Effective, evidence-based psychosocial interventions suitable for early intervention in the National Disability Insurance Scheme (NDIS): promoting psychosocial functioning and recovery.

Prepared by Dr Laura Hayes.

The Centre for Mental Health, Melbourne School of Population and Global Health.

Co-authored by: Dr Lisa Brophy, Professor Carol Harvey, Professor Helen Herrman, Professor Eoin Killackey and Juan Jose Tellez.

September 2016

POSTERA CRESCAM LAUDE
THE UNIVERSITY OF MELBOURNE

mind®
Supporting mental health recovery

Acknowledgements

Leadership for this report was provided by Dr Lisa Brophy, Senior Research Fellow at the Centre for Mental Health, Melbourne School of Population and Global Health, University of Melbourne, and Director of Research at Mind Australia, in an initiative led by Mind Australia. Further feedback and revision of later drafts was provided by Dr Margaret Grigg (Director, Mental Health Branch, Victorian Government Department of Health and Human Services), Dr Gerry Naughtin (Chief Executive, Mind Australia), Judy Hamann (Alexander and Hamann Consultants) and Dr Georgina Sutherland, Senior Research Fellow at the Centre for Mental Health.

Support was also provided by the advisory group led by Dr Lisa Brophy and comprising Professor Carol Harvey from the Psychosocial Research Centre, University of Melbourne, and Professor Helen Herrman and Professor Eoin Killackey from The National Centre of Excellence in Youth Mental Health and the Centre for Youth Mental Health, University of Melbourne. Juan Jose Tellez provided research assistance to Dr Laura Hayes.

Dr Hayes and Mr Tellez were both employed within the Centre for Mental Health at the Melbourne School of Population and Global Health, University of Melbourne. The Centre provided vital research resources for the production of this report.

Foreword

Intervening early in anyone's experience of mental ill-health is likely to reduce distress and improve outcomes for people, reducing their future service needs. There is a great deal of interest in ensuring that the National Disability Insurance Scheme (NDIS) works as efficiently as possible to achieve positive outcomes for participants and reduce people's long-term reliance on the Scheme, hence reducing its long-term costs. Effective intervention for people early in their experience of psychosocial disability, or early in their NDIS planning, is a possible and desirable focus for the Scheme's development.

This important report provides a synthesis of evidence on the application of specific supports as early intervention for people experiencing psychosocial disability. The findings it presents are a resource for people in this situation, their families and carers and for National Disability Insurance Agency (NDIA) staff involved in local area coordination and the provision of support services. The report aims to help them understand which interventions have been demonstrated to be effective for people with psychosocial disability. It describes a series of evidence-based supports, together with the evidence of their effectiveness and how they might be applied as early intervention supports in the NDIS.

The report highlights the positive outcomes in relation to people's economic participation and social inclusion that may be achieved through robust and creative approaches to early intervention. The supports included have the potential to offer significant gains in people's capacity to participate when applied early in their experience of psychosocial disability, or early in their NDIS planning experience. The report draws together a large amount of evidence on interventions that alleviate or mitigate deterioration in functioning or improve capacity for people with psychosocial disability.

As with all insurance schemes, long-term cost reduction is a concern for the NDIA and for the Australian people. When this can be achieved through alleviating people's functional loss and building their capacity to participate in society and manage their lives, by intervening early, there are also enormous personal gains for those people, their families and carers. This report is the most comprehensive compilation of such evidence-based interventions that currently exists.

The review and synthesis was carried out by a team of researchers from the Centre for Mental Health within the School of Population and Global Health at Melbourne University and co-authored by a team of Melbourne-based academics with expertise in mental ill-health and psychosocial disability. It was presented to the Independent Advisory Council of the NDIA Board.

I commend Mind Australia for commissioning this work, and hope it contributes to expanding the choices for people experiencing psychosocial disability in the exciting era of the NDIS roll out. I recommend that follow-up work is undertaken to make the important, technical information in this report into a valuable and accessible resource for people who wish to make the best use of the opportunities that the NDIS offers to people affected by psychosocial disability.

H Herrman

Helen Herrman - Professor of Psychiatry at Orygen, The National Centre of Excellence in Youth Mental Health and the Centre for Youth Mental Health, The University of Melbourne.

Contents

List of figures

List of tables

Abbreviations

ACT	Assertive Community Treatment
AOD	Alcohol and Other Drugs
CE	Competitive Employment
CVR	Conventional Vocational Rehabilitation
EBI	Evidence-Based Intervention
ED	Emergency Department
EI	Early Intervention
FEP	First Episode Psychosis
IAC	Independent Advisory Committee
ICB	Individual Capacity Building
ICM	Intensive Case Management
IFP	Individual Funded Package
ILC	Information, Linkages and Capacity Building
IPS	Individual Placement and Support
MST	Mobile Support Team (used to refer also to Mobile Intensive Treatment teams (MITT) and Mobile Intensive Support Teams (MIST))
NCE	Non-Competitive Employment
NDIA	National Disability Insurance Agency
NDIS	National Disability Insurance Scheme
PACT	Program of Assertive Community Treatment
PHAMS	Personal Helper and Mentor Scheme
PVT	Pre-Vocational Training
RCT(s)	Randomised Controlled Trial(s)
SE	Supported Employment
SGA	Supported Group Accommodation
SH	Supported Housing
SHIP	Australian Survey of High Impact Psychosis
SMI	Severe Mental Illness
SUD	Substance Use Disorder
VMIAC	Victorian Mental Illness Awareness Council
VR	Vocational Rehabilitation

Glossary

Assertive Community Treatment	An intensive form of Case Management that assesses need and coordinates relevant services for a person living with SMI. It provides high levels of support for people who have intensive needs in the community.
Assertive Community Treatment and Outreach	Outreach (also known as Assertive Community Treatment (ACT) or the work of Mobile Support Teams (MST), including variations such as Mobile Intensive Treatment Team (MITT) in the clinical sector in Australia) is a form of Case Management that includes need assessment, coordination of relevant services and provision of treatment for a person living with SMI.
Behavioural Family Therapy	A type of family psycho-educational intervention for forms of severe mental ill-health such as schizophrenia.
Bipolar disorder	A psychotic disorder that features significant mood disturbance.
Carer or caregiver	Family member or person with a close relationship with a person with a significant illness or disability, who takes on the role of supporting and/or caring for that person.
Case manager	A person who is assigned the task of coordinating the care and treatment of a person with SMI who is attending an Area Mental Health Service.
Case-controlled studies	Observational studies that do not involve randomisation of participants.
CBT for psychosis	Cognitive Behavioural Therapy for psychosis (CBTp) is based on the understanding that a person's subjective response to psychosis is key to their level of distress. It follows that, by reframing responses or changed behavioural strategies to psychotic experiences and other challenges of living with SMI, much of the distress can be reduced, even if the symptoms themselves cannot be eliminated.
Cognitive Remediation	An intervention that seeks to improve cognitive functions such as working memory, attention and executive function, language and problem solving. Cognitive impairments are often a feature of mental ill-health, particularly psychosis, and are associated with activity and participation limitations.
Comparison or control group	The group that receives no treatment or an inactive treatment in a research trial.
Competitive employment	Employment at market rates in a mainstream job.
Consumer	A person who receives treatment for mental ill-health. The term is applicable across the health field but has particular currency in the mental health field in Australia (McLaughlin 2008, Lloyd et al. 2001). Consumers who receive NDIS supports are called 'participants' by the NDIS. In this report, the term 'consumer' is used broadly, whereas the term 'participant' is used specifically to refer to a person in their relation to the NDIS.

Conventional Vocational Rehabilitation	Conventional (or traditional) Vocational Rehabilitation focuses on training and skills development to prepare participants for the workforce. Job placement occurs at the conclusion of the training phase.
Coping	The use of initiative and skill that a person brings to bear in formulating strategies to master life situations, orthogonal to vulnerability (Zubin & Spring 1977).
Cross-sectional survey	Research data that is collected at one time from a 'cross-section' of the relevant population, producing a 'snapshot'. Many associations between measures can be identified but conclusions regarding cause and effect cannot be drawn because it is not possible to determine a sequence of events.
Early intervention	The term 'early intervention' (EI) in the context of the NDIS and psychosocial disability can be differentiated from other uses of the phrase. Early intervention is also used as a clinical term to refer to comprehensive clinical treatment offered as soon as symptoms of emerging mental ill-health are apparent. This approach has been pioneered with psychosis, particularly first episode psychosis (FEP) (Bertolote & McGorry 2005). This is not the way the term is being used in this report. However, some of the principles of 'clinical early intervention' (as it will be referred to in this report) are explored for their relevance to early intervention in the disability support context in later chapters. This review considers that there are three ways that early interventions can be accessed in the NDIS. These are through: • Information, Linkages and Capacity Building pathway, mainly through Individual Capacity Building (ICB) supports • Individual Funded Packages (Tier 3) with an early intervention focus • Individual Funded Packages, when someone is found eligible for NDIS but is in the early stages of their plan.
Effect size	The magnitude of the difference between two measures.
Expressed emotion	A construct that reflects the extent to which close family members express critical, hostile or emotionally over-involved attitudes to a consumer. It is measured using the Camberwell Family Interview, which operationalises the construct through counting the number of comments that are categorised as critical, hostile or emotionally over-involved during a semi-structured interview (Hooley & Parker 2006).
External validity	External validity is concerned with the validity of the conclusions made in generalising from one study to the rest of the population under consideration or other groups in time, space or place. Factors that may influence external validity are issues such as sample selection (Campbell & Stanley 1966, Howitt & Cramer 2008b).

Family Psycho-education and Support	Family Psycho-education and Support is a range of evidence-based interventions (including the specific intervention Family Psycho-education) that provide supports to families in long and short forms or single and multifamily groups, family-inclusive treatment approaches and carer Peer Support programs. Family Psycho-education and Support seeks to impart knowledge, social and personal skills that enable families and consumers to work more effectively with the challenges of living with SMI and psychosocial disability.
High prevalence disorders	The more frequently diagnosed types of mental ill-health, including depression and anxiety.
Illness Self-Management Training	Illness Self-Management Training (ISMT) and (individual) psycho-education refer to a variety of programs that aim to increase consumer knowledge and understanding about mental ill-health. These can include education regarding medication management or medication adherence training.
Individual Placement and Support	An effective form of Supported Employment that has been standardised and widely tested.
Integrated Therapy for Alcohol and Other Drugs	Provision of treatment of SMI and substance abuse/dependence disorder that is concurrent and coordinated.
Internal validity	Internal validity is concerned with the logical conclusions that can be drawn about the causes of observed changes in a study and the plausibility of explanations regarding them (Campbell & Stanley 1966, Howitt & Cramer 2008b, Howitt & Cramer 2008a). There are many factors that influence internal validity, the most important regarding the methodology employed.
Longitudinal study	In a longitudinal study, research data is collected across time in a number of planned assessment phases (a minimum of two). Longitudinal studies can identify changes over time and determine a sequence of events, and this may suggest a cause and effect relationship.
Low prevalence disorders	Types of mental ill-health that are less frequently diagnosed and tend to be more severe, such as schizophrenia, schizoaffective disorder and bipolar disorder.
Meta-analysis	A statistical technique that is used to combine data from many studies to determine an overall effect size for an intervention. By combining the results from many studies, a meta-analysis has greater statistical power and more accurately determines the effect size.
Multifamily group	A small number of families attending a group together, usually in the context of Family Psycho-education.
Non-competitive employment	Paid and unpaid employment in designated organisations or in designated positions set aside for persons with nominated disabilities.
Outcomes study	A research program undertaken to study the outcomes for a program or intervention.

Participant	‘Participant’ is the descriptor used throughout this document for people with disability accessing the NDIS as this is the terminology used by the NDIS. Also see ‘Consumer’.
Peer Support	Peers are people with lived experience of SMI who, in turn, intentionally use their lived experience to support others. Peer support services are any services for consumers that incorporate peers in service delivery.
Physical Health Management (including Weight Management)	These are interventions aimed at increasing rates of healthy behaviours such as physical therapy and exercise, diet and nutrition, smoking cessation and weight loss. This is in the context of the increased mortality rates and prevalence of chronic physical health disorders in persons with serious mental ill-health, which are well documented in the literature.
Pre-post intervention studies	Pre-post intervention studies measure change in a group by administering outcomes measures before and after an intervention.
Pre-Vocational Training	Pre-Vocational Training (PVT, also known as Conventional Vocational Rehabilitation) is an approach where a participant receives training in work-related skills then, when appropriate, takes up a role in a competitive or non-competitive job placement.
Program fidelity	The extent to which a program adheres to the protocol or model it is based upon. Poor fidelity can lead to reduced effectiveness of a program.
Psychiatric disability	Psychiatric disabilities are a wide range of difficulties associated with mental ill-health. Disability consists of impairment in one or more important area of functioning, including domains such as occupational, academic, social (including interpersonal) and role functioning areas (Stein et al. 2010).
Psychosis	A mental state or set of symptoms that includes hallucinations, delusions and thought disorder.
Psychosocial disability	The term used to describe the disability experience of people with impairments and participation restrictions related to mental health conditions. These impairments and participation restrictions include loss of (or reduced) abilities to function, think clearly, experience full physical health and manage social and emotional aspects of their lives (National Mental Health Consumer & Carer Forum 2011, p16).
Qualitative, quantitative and mixed methodologies	Qualitative methods use verbal data collected via interviews, observation and documents to make a study of chosen phenomena. Quantitative study methods use numerical data to document the phenomenon under investigation and can use statistics to report findings. Mixed methods studies use a combination of qualitative and quantitative methodologies.

Randomised control trial	A randomised control trial (RCT) is a formal research trial where the selection of participants and their assignment to a treatment or control group is *random*, that is, by chance. Participants in the treatment group receive an active treatment and their results are compared with the ***control*** group, which receives either no treatment or an inactive treatment. Therefore, RCT evidence represents high-quality research evidence as the conclusions regarding the effectiveness of treatment compared with non-treatment are robust (high internal validity).
Randomised selection	Randomised selection is the optimal method that researchers use in order to select a sample that best represents the wider population that is being studied. Bias in sample selection means that the sample selected will not be representative, for instance if young people or working people are over-represented.
Rapid review	A literature review that streamlines the traditional review processes to deliver timely reports for policy and planning use. Whereas a traditional systematic literature review will take between six and 12 months to complete, a rapid review will take approximately one-to-six months. Rapid reviews may not identify some relevant literature, and thus there may be bias in review conclusions.
Recovery	Two main approaches to the concept of recovery exist, one from the scientific literature and the other from the consumer literature (Bellack 2006, Silverstein & Bellack 2008). In the scientific approach to recovery (or 'clinical recovery'), set criteria in areas such as remission, stabilisation of symptoms, psychosocial rehabilitation, improved vocational activities, additional social connections and independent living are defined (Liberman, Kopelowicz et al. 2002, Kopelowicz, Liberman et al. 2005, Bellack 2006). The second approach to recovery is derived from the consumer oriented literature, case studies and qualitative surveys (Bellack 2006). This typifies recovery as a process (Liberman & Kopelowicz 2005) rather than a fixed end point ('personal recovery'), and delineates a number of important characteristics that contribute to it. Recovery is not about symptom remission (or 'cure') but the capacity to have a meaningful, purposeful life with hope for the future (Hatfield & Lefley 1993, Lefley 1997).
Relapse	Relapse, in the context of mental ill-health, means the return or exacerbation of symptoms above a defined threshold or to a level that necessitates treatment review and modification. Relapse has been synonymous with hospital re-admission in the past but, with reductions in the provision of hospital beds and better community care, it is more often treated in the community.

