, but few audiovisual or cross-cultural education resources were available (see Table 2). This lack is particularly notable given that English is usually a second language, and that poor understanding of illness was reported to be a common cause of relapse. Other relapse prevention activities such as care planning, documentation of early warning signs, and involvement of other services in care were infrequent. Multiple barriers to prescription of oral antipsychotic medication were described – and high rates of use of classic (old style) depot medication were reported. RSPs reported a range of different descriptive terms for mental illness (Box 1).

**BOX 1.** Terms for mental illness reported by remote service providers

- Bad spirit, weak spirit, sick in the head, head is busy, stones in head, heavy feeling in head, bad heads, bow and arrow in his head out of place, fuzzy in the head, sickness in head, voices in the head, silly in the head, mad one, spaghetti brain.

**Discussion**

In overview, the RSPs were sensitive to cross cultural issues, aware of risk factors for relapse, aware of high rates of comorbidity, and using a range of medications - and were thus well prepared for acute assessment and biological treatment. On the other hand, the RSPs were not well prepared for prevention and early intervention activities, or psychosocial interventions. Care planning, recording early warning signs, engaging other services, and culturally appropriate psychoeducation did not score highly. Looking at the broader context, the tools for these activities and interventions are also not available. There is no formal mental health care plan document available across the Top End, there were no Top End indigenous mental health promotion or education resources, counselling and other services are often not accessible, and there are no best practice guidelines for indigenous mental health in primary care. The Central Australian Rural Practitioners Association (CARPA) manual ([www.carpa.org.au/fmanual.htm](http://www.carpa.org.au/fmanual.htm)) provides best practice guidelines for Northern Territory remote health centres - however it provides no guidance for management of chronic mental illness, focusing instead on acute management and psychiatric emergencies. It is therefore not surprising that acute care is the focus of RSPs in their practice. There is a clear need for tools, training, and organisational change.

**Directions for change**

AIMHI NT, in partnership with the Department of Health and Community Services, has commenced work on a range of strategies to address relapse prevention in the remote context. The policy-related strategies include linking of mental health into the preventable chronic disease strategy of the Northern Territory, establishment of consistent recall systems, development of best practice guidelines, development of culturally appropriate outcome measurement, and workforce development. AIMHI NT is also engaged in community-level activities addressing relapse prevention. The project has developed a care plan package which incorporates a story telling approach, self-management principles, information about triggers, early warning signs, medication, and crisis planning - and is collaborative with family, elders, and traditional healers (Nagel, 2005b).

The evaluation of the care plan packages is of particular importance. Given the limited organisational support for mental health care in the remote primary care setting, there are shortcomings to an outcomes-based evaluation process. We cannot expect to have best outcomes in a setting in which best practice has not yet been introduced, and in which there is little systemic support for best practice activity. It is more relevant to establish best practice guidelines, and to evaluate the delivery of best practice services and the organisational context in which they are delivered. The AIMHI care plan packages will be evaluated over the next three years in the course of two separate projects - using both an outcomes-based approach and assessment of service delivery and the organisational context.
Acknowledgements
The AIMHI research team wishes to thank all of the service providers who contributed their time to this survey – nurses, Aboriginal Mental Health Workers, and doctors. We also express gratitude to AIMHI working party members, the Steering Committee, and the indigenous reference group for ongoing support and advice, to Hope Rigby for assistance with data analysis, and to the associate investigators and interviewers – Jenni Judd, Pat Bradley, Carolyn Thompson and Robert Mills. Department of Health and Community Services, the NHMRC, the Cooperative Research Centre for Aboriginal Health and the Alcohol Education and Rehabilitation Foundation support AIMHI NT.

References