Reliability	An estimate of the consistency of an instrument. Internal reliability measures how consistently all items in an instrument measure the same construct. Measures of internal consistency are procedures such as split-half reliability, where answers on one half of a test are compared with answers on the other half of the test. Other approaches to reliability measure consistency across time (test-retest reliability) or consistency between rates or observers (inter-rater reliability, which refers to consistent assessments by different raters for a test) (Howitt & Cramer 2008b, Girden 2001).
Sampling bias	A systematic error in selecting a sample from the intended population so that the sample is no longer representative of that population. This can distort results, leading to incorrect conclusions regarding the population being studied.
Schizoaffective disorder	A mental illness that combines symptoms of schizophrenia with mood disturbance.
Schizophrenia	A mental illness with symptoms including hallucinations, delusions, thought disorder and loss of motivation, planning and social interaction (American Psychiatric Association 1994).
Self-directed support	A manner of delivering services that meets the criteria of recovery, personalisation and citizenship, with supports tailored to meet the needs and goals of a person living with identified support needs.
Sensitivity	A measure of the accuracy of a screening test. Sensitivity is the proportion of cases from a group that return positive results (meaning those that are over the threshold score) that are truly positive cases (Goldberg & Williams 1988).
Severe Mental Illness	Definitions of 'severe' mental illness (or ill-health) or psychiatric disorders (in comparison with those categorised as 'moderate' or 'mild') tend to incorporate three fundamental principles: clinical diagnosis, the duration of the disorder and the level of impact upon the individual's functional ability. Conventionally, diagnoses of schizophrenia, bipolar disorder and major depression are considered 'severe'. However, the use of diagnosis alone as a proxy for severity is a contested notion.
Social Skills Training/Social Cognition Training	Social skills programs use behavioural therapy and techniques to teach people how to communicate emotions and requests. Social Cognition Training provides training and support for the mental operations involved in observing, perceiving and interpreting the social world. Social skills enhancement assists people to be able to express their feelings competently, achieve goals, improve relationships and support independent living.
Specificity	Specificity is another measure of the accuracy of a screening test. The specificity of a test is the proportion of true 'normals' or 'negatives' identified by it. This is the percentage of test results below the threshold or cut-off score that are correctly identified as actual 'normals' (Goldberg & Williams 1988).

Statistical power	Statistical power is the likelihood that a study can detect an outcome, effect, difference or relationship between variables, if it is there to be detected. The bigger the effect, or the larger the sample size, the greater the statistical power.
Supported Employment	A vocational intervention where a person is rapidly assessed for skills and preferences and searches for a job in the competitive job market. Once employed, participants receive continuing support from employment specialists that is not time limited.
Supported Group Accommodation	Programs that accommodate a number of people with SMI living in self-contained accommodation on one site. Professional support is available at various times (it can be 24-hour or only during office hours) and can be in both individual and group formats.
Supported Housing	Supported Housing supports people with SMI to live in self-contained independent accommodation in the community, and is accessed by a regular tenancy agreement. Service providers offer ongoing support and collaborate with property managers to preserve tenancy and help individuals resolve crisis situations and other issues.
Survey of High Impact Psychosis (SHIP)	The 2010 Survey of High Impact Psychosis (SHIP) was Australia's second national psychosis survey. (The first national survey took place in 1997-1998.) It provided a comprehensive snapshot of symptoms, substance use, functioning, service use, medication use, education, employment, housing and physical health. A two-phase design was used. In phase 1, screening for psychosis took place in public mental health services and non-government organisations supporting people with mental ill-health. In phase 2, 1,825 of those who screened positive for psychosis were randomly selected and interviewed. This phase established a 12-month treated prevalence rate for psychosis of 4.5 cases per 1,000 persons between the ages of 18 and 64 in Australia.
Systematic review	A systematic review uses a defined methodology to find, evaluate and synthesise the results of research in a particular area. This type of review can also include a meta-analysis, and takes great care to identify all possible data. A systematic review makes orderly decisions on inclusion and exclusion of trials, usually based on the rigorousness of trial methodology. Cochrane reviews are systematic reviews of relevant randomised controlled trials that are published in the Cochrane Library.
Test-retest reliability	Test-retest reliability is a measure of how consistent an instrument is over time. Using the same instrument at two points in time, an estimate is obtained that correlates the two results from the same person. It is suitable for instruments that purport to measure stable traits and not characteristics that are expected to fluctuate over time (Cohen et al. 1992).

Token economy	Token economy is a method to support goal achievement or behaviour change in residential settings. It does this by offering tokens for achieving goals or target behaviours which can be traded for valued rewards.
Treatment outcome	Treatment outcomes are the impacts of an intervention. Outcomes can be intended and unintended, measured and unmeasured.
Validity of test instruments	Validity, in reference to a test instrument, refers to how well it measures what it purports to measure. It has three main components: *Content validity* – this refers to how adequately a test covers the realm of the behaviours or 'things' that it is designed to sample. *Criterion-related validity* – this refers to how well a score on a test is related to a score on a criterion measure (usually an already well validated instrument). *Construct validity* – this is a judgement as to how the test results give insight into a particular construct that the instrument purports to measure. Construct validity is investigated in various ways, including: • reviewing the homogeneity of an instrument's subscales since homogeneity will indicate all items are referring to the same construct • correlation with other validated measures of the same construct (convergent evidence) and no correlation with validated measures that theoretically have no relation with the correlation (discriminant evidence) • scores change as theory predicts • test scores vary with membership of distinct groups as expected. Construct validity judgements will include reference to other reliability and validity measurement tools, such as Cronbach's alpha (used for reliability) or a correlation co-efficient (used for predictive validity) (Cohen et al. 1992).
Vocational Rehabilitation	Vocational Rehabilitation programs aim to support a person living with a disability in obtaining employment. There is a wide variety of approaches. Some programs place a person in a job immediately, then provide support and training 'on the job' (often called Supported Employment). Other types of program provide training and skill development first, helping a person become 'job ready', then assist them with obtaining employment (often called Conventional (or traditional) Vocational Rehabilitation).
Vulnerability	Vulnerability refers to the empirical probability that an individual will experience an episode of psychiatric disorder. It is an enduring trait (Zubin & Spring 1977).

Executive summary

The National Disability Insurance Scheme (NDIS) is a significant social policy initiative designed to provide disability supports to people in Australia with permanent support needs due to physical, mental and/or intellectual challenges. It is based on principles of choice and control and takes a lifetime risk profile to its understanding of support needs. *The National Disability Insurance Scheme Act 2013*, which provides the legislative base for the Scheme, recognises the role of early intervention (EI) in the suite of support options that it will consider. While early intervention in regard to clinical mental health practice is well developed, its implications in regard to psychosocial disability services are not as well understood.

Given the potential of early intervention to improve functional capacities in psychosocial disability and potentially reduce support costs, a literature review was considered an important contribution to the debate about the potential of early intervention in the mix of services that the NDIS might fund as the Scheme rolls out. The focus for this literature review is the effectiveness of early intervention strategies for people with psychosocial disability. It aims to identify the interventions that are most effective for early intervention in the Scheme. These are interventions that promote improvement, or prevent decline, in psychosocial functioning when used as early intervention with people with a current psychosocial disability (or who are at high risk of developing a psychosocial disability). In this review we apply the following definition of psychosocial disability, as coined by the National Mental Health Consumer & Carer Forum in their position statement *Unravelling Psychosocial Disability*:

> Psychosocial disability is the term used to describe the disability experience of people with impairments and participation restrictions related to mental health conditions. These impairments and participation restrictions include loss of or reduced abilities to function, think clearly, experience full physical health and manage social and emotional aspects of their lives. (2011, p16)

In determining when a psychosocial intervention providing early intervention to people experiencing psychosocial disability is appropriate, the implications of key policies of the NDIS were considered. One important contextual consideration is the definition of 'disability' used by the NDIS, and the way it is used. Adapted from the World Health Organization International Classification of Functioning, it defines disability as a consequence of a health condition or changes to bodily structures that lead to impairment, activity restrictions and participation limitations. The policy papers are clear that, generally, the NDIS will focus on reducing activity restrictions and participation limitations and not reduction in impairment.

The National Disability Insurance Scheme Act recognises that early intervention strategies will be used at the discretion of the Chief Executive of the National Disability Insurance Agency (NDIA), who is authorised to use discretion as to the efficacy and financial sustainability of particular early intervention strategies. Early intervention is a concept that is widely accepted in the physical and sensory disability sector, particularly in relation to young children. Early intervention's potential with people with psychosocial disability is less well explored, hence the relevance of this literature review.

This review has confirmed that there is significant evidence that people with psychosocial disability make significant gains in their capacity to engage in social and economic participation if they are offered early intervention. Interventions identified in this review have the potential to reduce the experience of impairment and provide early assistance that maximises people with psychosocial disabilities' potential to work, improve their relationships with their families and others, gain new skills, stabilise their housing and self-manage. While the use of early intervention requires further consideration, the findings of this review do suggest that, in the NDIS context, it may enable people to reduce their reliance on the Scheme into the future, hence reducing costs over time. It may also reduce pressure on other health and welfare services.

The NDIS operates within the framework of the National Disability Strategy (Commonwealth of Australia 2011) and the Fourth National Mental Health Plan (Commonwealth of Australia 2009). These set the broader policy context for the respective responsibilities of the levels of government in regard to the range of supports required. The particular obligations of the NDIS are further refined in the Commonwealth State Divisions of Responsibility (COAG 2015). Commonwealth, state and territory governments are respectively responsible for a range of functions, including employment, housing, income support, mental health, health, education and transport. The NDIS will fund personalised supports related to people's disability support needs, unless those supports are part of another service system's universal service obligation (for example, meeting the health, education, housing or safety needs of all Australians) or covered by reasonable adjustment, as required under the Commonwealth *Disability Discrimination Act 1992* or similar legislation in jurisdictions (COAG 2015, p1).

This review takes a whole-of-issue approach to early intervention. Some of the effective strategies identified fit within the remit of the NDIA; others are the responsibilities of the Commonwealth, state and territory governments. These divisions of governmental responsibility need to be considered in the implementation of the findings of this literature review.

In order to understand which interventions are suitable for early intervention with people with psychosocial disability who are participants in the NDIS, the following key steps were undertaken in the review:

- Establish the entire range of possible psychosocial evidence-based interventions for severe mental ill-health.
- Complete a detailed review of the literature related to rehabilitation, recovery, early intervention and participant preference in order to elaborate on the early intervention criteria established from the NDIS guidelines.
- Conduct a wide-ranging literature review of outcomes for all these potential interventions in order to investigate how the outcomes could 'map' across to the NDIS early intervention criteria that are developed.

The interventions for psychosocial disability that received a high level of endorsement in the literature were:

- Social Skills Training
- Supported Employment
- Family Psycho-education and Support
- Outreach treatment and support services
- Cognitive Remediation
- Cognitive Behavioural Therapy for psychosis
- Illness Self-Management
- Supported Education
- Supported Housing
- Physical Health Management
- Peer Support/Consumer Networking.

Three interventions 'tick all the boxes' in terms of evidence base, personal choice and recovery outcomes. Social Skills Training, Supported Employment and Supported Housing have a strong evidence base and are likely to reduce future support needs (although the evidence for Supported Housing is not as strong as it is for the other two). In addition, they meet commonly expressed needs and goals for people with psychosocial disability and support personal recovery.

Outcomes evidence for another three interventions indicates they can assist with mitigation of impairment and thus have a role to play in early intervention from an NDIS perspective. They are supports for Illness Self-Management, Cognitive Remediation and CBT for psychosis. The outcomes of these interventions may not be the immediate personal choice or goal of NDIS participants.

However, they can assist recovery and the achievement of personal goals. Support for improving physical health is potentially a priority need for people living with psychosocial disability, but the evidence about its contribution as an early intervention is not substantive at this stage.

The evidence for Family Psycho-education is very strong, suggesting that it has a useful role in early intervention. However, there may be a limited number of participants who see a family intervention as meeting their individual needs, even though the evidence suggests that the main beneficiary is the consumer involved. This suggests that the value of family intervention for the individual's personal recovery goals needs to be well understood and communicated. The role of family focused interventions may be through supporting the sustainability of informal supports, although they can be adapted to directly enhance the achievement of goals and recovery.

Peer Support improves the recovery aspects of all interventions. Mobile Support and Treatment Teams or Assertive Community Treatment (ACT)/Outreach, while not directly funded supports of the NDIS, could be adapted to assist in engagement and coordination of supports for people who are reluctant to engage with mental health services.

The conclusions here suggest that some interventions with a lesser evidence base may be more relevant for participants and, conversely, that those with strong evidence may be in less demand. For instance, Supported Housing may be more attractive and reflect the choices of participants more readily than Family Psycho-education, which has an extensive evidence base and can enhance a broad range of outcomes. Cognitive Remediation has a strong evidence base but is currently under-utilised within clinical services and its potential as an intervention in non-clinical services is under-developed. It does, however, have great potential to assist people enhance their skills for community living, and these outcomes are well suited to the focus of psychosocial disability support services.

This suggests that future research programs might be more cognisant of interventions that meet participant needs and also take into account their preferences for support. There are currently gaps between what people with psychosocial disability often say they need and what evidence-based interventions are available to assist. For instance, there is only a small number of interventions that deal directly with the challenge of loneliness and isolation and of strengthening informal supports, even though this is one of the areas of greatest need and may be crucially important in early intervention. Building on the evidence regarding the value of work involving families may be an important first step in unlocking the best options for increasing people's access to informal support. Peer Support is also highly valued by consumers and, although it is still building an evidence base, it can be anticipated that it will in future be an essential feature of effective interventions that are cognisant of consumer preferences. A greater emphasis on recovery, participant choice, personal goals and individualised service provision may lead to a re-evaluation of the utility of the current evidence base and highlight new opportunities for the design or renewal of a fresh range of supports in the future.

This literature review suggests that the NDIA should examine the areas of Family Psycho-education and Support, Social Skills, Illness Self-Management, Peer Support and consumer networks as potentially valuable and effective early interventions. It also recommends that support plans should facilitate access to Supported Employment and Education services, Cognitive Remediation, Outreach Treatment and Support Services, Cognitive Behavioural Therapy for psychosis, Supported Housing and physical health management programs. While some of these interventions won't be funded by the NDIS directly, facilitating access to these mainstream services is likely to have a positive effect on reducing demand within the system and improving financial sustainability for the Scheme in regard to people living with severe mental ill-health.

The review provides strong evidence from the early intervention literature for what the NDIA has termed ‘capacity building’. That is, building the abilities of people with psychosocial disability to better understand and manage their mental health and increase their social and economic participation. While this requires careful investigation, the findings of this review do suggest that early intervention in the NDIS may enable people to reduce their reliance on the scheme in the future, hence reducing costs for the scheme over time. It may also reduce pressure on other health and welfare services. Furthermore, early intervention is aligned with the underlying principle of the NDIS, that of being prepared to offer lifetime support while also supporting people to achieve their individual recovery goals and gain a better life.

1.0 Introduction and overview

This chapter provides a detailed overview of the report. It can be read either as a summary or as a comprehensive introduction.

1.1 Early intervention in the National Disability Insurance Scheme (NDIS)

This literature review aims to identify the psychosocial interventions that could be most effective and relevant for early intervention application in the NDIS. These are interventions that promote improvement in, or prevent decline in, psychosocial functioning when used as early interventions with people with a current psychosocial disability or who are at high risk of developing a psychosocial disability in the context of mental ill-health.

This review is informed by key literature in the areas of NDIS policy, rehabilitation, recovery, clinical evidence on early intervention and stepped care, individualised service planning and participant need, as well as by an overview of all the evidence-based interventions for severe mental ill-health.

The National Disability Insurance Agency (NDIA) is a new, independent statutory agency charged with implementing the National Disability Insurance Scheme (NDIS). The NDIS is designed to provide disability supports to people in Australia with permanent support needs due to physical, mental and/or intellectual challenges.

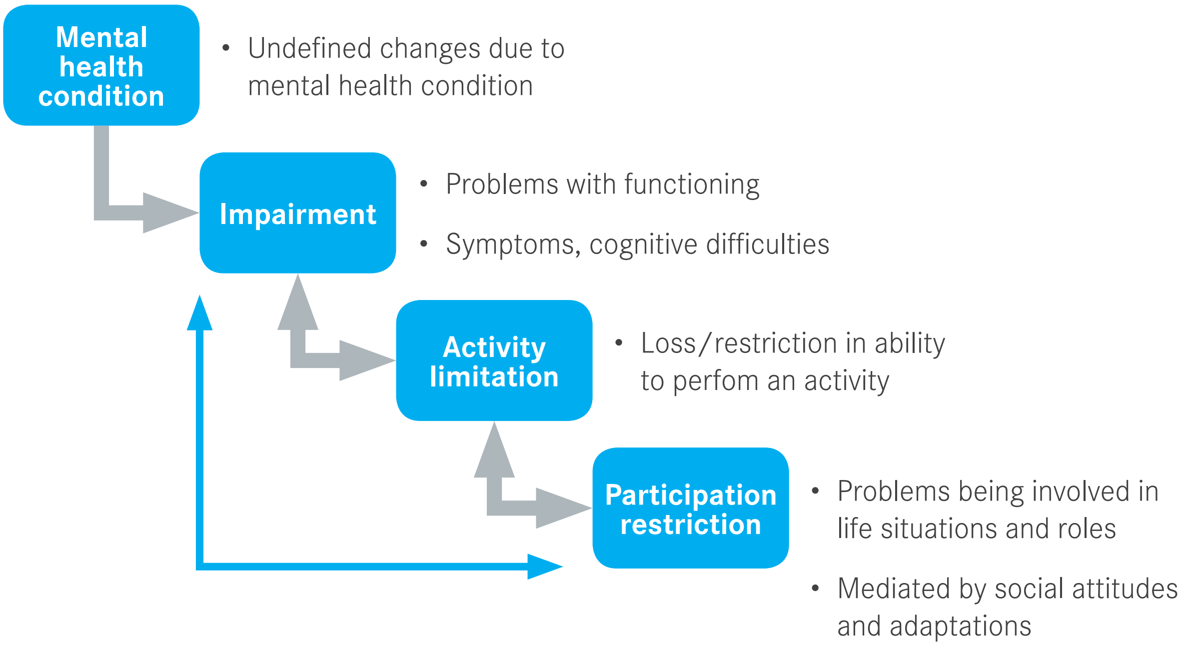
The National Disability Insurance Agency (2014a) states that supports provided by the NDIS are designed to support people living with a disability to:

- pursue goals
- maximise independence, including living independently
- live with social and economic participation as full citizens, including in employment
- provide choices to participants in the planning and delivery of supports.

The central role of the NDIS is to support people with disability consequent to physical or mental ill-health. People living with mental ill-health (alternatively described as mental illness or a mental health condition/issue/problem) may experience psychosocial disability. In their position statement *Unravelling Psychosocial Disability*, the National Mental Health Consumer & Carer Forum defined psychosocial disability as follows:

> Psychosocial disability is the term used to describe the disability experience of people with impairments and participation restrictions related to mental health conditions. These impairments and participation restrictions include loss of or reduced abilities to function, think clearly, experience full physical health and manage social and emotional aspects of their lives. (2011, p16)

Figure 1: Schematic diagram of disability, impairment and participation



The World Health Organization International Classification of Functioning (World Health Organization, 2001) is the model of disability used by the NDIS and is summarised in Figure 1. A mental health condition can lead to impairment in functioning as a result of persistent symptoms or cognitive difficulties, activity limitations such as inability to read a book due to poor concentration and participation challenges such as problems participating in work. Some activity limitations and participation restrictions can be due to lack of social acceptance and failure to provide adaptations in the environment. Impairments, activity limitations and participation restrictions are interrelated. Further, a participation restriction can lead to an activity limitation, as well as vice versa.

The National Disability Insurance Agency (2014d, p40) states that in the NDIS there is an emphasis on early intervention with specific options to offer therapeutic support to improve functioning "in the early intervention context".

For the purposes of the review, we consider that there are three ways that early interventions can be accessed in the NDIS:

- Information, Linkages and Capacity Building (ILC) pathway (formerly called Tier 2), mainly through Individual Capacity Building (ICB) supports. These are services offered and designed to be one-off, low-level and/or episodic. The types of supports that are envisioned under ICB are courses and counselling for carers, diagnosis-specific Peer Support groups and funding of training and courses to help people self-advocate and develop capacity to self-manage their disability support packages and provide one-off, low-level or episodic supports focusing on preventative interventions such as counselling (National Disability Insurance Agency 2014c).
- Individual Funded Packages (IFP) pathway (formerly Tier 3), where the package will have an early intervention focus. To be eligible for access to EI through the NDIS, a person must meet its early intervention requirements. The four such requirements most relevant to those with a psychosocial disability are (Commonwealth Government of Australia 2013):

1. a person having an identified impairment related to a psychiatric condition that is likely to be permanent
2. that implementation of early intervention supports are likely to reduce the need for future support
3. that early intervention is likely to: mitigate or alleviate impairment; prevent deterioration or improve capacity “to undertake communication, social interaction, learning, mobility, self-care or self-management”; and prevent the deterioration of functional capacity or improvement of functional capacity (the ability to carry out activities in an optimal situation (Peterson 2005)) or strengthen the sustainability of informal supports available to the person (including their carer)
4. that supports are appropriately funded by the NDIS and not available elsewhere.

   The direct treatment of potentially disabling symptoms, since it conventionally occurs within the ‘mainstream’ healthcare system, is not expected to be in the scope of the NDIS. It would appear that the possibility of treating or managing impairment is the unique feature of early intervention, whereas otherwise the NDIS will only offer supports at the activity and participation level.

   There is an additional stream in early intervention that provides supports for developmental delay in children under six years of age.

- Individual Funded Packages (IFP) pathway (formerly Tier 3), where the package will have a disability focus (that is, it is a ‘general package’) but is in the early stages of a person’s plan. In preparing this literature review we have considered the potential of having early intervention that occurs ‘early in plan’. We anticipate that that would focus on priority supports best suited for people receiving an NDIS Individual Funded Package (IFP) who have only recently been found eligible for the Scheme. A participant might choose supports that address needs or goals in a systematic manner so that resolution of a ‘priority’ or ‘early in plan’ need provides the basis to move to subsequent needs and goals.

1.2 Overview of method

The overall aim of this literature review was to identify psychosocial interventions that are most effective for early intervention supports in the NDIS (that is, interventions that promote, or prevent decline in, psychosocial functioning when used as early interventions with people with a current psychosocial disability or who are at high risk of developing a psychosocial disability, in the context of mental ill-health). In order to achieve this overall aim, we addressed the following sequence of key research questions (see Figure 2):

1. What evidence is available regarding effective psychosocial interventions for people living with severe mental illness (SMI) and psychosocial disability?

   (This established the entire range of possible evidence-based interventions for SMI.)

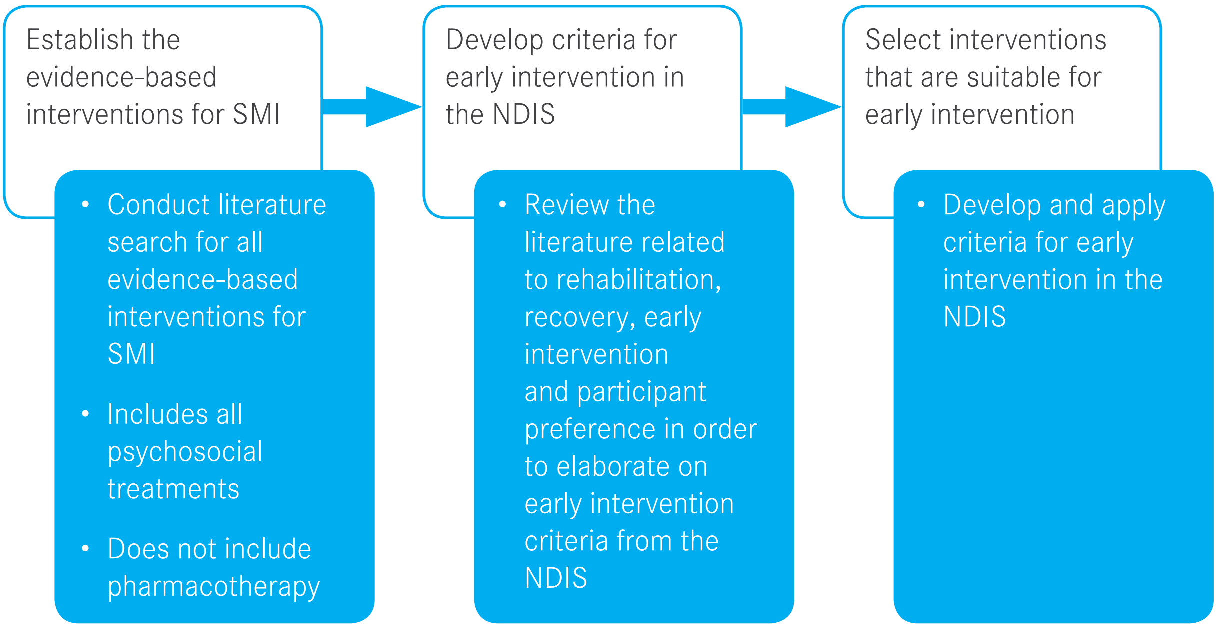
2. What criteria for early intervention in the disability support sector for SMI can be developed?

   (In answering this question, a detailed review of the literature relating to rehabilitation, recovery, ‘clinical early intervention’ and participant preference was completed in order to elaborate on the early intervention criteria established from the NDIS guidelines.)

3. Which evidence-based interventions meet the criteria established for early intervention?

   (A wide-ranging literature review of outcomes for all interventions that might be appropriate for early intervention was then undertaken.)

Figure 2: Logic model for selection of early intervention supports



1.3 Identifying interventions for psychosocial disability

Nine studies were retained. These were systematic reviews (Mueser et al. 2013a, Addington et al. 2010, Bond & Campbell 2008, Gibson et al. 2011), treatment guidelines (McGorry 2005, Buchanan et al. 2010, Menear & Briand 2014) and overviews (Killackey et al. 2015, Corrigan 2006). They all comprised reports on the full range of recommended evidence-based interventions for the treatment of severe mental ill-health, including schizophrenia.

Where a study reported that a particular intervention was effective due to an adequate evidence base, that intervention received a recommendatory ‘vote’. All interventions that received at least one recommendation are summarised in Table 1.

Table 1: Tabulation of recommended or evidence-based interventions for SMI

	Study									
Intervention	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Supported Employment	X	X	X	X	X	X	X	X	X	X
Family Psycho-education and Support	X	X	X	X	X	X	X	X	X	
Social Skills Training/Social Cognition Training	X	X		X	X	X	X	X	X	X
Cognitive Remediation	X	X		X			X	X	X	X
Mobile Support and Treatment (MST) or ACT/Outreach	X	X		X		X	X	X	X	
CBT for psychosis		X		X	X	X	X	X		
Illness Self-Management		X			X	X	X	X	X	
Integrated Therapy for Alcohol and Other Drugs		Y				X	X	X	X	
Supported Education	X	Y					Y	X		X
Supported Housing	X	Y					X	X		
Peer Support/consumer networks		Y	X				X	X		
Physical Health Management (including Weight Management)		Y				X	Y	X		
Token Economy (residential)						X				

1. Killackey et al. (2015, in press)
2. Mueser et al. (2013a)
3. Cochrane reviews (Kinoshita et al. 2013) and (Pharoah et al. 2010) and (Pitt et al. 2013)
4. Addington et al. (2010)
5. McGorry (2005)
6. Buchanan et al. (2010)
7. Bond & Campbell (2008)
8. Menear & Briand (2014)
9. Corrigan (2006)
10. Gibson et al. (2011)

X = evidence already supports the treatment efficacy
Y = there is promising/emerging evidence for the intervention

The final list of recommended interventions for psychosocial disability (at any stage), based on the level of evidence in the literature reviewed, was: Supported Employment, Family Psycho-education and Support, Social Skills Training/Social Cognition Training, Cognitive Remediation, MST or ACT/Outreach, CBT for psychosis, Illness Self-Management including Medication Management/Adherence Training and Patient Psycho-education, Supported Education, Supported Housing, Physical Health Management (including Weight Management) and Peer Support/Consumer Networking.

Two interventions were not considered relevant to a review of disability services and the NDIS. Integrated Therapy for Alcohol and Other Drugs, which under current arrangements is provided through health services, would not be considered a fundable support under the NDIS and is not discussed further. Similarly, Token Economy (a behavioural change intervention relevant in inpatient settings) is used as a tool within health residential settings, so this intervention was not considered further in this literature review.

1.4 Developing criteria for NDIS early intervention

A review of the NDIS policies on the three types of early intervention suggested the following guidelines:

1. for Individual Capacity Building: interventions should be time limited, focused and aim to reduce transition to Tier 3
2. for early intervention Individual Funded Packages: interventions should positively impact on impairment, activity and participation, or should support carers
3. for 'early in plan': interventions could be organised to target impairment prior to targeting activity and prior to targeting participation.

Other approaches that may inform the understanding of early intervention in the NDIS context were also reviewed.

1.4.1 Approaches to first episode psychosis (FEP)

Another approach to understanding early intervention as defined by the NDIS was sought by reviewing the interventions and goals of 'clinical early intervention' used in mental health services, often with young people and people experiencing first episode psychosis (FEP).

'Clinical early intervention' is defined as treatment at the point of first presentation and aims to reduce the duration of untreated symptoms (Marlowe 2014). Evidence for early intervention for FEP does suggest that good-quality early intervention programs can reduce future service needs, so evidence from this sector might be usefully applied to the NDIS. Critical factors such as loss of ways to achieve valued goals and roles and loss of social role and status can lead to hopelessness and poor self-esteem (McGorry 2005). It is important that early intervention addresses these critical needs.

The goals of early intervention are to achieve employment or education rates similar to age-/gender-matched peers living without psychosocial disability and for the majority to achieve satisfaction with employment, education and social attainments (Bertolote & McGorry 2005). Effective early intervention highlights the importance of ensuring that families are respected and valued partners in care and feel supported to provide sustained care as needed for their family member (Bertolote & McGorry 2005).

There is also data emerging that significant improvements can occur *after* two years post-diagnosis (Hui et al. 2014, Gafoor et al. 2010, Bertelsen et al. 2008). Since the NDIS early intervention pathway expects to assist participants two years after diagnosis, this supports the possibilities for positive changes in this phase. The possibilities for improvement and restoration of social roles occurring at all phases cannot be underestimated in promoting hope and recovery and may be an important role for NDIS early intervention.

We identified only a few studies that addressed early interventions with people who were not in a first-episode phase of mental ill-health. Early intervention not aimed at that phase may need to account for a different range of concerns. Suggested phases for an SMI could be:

- Stage 1: acute presentations with short untreated duration
- Stage 2: residual symptoms with partial recovery
- Stage 3: persistent symptoms with functional impairment.

The use of phases could be applicable to an eligible person who is 'early in plan' when early treatments are tailored to meet the needs of the stage/phase and not focused solely on immediate assessment of severity.

1.4.2 Stepped care approaches

Stepped care approaches support the notion that decline is not inevitable and that effective intervention at any level of need is important and represents value for money as it may prevent deterioration and escalation, and thus the need for more intensive or expensive supports in the future.

1.4.3 Recovery and rehabilitation approaches

Recovery is an approach to thinking about the impact of mental ill-health that is increasingly influencing both how people living with it view their potential and how service providers are considering service delivery (Corrigan 2006). Recovery is broadly defined as 'living as well as possible' (South London and Maudsley NHS Foundation Trust 2010), with a minimum of the symptoms of mental illness (Slade et al. 2012). The concept of 'personal' recovery is derived from the consumer oriented literature, case studies and qualitative surveys (Bellack 2006). It typifies recovery as a process (Liberman & Kopelowicz 2005) rather than a fixed end point, and delineates a number of important characteristics that contribute to it. Recovery is not about symptom remission or 'cure', but the capacity to have a meaningful, purposeful life with hope for the future (Hatfield & Lefley 1993a & 1993b, Lefley 1997).

However, there can be no assumption that 'early intervention' is synonymous with 'early in recovery' or 'at an early stage of change'. An NDIS participant may be at any stage in 'recovery' but supports can still be aimed at early stages of intervention.

Clearly, many of the goals of recovery are congruent with the values of the NDIS, which supports choice and control in relation to support planning, independence, economic and social participation and personal achievement of goals. However, concerns have been expressed about the recovery implications regarding the use of the term 'permanent' in reference to the timeframe for the disability. The relevance of recovery to the situation of early intervention is that it emphasises the wide range of possibilities for everyone with mental ill-health, reinforces the importance of independence and choice over treatment, care and support and suggests other possibilities for treatment, care and support besides clinical interventions.

Rehabilitation is a systematic approach to treatment that assists people to overcome impairment, functioning and participation restrictions to help them to achieve recovery (Peterson 2005). It is a professional service and thus will never be equivalent to recovery, which is a process that belongs to the person 'recovering'. However, rehabilitation services can be (and have been) remodelled to enhance personal choice, service flexibility and incorporate peer supports, all of which are more congruent with a recovery orientation (Killackey et al. 2015). A useful explanation of the distinction between recovery and rehabilitation is provided by Anthony:

> Recovery is what people with disability do. Treatment, case-management and rehabilitation are what helpers do to facilitate recovery. (1993, p527)

1.4.4 Participant perspectives on unmet needs

Considering the NDIS emphasis on participant choice and control, it is important to consider what participants are likely to see as their unmet needs and therefore where they might choose to focus interventions available as part of their IFP.

Four papers were reviewed that listed areas of reported participant need (these are tabulated in Table 2). Financial needs, social isolation, employment or daily structured activities, physical health, management of symptoms and housing are some of the main issues and needs for people living with SMI.

Table 2: Tabulation of priority of needs identified by consumers

Need	1	2	3	4	Possible evidence-based interventions to meet this need
Uncontrolled symptoms	X	X	X	X	Family Psycho-education; CBT for psychosis; Illness Self-Management Training; Peer Support; Cognitive Remediation.
Loneliness/social isolation	X	X	X	X	Social Skills Training; family interventions; employment programs; Supported Housing.
Financial	X	X		X	Employment programs, Illness Self-Management and individual psycho-education; Supported Housing.
Lack of employment/daytime activities	X	X	X		Employment programs; Cognitive Remediation; Social Skills Training; family interventions.
Physical health	X	X		X	Health services engagement supports; consumer education.
Suitable housing	X	X		X	Housing programs; Social Skills Training.
Need for family or carer support	X			X	Family Psycho-education and Support; MST or ACT/Outreach.
Stigma/discrimination	X				Social Skills Training; Social Cognition Training; family interventions; employment programs.
Access to mental health services	X				Case management and service coordination; MST or ACT/Outreach.
Distress			X		Case management and service coordination; MST or ACT/Outreach; CBT for psychosis; Illness Self-Management Training; hearing voices.
Information			X		Health services engagement supports; health lifestyle programs and education; CBT for psychosis; Illness Self-Management Training.
1. Morgan et al. (2011) 2. Killacky et al. (2015) 3. Thornicroft et al. (2004) 4. Brophy et al. (2015)					

1.5 Summary of criteria for identifying potential early intervention services in the NDIS

Firstly, there are criteria from the NDIS on goals for early intervention and 'early in plan' supports. These criteria are:

- to reduce the person's future support need
- that for Individual Capacity Building, interventions should be time limited, focused and aim to reduce transition to Individually Funded Packages
- that for early intervention packages, interventions should positively impact on impairment and activity (with less or no focus on participation) or improve the sustainability of informal supports, and be appropriately provided by the NDIS
- that for 'early in plan' situations, a participant could choose interventions to address needs or goals in a systematic manner so that resolution of a 'priority' or 'early in plan' need provides the basis to move to subsequent needs and goals.

Other criteria and information from the NDIS and Independent Advisory Committee (IAC) suggest that the services for early intervention for individuals would be characterised by:

- looking forward to the next developmental stage in a participant's life (National Disability Insurance Agency 2014a). For instance, early intervention for a young adult would focus on supporting education so that, in the future, obtaining work would be more likely
- addressing valued goals and roles and supporting social connections (National Disability Insurance Agency 2014f)
- being evidence based (National Disability Insurance Agency 2014f).

Priorities identified in other literature suggest that supports for early intervention could:

- support the notions of recovery that assert that all people can recover, emphasise the role of hope and underline the importance of individual goals and meaningful activity
- support participant goals in the areas of social and economic participation
- be rehabilitative (Killackey et al. 2015) in nature, not just 'supports' (Collister 2015)
- focus on key features of life stages (National Disability Insurance Agency 2014a) so that early intervention might restore age-appropriate attainments such as education, employment, independent living and relationships (Bertolote & McGorry 2005)
- focus on closing the gap in expectations between those living with and those living without mental ill-health, such as inequities in employment rates (Bertolote & McGorry 2005)
- focus on restoring valued goals and roles particular to the person with mental ill-health (McGorry 2005) and on enabling a participant to build independence and personal skills so as to progress towards their goals
- be relevant to those with a more recent diagnosis who may have the potential to maintain functioning or restore functioning quickly, thus minimising disruption to existing supports and formal and informal networks. It may be possible to restore a disrupted developmental trajectory (Bertolote & McGorry 2005)
- provide adequate intervention at early stages/lesser levels of disability in order to prevent deterioration and increasing support needs.

All the interventions would appear to have an early intervention application. The evidence for each is discussed in the next section, which reviews their documented impacts as well as examining how they might address both NDIS criteria and some of the other priorities listed above.

1.6 The interventions

This section presents the evidence for all the evidence-based interventions that may be appropriate for 'early in plan' or early intervention in the NDIS.

1.6.1 Supported Employment

People living with SMI consistently express the desire to work as one of their highest priorities (Lehman 1995, Hatfield et al. 1992, Shepherd et al. 1994, Mueser et al. 2001, McGurk et al. 2005, Waghorn et al. 2012, Waghorn & Hielscher 2015, Ramsay et al. 2011). Supporting a wide range of training and non-competitive and competitive work placements is of major importance to improving employment rates among them (Mueser et al. 2013a, Bond 2004).

Supported Employment (SE) is a vocational intervention where a person is rapidly assessed for skills and preferences and searches for a job in the competitive job market. (There is a manualised form of SE called Individual Placement and Support (IPS) (Kinoshita et al. 2013)). Participants receive continuing support from employment specialists once employed, and this support is not time limited (Twamley et al. 2003, Kinoshita et al. 2013, Crowther et al. 2001).

Meta-analysis and reviews consistently show that SE is superior to pre-vocational training methods for obtaining competitive employment, total weeks worked and wages, with often double the rates of job attainment. The analysis shows the benefits of developing programs that directly address desired outcomes and make them proximal outcomes where possible, rather than taking an indirect approach.

However, for those obtaining a job, the differences in tenure and non-vocational outcomes such as quality of life are not significantly different between SE and other Vocational Rehabilitation supports. Even with the more successful Supported Employment model, half of the participants in the SE program did not achieve competitive employment (Twamley et al. 2003). In addition, the vast majority of these trials were conducted in the USA, where particular employment and income support considerations apply.

Most of the literature on Supported Employment also failed to detail outcomes from non-competitive employment, so a complete picture of the possible outcomes was not obtained. When non-competitive employment outcomes are considered, Conventional Vocational Rehabilitation (CVR) is shown to be superior to treatment as usual (TAU) (Fossey & Harvey 2010). For instance, a trial in Germany found that CVR attained double rates for *any* work, compared with TAU (40% compared with 19%). Additionally, the CVR intervention was associated with improved functioning and quality of life (Watzke et al. 2009).

Many of the meta-analyses are based in trials where all participants had goals for competitive employment. For the group wishing to attain such employment, SE may be the best approach. However, with a broader cross-section of people living with SMI with a wider range of ambitions, other options may be more effective. Also, the meta-analyses did not provide analyses that explored whether particular groups of participants might do better in competitive versus non-competitive employment or in Supported Employment versus PVT.

The literature cited above suggests that employment programs readily assist approximately 50 percent of participants. Other participants may need more support at the impairment and activity level to obtain employment, or may be best suited to employment in modified environments such as social firms. Social Skills Training and Cognitive Remediation may help at the impairment or functional level and assist with developing the skills required to attain and sustain a job.

An unsatisfactory aspect of Supported Employment is the short tenure in jobs that are attained, which may mean that support needs are not reduced in the longer term. Interventions that support longer tenure such as employment in social firms or pre-vocational training may play an important role in supporting longer tenures.

Job tenure is an issue for all types of VR, with average time in an employment position of only six months (Becker et al. 2007). Improving tenure might considerably enhance non-vocational outcomes such as quality of life and social networks.

1.6.2 Supported Employment and NDIS early intervention

Supported Employment is an intervention that supports people to carry out job-related activities that support participation in the work force. Clearly early intervention to support employment can reduce long-term consequences such as dependence on income support and social isolation. Taking up a valued role is important for self-esteem. Enhanced income is likely to lead to more independence and a wider scope of choices in leisure activities and living conditions. Given that many people with SMI express the desire to improve their economic situation and to work and enjoy the many benefits it may offer (Lehman 1995, Hatfield et al. 1992, Shepherd et al. 1994, Mueser et al. 2001, McGurk et al. 2005, Waghorn et al. 2012, Waghorn & Hielscher 2015), Supported Employment is an excellent early intervention for people with psychosocial disability (Brophy et al. 2014).

1.6.3 Interventions that support family and carer engagement

The Australian survey of people living with psychotic illness reported that over 50 percent of participants saw family members daily (Morgan et al. 2011, Harvey & O’Hanlon 2013). However, family members are frequently not in contact with services, even though they often provide substantial support for their relative (Harvey & O’Hanlon 2013). Australian studies show that families may be under stress (Hayes et al. 2015); Family Psycho-education offers the opportunity to engage them and ensure the support they provide is sustainable.

The range of evidence-based interventions that might provide supports to families includes Family Psycho-education, in long and short forms or single and multifamily groups (Pharoah et al. 2010), Open Dialogue approaches (a Finnish family-inclusive recovery intervention) (Seikkula et al. 2011) and Peer Support programs such as Family to Family, a peer-led family psycho-educational model from the USA (Duckworth & Halpern 2014).

A review of Peer Support to family members looked at the evidence for Family to Family (Duckworth & Halpern 2014). The review reported a trial that showed improvements in problem focused coping, including empowerment and knowledge, and emotion focused coping, which includes acceptance and reduced distress.

The approach of Open Dialogue suggests that early intervention is very important in reducing future support needs and that collaboration and coordination between supports is very important (Seikkula et al. 2011).

A large number of randomised controlled trials indicate that Family Psycho-education (FPE) interventions are highly successful in reducing relapse in people living with schizophrenia and in decreasing negative caregiver experience and stress in family members (Pharoah et al. 2010). In summary, the intervention reduces distress and improves empowerment, coping and problem-solving skills in carers – all goals that would lead to greater sustainability in carer support.

1.6.4 Family Psycho-education (FPE) and NDIS early intervention

The main outcome of interest to the NDIS context in Family Psycho-education is likely to relate to the improved sustainability of carer support evidenced in enhanced quality of life. The evidence above suggests that FPE may be a useful support for participants in the NDIS and their families because:

- Reduced relapse and hospitalisation suggests that impairment has been reduced. This is also important because less relapse means that activity and participation are not compromised.
- The improvement in carer quality of life and coping and the reduction of distress and caregiver difficulty mean that the sustainability of caregiving is enhanced.

- Family Psycho-education, particularly in the early intervention context, reduces the likelihood of unhelpful family reactions developing as a reaction to participants' psychosocial disability (Lucksted et al. 2012, McFarlane et al. 2012).
- Family Psycho-education may prevent family breakdown and thus preserve supports from the immediate family network.
- Motivational Interviewing (Sherman et al. 2009) as a preliminary stage to Family Psycho-education might be appropriate at the NDIS pre-planning stage, or as part of supports that assist participants to coordinate and plan their chosen supports.
- Programs with a strong recovery focus such as that of Open Dialogue can lead to positive outcomes in maintaining participation and overcoming any limitations in activity.
- Multifamily groups may be useful in the context of ILC in supporting carers.

Family interventions have an excellent evidence base and can be adapted to enhance achievement of many kinds of participant goals. However, it is unclear how many participants will find a family intervention attractive in the context of enhanced choice and competing priorities such as independent living.

1.6.5 Social Skills Training and Social Cognition Training

In the recent Australian survey of people living with psychotic illness (Morgan et al. 2011), nearly a quarter of participants reported feeling lonely and isolated, and double this number felt that their illness made it hard for them to maintain close relationships. Thirty-seven percent nominated loneliness and social isolation as their top challenge for the year ahead (Morgan et al. 2011). Support for social skills would appear to be an essential ingredient to assist people with psychosocial disability to reduce activity limitation and participation restrictions as it addresses core impairments in self-help, self-care and socialisation (Lyman et al. 2014a). Social skills enhancement assists people to be able to express their feelings competently, achieve goals and improve relationships, and it supports independent living (Kopelowicz et al. 2006). This may assist in addressing loneliness and isolation through enhancing people's potential to maintain relationships.

In a summary of all meta-analyses that were published between 1990 and 2005, Pfammatter and colleagues (2006) found that Social Skills Training has a significant, consistent and enduring impact on the improvement of social skills for people living with SMI. This beneficial impact extended to social functioning as well as to decreases in symptoms and hospitalisation (Pfammatter et al. 2006). Given the methodology, which drew together results from a wide variety of trials, this finding indicates consistent benefits from social skills interventions.

In a review of over 100 RCTs, Lyman et al. (2014c) found good-quality evidence from a wide range of studies. Positive outcomes included improved behavioural skills, improved social role functioning, improved self-efficacy and moderate effects on social and daily living skills and community functioning.

1.6.6 Social Skills Training and NDIS early intervention

This intervention is clearly useful for promoting social inclusion. It may be very helpful in achieving personal goals, especially where these relate to socially based aspirations. Enhanced social skills also enable greater independence. Social functioning underpins many aspects of life, including employment, education, family and social connections and recreational activities. Therefore, working on social skills as early as possible would be important for reducing deterioration and improving functioning. Social Skills Training can be personalised so that a participant's particular needs and goals are a focus of the intervention.

Social skills can improve independent of specific cognitive or learning limitations (Tenhula et al. 2007) and of symptom levels (Combs et al. 2007), suggesting that Social Skills Training is a useful intervention for all participants.

Given the clearly expressed desire to improve social connections (Morgan et al. 2011, Brophy et al. 2014), this is an important support that participants can choose in the context of early intervention.

1.6.7 Cognitive Remediation

Cognitive Remediation (CR) is an intervention that seeks to improve cognitive functions such as working memory, attention and executive function and language. Cognitive impairments are often a feature of mental ill-health, particularly psychosis, and are associated with activity and participation limitations (Turner et al. 2014, McGurk et al. 2007b, Medalia & Saperstein 2013). A literature review found that impairments in attention, working memory, reasoning, problem solving and social cognition have the greatest impact on participation in employment (Tan 2009). Thus interventions to support improvements in cognition would appear to be particularly useful. CR is often implemented individually using a computer, but group interventions and/or paper-and-pencil approaches also exist (Turner et al. 2014, Grynszpan et al. 2011). Cognitive Remediation draws on constructive learning techniques that ensure a high degree of success and reinforcement through practice (Barlati et al. 2013).

A comprehensive meta-analysis of the intervention from the USA that included computerised and non-computerised CR showed it had medium effect size for general cognitive performance and smaller effect size on psychosocial functioning. The impact on the latter was greater when a rehabilitative intervention was incorporated with the CR (McGurk et al. 2007b). Effects on particular cognitive domains showed small-to-moderate effect sizes on attention, processing speed, verbal working memory, problem solving, social cognition and symptoms. Verbal learning and memory showed little improvement (McGurk et al. 2007b).

Another review also found that CR can lead to optimal improvement in functional outcomes when practice and rehearsal is linked to 'real world' situations and rehabilitation contexts (Medalia & Saperstein 2013). In addition, addressing confidence and motivation also enhances functional improvement from CR interventions (Medalia & Saperstein 2013).

Other reviews have found that CR effects are durable (Wykes et al. 2011) and can benefit social functioning and reduce symptoms (Pfammatter et al. 2006). An overview of Cognitive Remediation interventions from Italy was particularly supportive of CR for early intervention (Barlati et al. 2013). It noted that it could not only improve cognitive function but also benefit social functioning and employment. A meta-analysis from Hong Kong showed that it improved employment rates (Chan et al. 2015). The intervention has mostly been aimed at participants with psychosis, but there is evidence of its effectiveness with other conditions such as affective disorders (Anaya et al. 2012), bipolar disorder (Harvey et al. 2010) depression (Motter et al. 2016) and anorexia nervosa (Tchanturia et al. 2014).

1.6.8 Cognitive Remediation and NDIS early intervention

Cognitive Remediation can have a strong recovery focus, with an emphasis on supporting goal achievement, social interaction, participation in education and performance at work (Barlati et al. 2013).

It would appear to have particular benefit as a support that participants can utilise in the context of early intervention or 'early in plan' since improved cognition can lead to many other improvements in activity and participation domains (Barlati et al. 2013). Meta-analysis has demonstrated that CR can improve non-cognitive outcomes such as employment (Chan et al. 2015). This suggests that it can reduce a person's future need for support directly, through enhancing participation in such activity. It also reduces cognitive impairment, which can be a core psychosocial disability for people living with SMI (McGurk et al. 2007b). Cognitive Remediation would appear to have a useful role as a capacity-building support. While it appears to be a clinical intervention, the above suggests that it can be incorporated into, or offered alongside, other types of support to enhance positive outcomes.

1.6.9 Outreach and Personal Assistance

Outreach (known as Assertive Community Treatment (ACT) or other variations such as Mobile Support and Treatment (MST) in the clinical sector) is a form of Case Management that includes needs assessment, coordination of relevant services and provision of treatment, care and support for a person living with SMI (Rosen et al. 2007). It is sometimes regarded as an intensive form of Case Management or, alternatively, is conceived as a different level and type of support. It provides high levels of support for people in the community who have intensive and complex needs (Rosen et al. 2007).

Personal Assistance (Pita et al. 2001) or programs described as personalised supports (Siskind et al. 2012) are programs based on long-term trusting relationships used as a basis to sustain recovery (Fisher & Ahern 2000). They are defined as one-on-one support of a non-clinical nature. The support worker will have competencies in delivering support but may not be clinically trained (Siskind et al. 2012).

Personal Assistance can be seen as an alternative model of Outreach and an intensive support that is more fully based on recovery principles (Fisher & Ahern 2000). This is because it encompasses values such as self-determination and non-coercion (Fisher & Ahern 2000), although Outreach/ACT models are also capable of incorporating recovery principles (Rosen et al. 2007).

There is extensive RCT evidence for Outreach, and less for Personal Assistance.

Overall, Outreach/ACT support increases contact with services, decreases hospital-based care, improves quality of life, increases housing stability and reduces symptoms (Rosen et al. 2007), with higher model fidelity leading to better outcomes. Outreach is best suited to participants with difficulties in community living, difficulties in engaging with services and higher levels of impairment (Rosen et al. 2007).

A recent Australian systematic review on Personal Assistance showed that there was moderate evidence for the reduction in hospitalisation and symptom reduction and improved satisfaction with personalised support programs and weak evidence for improved functioning (Siskind et al. 2012). Although 15 studies met inclusion criteria for the review, the quality of many trials was considered poor. The strongest finding was that there was a reduction in hospitalisations reported in four-out-of-five trials where this was measured. Two trials reported high client satisfaction and four reported qualitative material suggesting that clients felt valued by their support person and had their personal choices respected and their recovery supported.

Some concern was expressed that the friendship and support of the support worker reduced the need for the participant to obtain or sustain external friendships and links with family (Siskind et al. 2012).

There was limited evidence regarding Peer Support workers in the support mentor role, but what evidence existed suggested that they can achieve outcomes similar to those of professionals (Siskind et al. 2012).

1.6.10 Outreach, Personal Assistance and NDIS early intervention

The literature on ACT/Outreach and Personal Assistance or Mobile Support and Treatment (MST) indicates that they may have useful application in the context of early intervention, although the outcomes of MST or ACT/Outreach that have been measured to date tend to focus on clinically related service use variables. While the MST and ACT functions are currently most commonly located within the responsibilities of clinical mental health services, the model has particular application to effective engagement with participants in the NDIS due to the impact of SMI.

Outreach may be usefully adapted to both support and coordinate supports for NDIS participants who are living with more severe psychosocial disabilities or particular challenges such as homelessness when there is a need for a coordinated and intensive approach to care. Less intensive forms of case coordination may not be sufficient to support the participants' engagement with chosen supports (Rosen et al. 2007).

Personal Assistance may be broadly useful to support participants to engage with their chosen supports and achieve their goals. It could be combined with other interventions, for instance in supporting a participant who has chosen to join an SE program. It is understood that the NDIS will not fund a person to be a support to a person with disabilities, but programs that provide Personal Assistance, similar to the current Personal Helper and Mentor Scheme (PHAMS), might still be appropriate.

The evidence is not extensive for personalised support compared with MST or ACT/Outreach, but the model has advantages in that it is congruent with recovery principles and capacity building for people living with SMI. It provides reasonable supports in the community context and avoids an institutional response to need.

1.6.11 Cognitive Behavioural Therapy for psychosis

Cognitive Behavioural Therapy for psychosis (CBTp) is based on the understanding that a person's subjective response to psychosis is key to the level of distress it causes them (Holt & Tickle 2014). It follows that, by reframing responses or changing behavioural strategies to psychotic experiences, much of the distress can be reduced, even if the symptoms themselves cannot be eliminated (Ritsher et al. 2004). CBTp is a treatment that can be provided in individual or group formats.

There is moderate evidence that CBTp can assist with changes to negative beliefs about voices and with improved coping, which then leads to reduced distress (Ruddle et al. 2014). There is a wide range of strategies that also assist in coping with psychosis (Ritsher et al. 2004, Farhall et al. 2007), which CBTp can help people to learn about and implement (Ruddle et al. 2014).

A Swiss meta-analysis showed consistent benefits from CBTp in reducing persistent positive symptoms (Pfammatter et al. 2006). While this is an important outcome, it may not be relevant to the NDIS outcomes of interest, depending on the understanding of 'impairment'.

1.6.12 Cognitive Behavioural Therapy for psychosis and NDIS early intervention

CBT for psychosis (CBTp) is generally considered a clinical treatment and, where it is available, it is often provided only within clinical mental health services; thus it may not be provided through the NDIS. Actual levels of receipt of this service through clinical treatment are very low (Haddock et al. 2014). However, it has a great benefit in reducing impairment that may be especially useful in the situations of both medication-resistant symptoms and of early intervention, where mitigation of the impairment of positive symptoms may reduce activity limitations and participation restrictions.

A wide range of adaptations means that CBTp can be used to focus on a variety of problems and concerns (Addington et al. 2010). It would appear that other related interventions such as Social Skills Training achieve these outcomes related to activity and participation more directly. It may be useful in the NDIS if CBTp, as with Cognitive Remediation, is used in conjunction with other interventions that directly address NDIS outcomes, for instance where CBTp is combined with a program for return to work or education.

1.6.13 Illness Self-Management Training or Activation

Illness Self-Management Training (ISMT) or Activation and (individual) psycho-education refer to a variety of programs that aim to increase consumer knowledge and understanding about mental ill-health. Xia et al. (2011, p7) refer to the core purpose of psycho-education as helping to enable a consumer to engage in 'behaviour change'. This primarily occurs through encouraging active involvement in treatment and self-management, which are central principles in the mental health recovery model (Mueser et al. 2013b). ISMT can occur in a group or individual format and may include family involvement.

ISMT targets a variety of needs for consumers. For the treatment of schizophrenia, Mueser and McGurk (2004) outline three key areas where it is useful: knowledge of schizophrenia and principles of its treatment to inform decision making; monitoring of early-warning signs of relapse and developing a response plan; and learning and practising coping mechanisms to deal with persistent symptoms. Antipsychotic medication non-adherence in people with schizophrenia is a common reason for relapse and hospitalisation (Mueser & McGurk 2004, Xia et al. 2011, Yamada et al. 2006). ISMT aims to develop strategies to improve medication adherence to reduce relapse rates, however relapses can occur despite adherence (Mueser et al. 2013b, Tursi et al. 2013). Developing and enacting a response plan to the early signs of relapse is postulated to reduce the chances of relapse and hospitalisation, while coping mechanisms aim to manage persistent symptoms and reduce potential disruption to everyday life (Mueser et al. 2013b).

The Cochrane review undertaken by Xia et al. (2011) analysed 44 RCTs (5,142 participants, mostly inpatient) conducted between 1988 and 2009. Incidences of treatment non-compliance were lower in the psycho-education group for the short, medium and long term. Relapse and hospital readmission rates were also lower in the psycho-education group, with scale-derived data showing improvements in social and global functioning. Satisfaction with mental health services and quality of life were higher in this group. Xia et al. noted the risk of bias for the trials as moderate and called for further research to investigate the approach.

Meta-analyses and trials indicate that psycho-education could reduce relapse and re-hospitalisation, medication adherence and symptom reduction. However, improvement in psychosocial outcomes was not reported. Many of the meta-analyses reported unclear results due to inadequate data reporting in trials. In addition, short timeframes of reports meant that durability of effects could not be assessed.

1.6.14 Illness Self-Management Training or Activation and NDIS early intervention

The outcomes for Illness Self-Management Training and Activation appear promising, but the evidence is not extensive at this stage and there are concerns with methodology and reporting of results. Although the impact has been mainly documented on relapse, the effect on functional outcomes is not clear. Illness Self-Management Training may be a useful support for early intervention because of its educative nature and because it supports independence in managing daily living with an SMI. It can be used as a vehicle to deliver very positive messages about recovery and maintaining activity and participation. However, it has no direct role in supporting participation, so its ultimate impact is limited. It could play a useful role as an adjunct to such interventions as Supported Employment as, for instance, it can help with resolving concerns about managing mental ill-health in the workplace.

1.6.15 Supported Housing

Supported Housing supports people living with SMI to live in self-contained independent accommodation in the community. It is important to distinguish between supported accommodation, which tends to provide whole-of-life care (including residence), and Supported Housing, where accommodation is accessed by a regular tenancy agreement.

People living with SMI and disabilities have a right to live independently (Wiesel et al. 2015) and need secure, affordable housing. ‘Adequate housing’ is housing that is affordable, accessible, habitable, appropriately located and culturally suitable. It is a human right (Australian Human Rights Commission 2015, Killackey et al. 2015). Housing has become a more pressing concern since community care replaced institutional care for those living with SMI (Chilvers et al. 2006). In Australia, this transition occurred in the 1990s, when the majority of institutional care facilities were closed (Meadows & Singh 2003).

There are three main issues regarding housing for people living with SMI and psychosocial disability: firstly, a need for interventions for those at risk of homelessness; secondly, access to affordable housing in geographical locations of choice; and thirdly, supporting people with psychosocial disability to live independently.

Since the provision of housing can be costly in terms of development, capital requirements and on-going care requirements (Chilvers et al. 2006), it is important to ensure that housing programs are effective and provide the best possible value. As indicated above, there are currently significant difficulties in ensuring that people with SMI gain access to safe, affordable and secure housing in Australia (Siskind et al. 2013), and there is currently a shortage of supported housing (Cashin 2014).

Supported Housing enables a process of adaptation so participants learn how to deal with the problems and challenges of independent living such as stigma, discrimination and poverty. For some, such housing may be time limited; others may need long-term support. Supported Housing can be a basis for recovery through independent living, reduced depression, increased dignity, self-worth and motivation to join the community and can be capacity creating for those who are not able to live independently in the community (Killackey et al. 2015). Conversely, there is also a risk of isolation that can threaten housing stability, since consumers often live alone in these schemes (Chopra et al. 2011).

A Cochrane review of all types of housing programs for people with SMI was conducted in 2006. No trial out of the 139 that were identified in the literature search undertaken for the review met the criteria for the meta-analysis (Chilvers et al. 2006). This was because trials seldom used a randomised methodology (that is, assigning participants to alternative types of treatment randomly), did not compare types of housing program (instead comparing hospital inpatient treatment with residential treatment, for instance) or did not collect relevant or appropriate outcome measures.

Another systematic review of all types of housing support by Leff et al. (2009) had less stringent criteria for including studies; 44 studies were included (n=13,436), but only a handful of randomised controlled trials. The authors concluded that all interventions supported housing stability and all affected distal (or non-housing) outcomes such as symptoms, hospitalisation and satisfaction. There was substantial variation between interventions, so more information is needed on which interventions are best for whom and when.

Specific reviews of Supported Housing showed that it reduced homelessness, increased housing tenure and decreased ED visits and hospitalisations for people with SMI and co-occurring substance abuse (Rog 2004).

Independent housing was associated with greater satisfaction with housing and neighbourhood, and inadequate housing was associated with decreased functioning; however, no causality can be assumed. Housing tenure was also related to decreased service use and costs (Rog 2004).

Supported Housing provides positive outcomes in functioning, generates high satisfaction and is congruent with recovery principles. It may be particularly suitable when housing is a direct need (for instance, resolving homelessness immediately) or when it is the proximal outcome required. However, all types of residential support would appear to have a role to play in supporting participants and their wide range of needs.

People with SMI have high levels of unstable housing (Siskind et al. 2013), and the combination of the two is associated with functional disability, victimisation, physical illness, mortality, increased number of emergency department presentations and decreased engagement with community and mental health services (Siskind et al. 2013). The provision of housing, personalised support and clinical services can assist with dual SMI and instability in housing (Siskind et al. 2013). The outcomes of good-quality independent housing include an increased sense of independence, valuing of privacy, choice of house mates, increased physical and mental health and increased social participation (Wiesel et al. 2015).

1.6.16 Supported Housing and NDIS early intervention

Supported Housing may be a very important support that participants can choose in the context of early intervention, as many other activity and participation opportunities become possible because of its presence (Wiesel et al. 2015). Clearly, living independently is a significant goal for many participants (Harvey et al. 2012) and thus Supported Housing is likely to be a key support for their needs and aspirations.

Although there is evidently a need for housing supports, the evidence is not rigorous at this stage and RCTs to compare different housing options are warranted (Leff et al. 2009). Supported Housing is a promising, cost-effective support for recovery in the early intervention context. However, the division of responsibility for housing is a complex matter. The NDIA model is that generally the NDIA is not responsible for social or market housing and that participants are responsible for securing their own housing. NDIA supports are provided to them where they live. The NDIS envisages that the Scheme will have responsibility for the social support component of Supported Housing, with state and territory governments having responsibility for social housing and the housing market for commercially available housing. Supported accommodation is the responsibility of the NDIA where there are specific housing needs that can be addressed due to the nature of the functional impairments of participants.

1.6.17 Physical health supports

The increased mortality rates and prevalence of chronic physical disorders in persons with serious mental ill-health are well documented in the literature. The international review undertaken by Scott and Happell (2011) showed increased prevalence of chronic disorders such as obesity, symptoms of cardiovascular disease, diabetes mellitus, metabolic syndrome and respiratory disease by at least two times–and HIV prevalence may be increased up to eight times–in those with serious mental ill-health. Chronic diseases, as described by Scott and Happell, can all be associated with unhealthy lifestyle behaviours: “cardiovascular disease and metabolic syndrome can be partly attributed to poor diet and sedentary behaviour; respiratory disorders and cancers have been linked to smoking; and HIV risk is increased in those who abuse drugs and alcohol or who practise unsafe sex”. (2011, p593)

Supports to enhance physical health include physical therapy and exercise, improved diet and nutrition, smoking cessation and weight loss and improving access to primary care providers. A number of pilot studies report positive changes in health behaviours such as improved fruit and vegetable intake or increased exercise; the latter was often associated with reduced psychotic symptoms.

1.6.18 Physical health supports and NDIS early intervention

There is no doubt that supports to enhance the physical health of people with psychosocial disability are important, and this is a need identified by many living with SMI (Morgan et al. 2011). Although the evidence is clear that their physical health can be impaired (Galletly et al. 2012), there is only emerging systematic evidence to support physical health interventions at this stage, including the very promising collaborative care programs (Unützer, Harbin & Druss 2013). Supporting physical health and fitness and improving access to primary care providers would be appropriate goals in the early intervention context since it can potentially reduce physical and psychosocial impairment and thus improve activity and participation. However, these supports should be accessed through the health system and are unlikely to be provided through the NDIS.

1.6.19 Peer Support and other consumer networks

Consumer participation in mental health care has increased in recent years, with a rise in the development of peer support services for people with SMI (Repper & Carter 2011, Sledge et al. 2014, Van Vugt et al. 2012). Chinman et al. (2014) define peers as “individuals with histories of successfully living with serious mental illness who, in turn, support others with serious mental illness” (p1). Peers are believed to contribute to the recovery orientation of mental health services by helping others to become empowered, active and hopeful in their recovery process through a reciprocal relationship based on empathy, validation and mutual support (Chinman et al. 2014, Mead & Copeland 2000, Repper & Carter 2011).

Four articles (Chinman et al. 2014, Pitt et al. 2013, Repper & Carter 2011, Davidson et al. 2006) met our inclusion criteria. In general, the evidence was encouraging with respect to Peer Support being at least as effective as conventional treatment. However, the authors noted that the heterogeneity of models analysed, the enormous international diversity in implementation and research on Peer Support, and the methodological problems with study designs were key issues in the assessment of the current evidence.

Some challenges in the employment of peer support workers were noted, mostly centring on issues of peer support worker accountability and boundary issues between them, their clients and other professionals.

1.6.20 Peer Support and NDIS early intervention

The evidence for Peer Support is growing substantially and shows that it has great promise. The outcomes of Peer Support programs vary greatly as they are related to the type of program as much as to differences between professional or peer provision. However, it appears that Peer Support is particularly effective in encouraging recovery and restoring hope, and provides a very important sense of rapport that can be uniquely satisfying for participants. Thus it is not clear how it has any particular application in early intervention, apart from its general role in supporting recovery and enhancing the recovery outcomes of programs with specific aims.

In terms of generally supporting the aims of the NDIS, Peer Support can be very effective in encouraging participation and social inclusion through the message of hope and positive role modelling. In this general sense, it will be a vital aspect of an NDIS that truly enhances recovery and independence for people with psychosocial disability.

1.7 Conclusion

Interventions in the areas of employment and education, social skills, supported housing and supporting physical health can help participants to achieve commonly reported goals such as work or study, increase social participation and improve their physical health. Family Psycho-education can help families to understand the goals of their family member and constructively support the achievement of those goals. Interventions such as Illness Self-Management Training and Cognitive Remediation may align with participants' direct goals or may be selected by them to manage impairments and therefore enhance chosen activities or participation goals.

Clearly, Supported Employment and Supported Housing lead to increased independence and social participation, as does Social Skills Training. Outreach and Personal Assistance can minimise impairment and provide support for community living for a participant (although it is not expected that it will be a support provided in the NDIS).

The list of evidence-based interventions established in Section 1.3 (and detailed in Section 4.1) was also reviewed in the previous section to establish the evidence for their outcomes and possible relevance to the NDIS early intervention criteria.

All the interventions for psychosocial disability have good evidence of their suitability for early intervention in that they reduce impairment, reduce activity limitations and enhance participation in the context of psychosocial disability related to SMI. The most challenging criterion for early intervention is that it should reduce support needs in the future. To do this, there needs to be evidence that, generally, the benefits of an intervention are rehabilitative and sustained. That is, to impact future needs there needs to be a reduction in needs (rehabilitation) which is maintained in the future (sustained).

To examine the impact of each intervention:

- Supported Employment and Education support activity while participants take on new participation roles in work or study. Supported Employment leads to sustained improvement in employment outcomes, although tenure in any particular job is not always lengthy. Employment improves quality of life, symptoms, self-esteem and social functioning, which suggests a reduction in future support needs. It also provides meaningful activity, enhances social networks and supports economic independence so is a vital part of recovery. Obtaining employment is a key unmet need for people living with a psychosocial disability.
- Family Psycho-education reduces stress in the family, contributing to reductions in symptoms, relapse and hospitalisation for consumers. It potentially has a unique role to play in early intervention through supporting the sustainability of supports and is the only intervention that provides definite evidence of positive impact on family and carers. It also improves functioning through learning communication skills and reducing the likelihood of unhelpful family reactions to the participants' psychosocial disability developing and encourages the family to support their goals and aspirations. Enhancing family relationships and understanding is often an important unmet need for both participants and family members, suggesting that Family Psycho-education will align with achieving personal goals. In addition, it provides a forum for families and participants to work together to maintain meaningful social and economic participation for both parties. The evidence for Family Psycho-education is very strong, suggesting it has a useful role in early intervention. However, there may be a limited number of participants who see a family intervention as meeting their individual needs. The main contribution of family focused interventions may be through supporting the sustainability of informal supports, although they can be adapted for directly enhancing goals and recovery.
- Social Skills Training can improve social cognition skills (impairment level) as well as social functioning (activity and participation). Social skills enhancement also underpins many aspects of life (including employment, education, family and social connections and recreational activities), so the improvement of them would be an important choice for early intervention. Social Skills Training can be personalised so that a participant's particular needs and goals are a focus of the intervention. Improving social skills also assists in recovery by enhancing meaningful relationships and opportunities for friendship, partnership and love.
- Cognitive Remediation aims to reduce cognitive impairment, and this may consequently affect functioning. It also has a role in underpinning other initiatives such as Supported Employment or Supported Housing. Evidence suggests that the benefits of CR are sustained. Given the central role of cognitive impairment in limiting activity and participation for people with psychosocial disability, CR may have a particularly important part to play in early intervention.
- Outreach and Personal Assistance aims to support activity and participation in the community and achieve coordination of supports, particularly where needs are complex. It may be useful in the early intervention situation to assist a person in understanding their personal choices and developing their goals, although it is not a fundable support in the NDIS. Outreach and Personal Assistance may have useful application in an adapted form for supporting the participation of hard-to-engage persons.
- CBT for psychosis aims at managing impairment and promoting activity and participation, even if impairment is persistent. In Australia it is often available through clinical services and thus may not be seen as appropriately accessed via the NDIS, in spite of its usefulness in the area of rehabilitation.
- Illness Self-Management Training aims to reduce impairment through education and life skills training and support for

medication adherence. It supports activity and participation, even if impairment is persistent. By reducing relapse and symptoms and improving self-efficacy around illness management, it has potential to reduce future support needs and provide the skills necessary for engagement with employment and other activities. Illness Self-Management Training is potentially empowering for participants as they take ownership of their treatment, thus enhancing recovery.

- Supported Housing, like Supported Education, fosters community participation and community living by assisting the activities that contribute to independent living. Sustainable and stable housing may be very important in enhancing physical and mental health and supporting a person's activity and participation goals. Like Supported Employment, it has the potential to address substantial unmet need and support the process of recovery through enhanced independence, autonomy and choice.
- Physical health programs seek to lessen the impact of impairments in health related to poor diet, weight gain and inactivity that are frequently experienced by people with mental ill-health. This could play an important role in reducing future support needs through maintenance of activity and participation. Although the evidence is clear that the physical health of people with psychosocial disability is impaired, the systematic evidence is only just developing – but it is promising. Supporting physical health is part of recovery, as participants make health choices that support their wellbeing.
- Peer Support can be part of any intervention aimed at reducing impairment, activity and participation. Since it can be included in any intervention, it potentially has a wide role to play in supporting recovery and enhancing the recovery outcomes of all programs. Peer Support does this through positive role modelling and positive relationships with participants.

All of the interventions have good evidence to support their efficacy, with some evidence bases being stronger than others. For sustained improvement to occur, the evidence-based intervention must be related to a participant's personal goals and choices in order for them to fully utilise and engage with the support it offers. (This is apart from considerations of citizenship and partnership that stress the importance of personhood and personal choice in all arenas of life.) In addition, personal recovery, including hope and empowerment, must be supported by the evidence-based intervention in the early intervention situation. Unless a support in the NDIS enhances recovery, then any positive outcomes are not integrated into the meaningful engagement with daily activity, community and relationships that are at the heart of any 'ordinary life'.

Three interventions 'tick all the boxes' in terms of evidence base, personal choice and recovery. Supported Employment, Supported Housing and Social Skills Training promote recovery, are likely to reduce future support needs and, in addition, meet commonly expressed needs and goals for participants. Social Skills Training and Supported Employment have a strong evidence base. There is less evidence for Supported Housing, although it is strong on functional outcomes where relevant evidence exists.

Outcomes evidence for another three interventions indicates that they can assist people with psychosocial disability. They are Cognitive Remediation, CBT for psychosis and Illness Self-Management Training. The outcomes of these interventions may not be the immediate personal choice or goal of NDIS participants. However, they can assist recovery and the achievement of personal goals through enhancing capacity for chosen activities and participation roles. Support for improving physical health is potentially a priority need for people living with psychosocial disability, but the evidence about its contribution as an early intervention is not substantive at this stage.

The evidence for Family Psycho-education is very strong, suggesting that it has a useful role in early intervention. However, there may be a limited number of participants who see a family intervention as meeting their individual needs. The main contribution of family focused interventions may be through supporting the sustainability of informal supports, although they can be adapted for directly enhancing goals and recovery. For instance, Family Psycho-education could be used as part of a package to assist a participant and their family to plan and transition to the participant's independent living situation.

Peer Support will improve the recovery aspects of all interventions. MST or ACT/Outreach, while not directly funded supports of the NDIS, could be adapted to assist in engagement and coordination for people who are reluctant to engage.

The conclusions here suggest that some interventions with a lesser evidence base may be more relevant for participants and, conversely, that those with strong evidence may be in less demand, although it remains to be seen what choices are taken up when the NDIS is fully implemented. For instance, Supported Housing may be more attractive and reflect the choices of participants more readily than Family Psycho-education, which has an extensive evidence base.

This suggests that future research programs might be more cognisant of interventions that meet participant needs. For instance, there is only a small number of interventions that deal directly with the challenge of loneliness and isolation even though this is one of the areas of greatest need and may be crucially important in early intervention. A greater emphasis on recovery, participant choice, personal goals and individualised service provision may lead to a re-evaluation of the utility of the current evidence base and highlight new opportunities for the redesign or renewal of a fresh range of supports in the future.

Chapters 2 to 6 provide the in-depth discussion that is the basis of the overview presented in this Chapter. Chapter 2 provides details of the NDIS policy, both generally and in relation to early intervention. Chapter 3 details methods and results of the literature searches undertaken as part of this review. Chapter 4 provides details of all the potential evidence-based interventions and elaborates criteria for early intervention and disability support from NDIS policy and related literature. Chapter 5 reviews the outcomes of the evidence-based interventions and considers how these might meet the criteria for early intervention developed from this review. Chapter 6 provides a summary and conclusion for this original report that uses a strong, simple conceptual framing as an approach to understanding early intervention in the NDIS.

2.0 The National Disability Insurance Scheme (NDIS) and early intervention

This chapter provides details of the NDIS, explains its approach to defining disability and explores the concept of early intervention supports within it.

2.1 The need to identify supports in the NDIS aimed at early intervention for psychosocial disability

In this literature review we aim to identify the psychosocial interventions that are most effective for early intervention in the NDIS. These are interventions that promote improvement in, or prevent decline in, psychosocial functioning when used as early interventions with people with a current psychosocial disability (or who are at high risk of developing a psychosocial disability) in the context of mental ill-health.

This review is based on considering the importance of ongoing rehabilitation and functional improvement efforts in the context of adoption of personalisation in mental health service delivery and changes to psychosocial disability support services in Australia, all of which are aspects of the NDIS approach to service provision.

Killackey and Harvey, who have been contributors to this review, explain that:

> Traditionally, severe mental illness (SMI) includes schizophrenia, schizoaffective disorders, bipolar disorders, and major depression. However, anxiety, depression, personality disorder, obsessive–compulsive disorder (OCD), and other disorders can be persistent and disabling. Rehabilitation needs correspond to social disabilities, traditionally covering housing, work, relationships and participation in the life of the community. Rehabilitation comprises key psychosocial interventions that are offered to assist people to achieve recovery, and the range of supports and adjustments that may be necessary, depending on the individual person's needs. (2013, p2)

This review draws on literature that provides guidance regarding early intervention when the focus is psychosocial disability and rehabilitation. We searched for what the literature could tell us about early intervention when someone has a current psychosocial disability or is at high risk of developing one. This is a different way of conceptualising early intervention and SMI: to date, most of the literature described as pertaining to early intervention tends to be focused on first episode psychosis in a youth cohort rather than on rehabilitation and recovery more generally.

However, a basis to this review is the recognition that there are interfaces between the components of effective mental health care that include treatment, community-based rehabilitation and disability support (Ramsay et al. 2011). There is potential for confusion about whether the NDIS has a role in rehabilitation; it will not fund supports aimed at increasing functioning (or rehabilitation) for recently acquired conditions "until the participant has achieved the maximum level of achievable functioning" (National Disability Insurance Agency 2014d, p5). This is an important aspect of the NDIS and its interface with Australian health service providers. It has developed policy to ensure that it remains focused on disability support rather than replacing or augmenting services that are currently the responsibility of the health sector, including rehabilitation. This has exposed the NDIS to criticism that its focus is on maintaining current functioning in the context of 'permanent impairment' rather than on ongoing rehabilitation efforts (Collister 2015, Crowther & Collister 2014). However, given that there is emphasis in NDIS policy documents on enabling social and economic participation and that there is clear support for capacity building, it would appear there is a role for functional enhancement. Functional enhancement through disability support is consistent with rehabilitation when the focus is on helping people achieve life goals, particularly those aimed at employment, housing and social participation (Killackey & Harvey 2015).

In its 2013–16 Strategic Plan, the National Disability Insurance Agency has explained that:

> The NDIS will seek to minimise support costs over a person's lifetime and maximise their opportunities. The NDIS will therefore invest in tailored early intervention services and nurture and support families and carers in their roles. There is therefore a much closer alignment of interests between people with disability, their families and carers and the NDIS, compared with the previous welfare-based approach to disability support services. (2013, p13)

Other considerations for this review are the central place of personal recovery and recovery oriented service delivery in any consideration of mental health-related treatment, care and support and the importance of participant choice and control in the NDIS. Putting the person at the centre of the process requires careful scrutiny of not only the 'evidence' for interventions but also of the degree to which they are likely to relate well to what people with psychosocial disability say they need and are likely to incorporate into any individual service plan focused on their goals and hopes for the future.

Given the complexity and novelty of the NDIS and the concept of early intervention, detailed background is provided in this chapter. Firstly, the general approach of the NDIS will be explained (Section 2.2) and the specific definition of psychosocial disability used in the NDIS discussed (Section 2.3). With a clear understanding of how the NDIS defines disability, a working understanding of how early intervention may be operationalised is developed (Section 2.4). Further understanding of how the NDIS is approaching early intervention is gleaned from reports from trial sites in Section 2.5.

2.2 How the NDIS supports people with disability

The National Disability Insurance Agency (NDIA) is a new, independent statutory agency charged with implementing the National Disability Insurance Scheme (NDIS). The NDIS is designed to provide disability supports to people in Australia with permanent support needs due to physical, mental and/or intellectual challenges.

The general principle of the NDIS is that "people with disability should be supported to participate in and contribute to social and economic life to the extent of their ability" (National Disability Insurance Agency 2014d, p1). Reasonable and necessary supports provided by the NDIS are designed to support people living with a disability to (National Disability Insurance Agency 2014a):

- pursue their goals
- maximise independence, including living independently
- live with social and economic participation as full citizens, including in employment
- provide choices to participants in the planning and delivery of supports.

Supports are categorised as 'core', 'capacity building' or 'capital' (National Disability Insurance Agency 2015). Core supports are those that: firstly, enable a participant to complete activities of daily living; secondly, enable them to work towards their goals; thirdly, meet their objectives. Capacity-building supports enable a participant to build independence and maximise skills in order to progress towards their goals. Capital supports include investment items such as assistive technologies, equipment and home or vehicle modifications (National Disability Insurance Agency 2015). Recent reports from the NDIA indicate that, of 1,221 plans for psychosocial disability, 667 included core supports, 1,122 capacity building and 137 capital supports (National Disability Insurance Agency 2015).

Supports are designed to assist participants[1] who access the NDIS to achieve goals and aspirations and support social and economic participation. The NDIS stipulates that supports should additionally represent value for money, be effective, beneficial and in line with current good practice, be within community expectations and not available through other government services or health services (National Disability Insurance Agency 2014f).

In conceptualising the supports that may be appropriate for a person with a disability, it is important to consider the lifestyle and aspirations of an 'ordinary life' for people of a similar age and without disability (Joint Standing Committee on the National Disability Insurance Scheme 2015). The Independent Advisory Committee (IAC) to the NDIS suggests that the concept of this 'ordinary life' is relevant to the goals and aspirations of NDIS supports (National Disability Insurance Agency 2014a). It is the life that we expect for the ordinary person and encompasses relationships, belonging, economic participation, challenges and independence. It varies across the phases of a life span. These same lifestyles and goals might be considered reasonable aspirations and goals for people living with disability and seeking supports from the NDIS (National Disability Insurance Agency 2014a).

Another important concept underpinning the operation of the NDIS is the notion of service personalisation, which concerns the delivery of services through personal budgets and self-directed support.

The notion of personal choice in supports brings together three concepts that are having significant influence in the design of mental health services. They are recovery, personalisation and citizenship (Williams 2012). Recovery oriented services are those that support a participant to have a meaningful, purposeful life with hope for the future (Hatfield & Lefley 1993a, Hatfield & Lefley 1993b, Lefley 1997). Personalisation is the concept that services need to be tailored to individual needs within the context of empowered individuals who actively control their own lives (Williams 2012). The concept of citizenship asserts the right for people with disabilities to live autonomously and independently. Meeting the personal choices of participants is a way of delivering services that meet the criteria of recovery, personalisation and citizenship (Williams 2012). Consequently, the individual needs and goals of a participant are identified and supports are provided in an Individual Support Package that responds to participant choices rather than what service providers wish to make available.

2.3 The NDIS and disability: impairments, activity and participation

The generic model of disability established by the World Health Organization International Classification of Functioning (World Health Organization 2001) is being used by the NDIS in defining and assessing disability in participants (O'Halloran 2015). This model constructs disability as a consequence of a health condition or experience. Disability consequences are conceptualised as (World Health Organization 2001):

- impairment: a loss or change to psychological, physiological, anatomical structure or function
- activity limitations: difficulties for a person in carrying out functions
- participation restrictions: restrictions in the nature and extent of a person's involvement in life situations.

For people living with mental ill-health, disability is experienced as psychosocial disability. The National Mental Health Consumer and Carer Forum, in their position statement *Unravelling Psychosocial Disability* (2014), defined psychosocial disability in the following way:

---

[1] 'Participant' is the descriptor used throughout this document for people with disability accessing the NDIS as this is the terminology used by the NDIS. The literature discussed in this review uses terms such as 'consumer', 'service user', 'patient' or 'client', and the source usage has been preserved where appropriate.

Psychosocial disability is the term used to describe the disability experience of people with impairments and participation restrictions related to mental health conditions. These impairments and participation restrictions include loss of or reduced abilities to function, think clearly, experience full physical health and manage social and emotional aspects of their lives.

In a systematic review of the types of psychosocial disabilities experienced by people living with schizophrenia (Świtaj et al. 2012), the most frequently identified difficulties were in the following areas:

1. mental functioning, such as: cognitive functions (attention, memory, thought, insight, executive functions); emotion functions (depression, anxiety, stress); energy and drive (motivation, apathy, fatigue); sleep (insomnia); and global (emotional perception, social cognition)
2. activities and participation, such as: relationships with others (family relations, aggressive or inappropriate behaviour); employment (work efficiency, obtaining or keeping employment); looking after personal health and self-care (treatment adherence, hygiene and appearance); participating in social and leisure activities
3. other areas such as: pain; symptoms; quality of life; wellbeing; satisfaction; activities of daily living (skills, communication, dependency, self-esteem).

This list indicates the wide range of impairments for people living with severe mental ill-health, some of which are the direct result of disorder (as currently understood); others may be a function of how the community responds to mental ill-health.

Figure 3: Schematic diagram of disability, impairment and participation

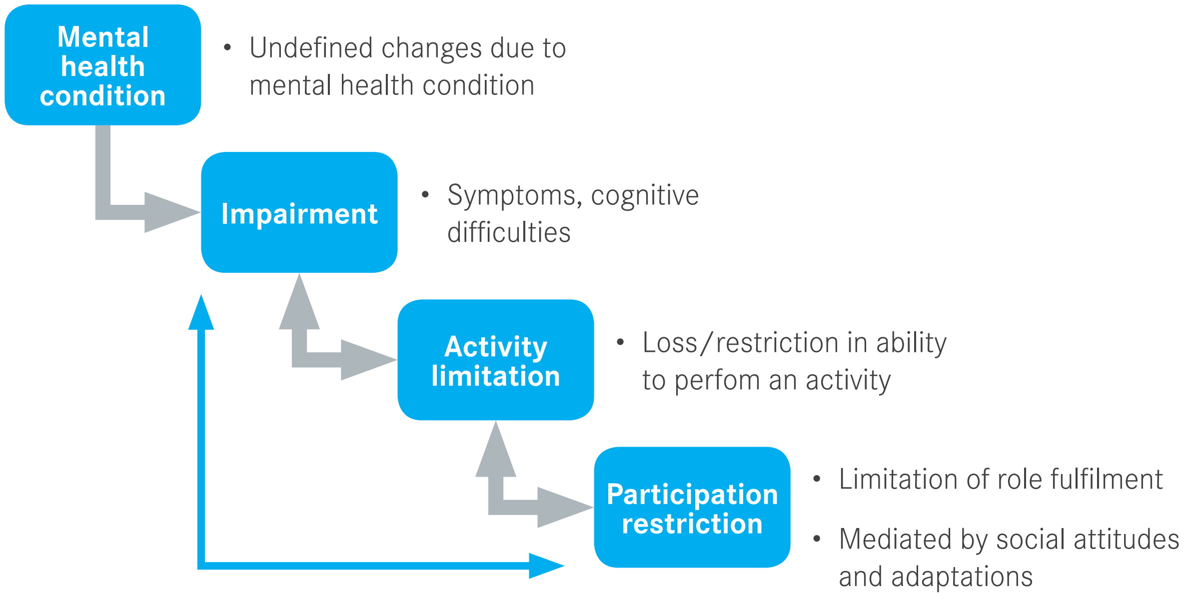


Figure 3 operationalises definitions of psychosocial disability within the context of a mental health condition. A mental health condition can lead to impairment in functioning due to persistent symptoms or cognitive difficulties. This may lead to activity limitations such as inability to read a book due to poor concentration. Difficulties with activities can be associated with participation challenges such as problems taking part in work. In addition, participation restrictions as a result of discrimination or lack of opportunity can lead to increased activity limitations. A positive intervention that reduces participation restrictions may lead to reductions in impairment or activity limitations. Seeing disability in this structured manner may help to understand what is intended by early intervention in the NDIS through the language of disability.

Interpretation of NDIS documents and policy suggests that, generally, NDIS supports will not be aimed at reducing impairment but will instead focus on reducing activity limitations and participation restrictions as the lessening of impairment is seen as the arena of the health sector. However, in the next section the possibility that early intervention will encompass supports that also reduce impairment will be investigated.

2.4 Three approaches to early intervention in the NDIS

In the NDIS, there is an emphasis on early intervention with specific options to offer therapeutic support to improve functioning "in the early intervention context" (National Disability Insurance Agency 2014d, p4).

There have been some reservations expressed about what the NDIS is referring to by 'early intervention' (Mental Health Council of Australia 2013), and concerns that the interventions will in fact be short-term, temporary, crisis oriented and focused on overcoming immediate negative circumstances rather than offering substantial solutions to long-term issues (Mental Health Council of Australia 2013). Another report, by the Mental Health Commission of New South Wales, has also stated that the aims of the early intervention are unclear:

> The NDIS makes provision for early intervention services in order to minimise future impairment or future need for support…. More clarification is needed about what forms of early intervention for psychosocial disability could be provided through NDIS. (2015, p7)

This document, through examination of NDIS policy and practice, literature survey and discussion is thus timely as it reviews and synthesises what is understood as the NDIS approach to early intervention.

For the purposes of the review, we have come to the understanding that there are three ways that early interventions can be accessed in the NDIS. These are:

1. Information, Linkages and Capacity Building (ILC) pathway (formerly called Tier 2), mainly through Individual Capacity Building supports
2. Individual Funded Packages (IFP) pathway (formerly Tier 3), where an IFP will have an early-intervention focus
3. Individual Funded Packages (IFP) pathway (formerly Tier 3), when someone is found eligible for NDIS and an IFP but is in the early stages of their plan.

The three approaches are explained in the following section. For the purposes of this report, the term 'early intervention' or the abbreviation early intervention will generally be taken to refer to all three approaches.

Early intervention in the context of the NDIS and psychosocial disability can be differentiated from other uses of the phrase. It is also used as a clinical term to refer to comprehensive *clinical* treatment offered as soon as symptoms of emerging mental ill-health are apparent. This approach has been pioneered with psychosis, particularly first episode psychosis (FEP) (Bertolote & McGorry 2005). This is not the way the term is being used in this report. However, some of the principles of 'clinical early intervention' (as it will be referred to in this report) will be explored for their relevance to early intervention in the disability support context in later chapters.

Figure 4: Early intervention in the NDIS

ILC (Tier 2) pathway

- lower disability
- shorter interventions
- potential to divert from Tier 3

Individual Funded Package (Tier 3) Early intervention pathway

- reduce impairments that impact functioning
- stop deterioration of functioning
- sustainability of informal supports

Individual Funded Package (Tier 3) 'Early in plan'

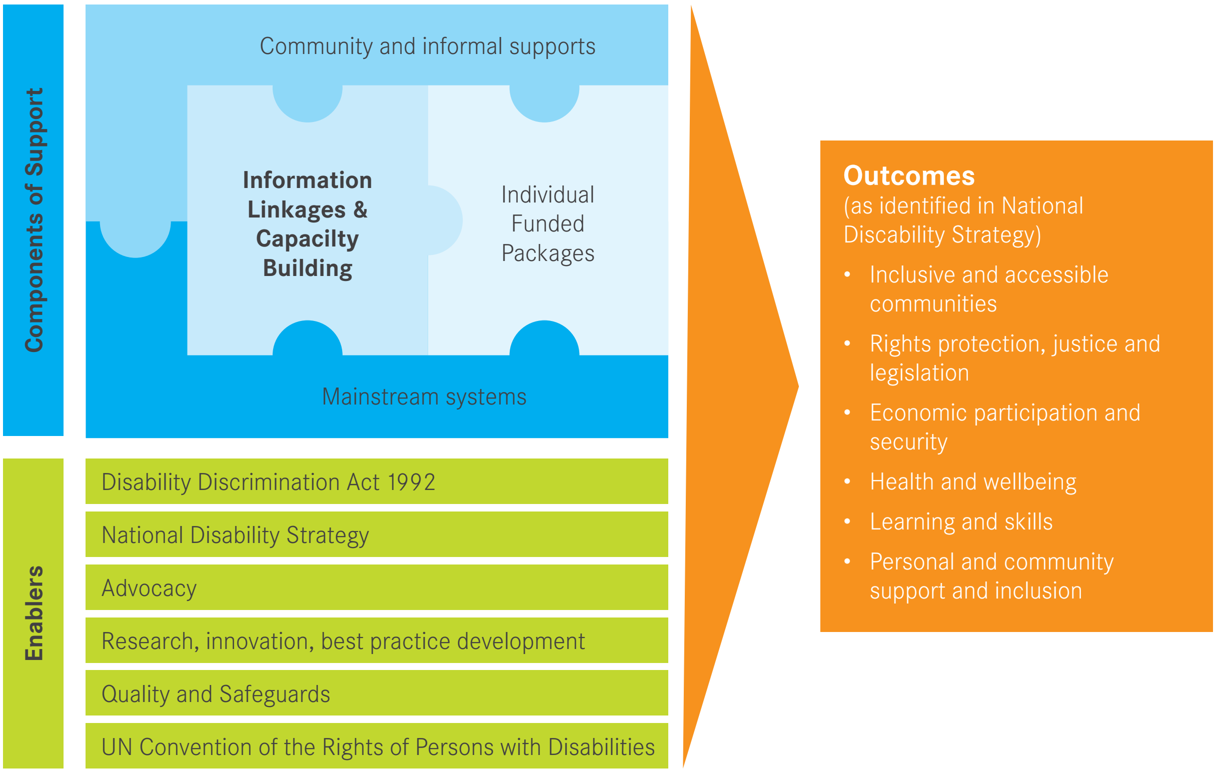
- priority interventions within a plan for an eligible person with psychosocial disability

2.4.1 Information, Linkages and Capacity Building (ILC)

Information, Linkages and Capacity Building (ILC) is the component of the NDIS that is broadly available to any person with a disability, and to their families and carers, whether or not they are eligible for an NDIS Individual Funded Package. The purpose of ILC is to connect people with disability and their families and carers with appropriate existing supports, as well as building the capacity of services, communities and individuals to support them (National Disability Insurance Agency 2014c). Specifically, there are five streams to Information, Linkages and Capacity Building (National Disability Insurance Agency 2014c):

1. information, linkages and referral
2. capacity building for mainstream services
3. community awareness and capacity building
4. Individual Capacity Building (ICB), which is also known as 'early intervention'
5. local area coordination.

Figure 5: Disability Support System (taken from National Disability Insurance Agency, 2014c)



The National Disability Insurance Agency (2014c) suggests that the ILC component of the NDIS, particularly Individual Capacity Building (ICB), will support people who:

- need support so their capacity to live independently does not deteriorate and therefore require an Individual Funded Package (IFP) in the future
- meet criteria for an Individual Funded Package but the supports are minimal and better met through Information, Linkages and Capacity Building
- have certain needs that can be met with an Individual Funded Package but others that can be met through Information, Linkages and Capacity Building
- are not eligible for an Individual Funded Package and access to Information, Linkages and Capacity Building diverts them from testing Individual Funded Package eligibility.

Services offered through ICB are designed to be one-off, low-level and/or episodic. The types of supports that are envisioned under ICB are courses and counselling for carers, diagnosis-specific Peer Support groups, funding of training and courses to help people self-advocate and develop capacity to self-manage their disability support packages and provide one-off, low-level or episodic supports focusing on preventative interventions such as counselling (National Disability Insurance Agency 2014c).

The Independent Advisory Committee to the NDIS also suggests that in order to build an ‘ordinary life’ the following ILC supports might be appropriate (National Disability Insurance Agency 2014a):

- support to build a vision – a plan – to maximise potential and make decisions
- skill-building for families to assist their family member to develop friends and transition into adulthood
- assistance to find and use informal care
- parent advocacy training

- connection to empowering disability networks
- family advocacy support.

2.4.2 Early intervention gateway

Another pathway via which people living with psychosocial disability in the context of mental ill-health might access early interventions through the NDIS is the early intervention pathway of Tier 3 (see Figure 2).

To be eligible for access to early intervention through the NDIS, a person must meet the 'early intervention' requirements of the NDIS. The requirements most relevant to those with a psychosocial disability are (Commonwealth Government of Australia 2013):

1. a person having an identified impairment related to a psychiatric condition that is likely to be permanent
2. that implementation of early intervention supports are likely to reduce the need for future support
3. that early intervention is likely to mitigate or alleviate impairment, prevent deterioration or improve capacity "to undertake communication, social interaction, learning, mobility, self-care or self-management" or strengthen the sustainability of informal supports available to the person (including their carer)
4. the prevention of deterioration of functional capacity or improvement of functional capacity (the ability to carry out activities in an optimal situation (Peterson 2005))
5. that support is not better provided either by the NDIS or other available service

These requirements can be integrated with the understanding of disability outlined previously (see Figure 6). Points 2 and 3 above refer to impairment, activities and capacities (the ability to carry out activities in an optimal situation (Peterson 2005)). Point 2 is much broader and suggests that supports at any level could be appropriate as long as they reduce future support needs. Point 3 makes clear that reduction in impairment is actually a requirement of early intervention supports. Overall, it would appear that early intervention has a focus at two levels – impairment and activities – as well as a role for participatory supports where they reduce the need for future support. Point 5 states that the NDIS will not fund supports that are best provided elsewhere or conventionally provided by other agencies. In the context of mental health, this could mean that any services currently provided by clinical services will not be funded by the NDIS, and this may include rehabilitation services. This may be problematic for people who are not able to access clinical services but are eligible for NDIS support as there may be service gaps where useful supports are 'locked' into clinical services and are not otherwise available. Even when clinical services can be accessed, another concern is that rehabilitation services within such services are not extensive, again limiting access to this important aspect of mental health care.

The aims of early intervention in the NDIS are to "reduce the participant's future need for supports" (Commonwealth Government of Australia 2013), including the "mitigation and alleviation of impairment", which implies some opportunity within the NDIS to reduce some of the core challenges for people living with severe mental illness (SMI). It would appear that the possibility of treating or managing impairment is the unique feature of early intervention, whereas otherwise the NDIS will only offer supports at the activity and participation level.

The direct treatment of potentially disabling symptoms, since it conventionally occurs within the 'mainstream' healthcare system, is not expected to be in the scope of the NDIS. Indeed, the NDIS distinguishes between acute treatment of psychiatric illness, which should be addressed within the health system, and early intervention supports provided by the NDIS to address "the functional impact of their psychiatric condition" (National Disability Insurance Agency 2014b). However, there are supports offered under a therapy and counselling category that can be used to sustain or improve functioning (including improved problem solving and decision making).

The NDIS makes two further points regarding early intervention. The first is in regard to 'permanency' and the second in regard to evidence of 'benefit' from a particular support.

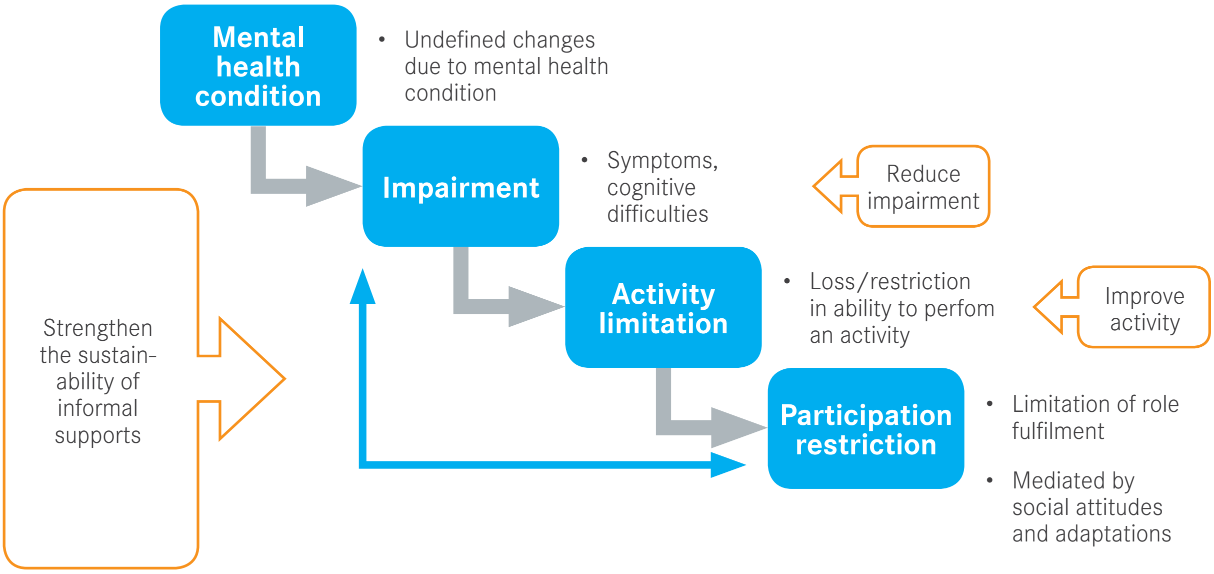
Assessing 'permanent impairment' (Point 1 above) as defined by the NDIS (National Disability Insurance Agency 2014e) includes:

- there being no known treatments to provide a remedy
- it being accepted that the impact of the 'impairment' on functioning will fluctuate or there being prospects it may improve
- that no further treatment is required in order for permanency to be demonstrated (although treatment may continue)
- that the NDIS wishes to rule out cases where 'permanency' has not been established because further treatment and review is required. However, this does not preclude cases where further treatment and review will be ongoing after 'permanence' has been established.

The NDIS lists the following factors to be considered regarding 'benefit' to a participant (National Disability Insurance Agency 2014e):

- the likely trajectory and impact of the impairment over time
- the potential benefits of early intervention on the impact of impairment on functioning and reducing need for further supports
- evidence from a wide range of sources, including the consumer, their family and informal supporters and expert advice
- that the NDIA would generally consider that early intervention is of most benefit at two years since onset or diagnosis, or immediately after a change in impairment.

Figure 6: Schematic diagram showing points of early intervention for psychosocial disability



Under the early intervention requirements, there can be reassessment at the end of every plan to determine if a participant continues to meet criteria and to ensure that the current supports are seen to be reducing the person's need for future supports. The reassessment can lead to three conclusions: that the person may then meet disability requirements; that they continue to meet early intervention requirements; or that they no longer meet either disability or early intervention requirements (National Disability Insurance Agency 2014e). There is an additional stream in early intervention that provides supports for developmental delay in children below six years of age. While this is not relevant to our discussion of psychosocial disability and early intervention, it will be considered further when reports from trial sites regarding early intervention are reviewed below.

2.4.3 Early in plan

In preparing this literature review, we have considered the potential of having early intervention that occurs 'early in plan' for a disability package. We anticipate that this would focus on priority supports best suited for people receiving an NDIS Individual Funded Package (IFP) who have only recently been found eligible for the Scheme. A participant might choose supports that address needs or goals in a systematic manner so that resolution of a 'priority' or 'early in plan' need provides the basis to move to subsequent needs and goals. Following the logic of the impairment/activity/participation model, these supports might focus on:

a) reducing impairment or the impact of impairment

b) resolving activity restrictions

c) promoting participation.

Another possible interpretation of 'early in plan' is for a participant to choose supports that 'chain' together such that a particular impairment is targeted and then followed up, or 'chained', with a participation intervention that builds on the improvements to impairments or function. For example, Cognitive Remediation could be linked with Supported Employment so that cognitive gains have an immediate application in a work environment. Previous research suggests that such combinations can be highly effective (McGurk et al. 2007a) and could be very useful in assisting participants to achieve complex goals.

A third possibility is that 'early in plan' will focus on resolving immediate support needs such as those relating to homelessness and isolation.

The report authors did not find any references to the issue of 'early in plan' addressed specifically in NDIS documents.

2.5 Further evidence on early intervention from trial sites of the NDIS

The Joint Standing Committee on the National Disability Insurance Scheme (2015) has reported the following from the trial sites. The seven locations are:

1. the Hunter trial site – Newcastle, Lake Macquarie and Maitland Local Government Areas (LGAs) in New South Wales
2. the Barwon trial site – Greater Geelong, Surf Coast, Queenscliff and Colac-Otway LGAs in Victoria
3. the South Australian trial site – 0–14-year-olds
4. the Tasmanian trial site – 15–24-year-olds.

The first four trial sites commenced on 1 July 2013, the following three on 1 July 2014:

1. the Australian Capital Territory trial site
2. the Perth Hills trial site – Swan, Kalamunda and Mundaring LGAs in Western Australia
3. the Barkly region trial site in the Northern Territory.

The Joint Standing Committee reported as of end June 2015 that:

- there were 17,303 NDIA-approved plans in total (all disability types)
- 558 of these plans were for schizophrenia and 532 were for 'other psychiatric', which is 3.2% and 3.1% respectively of the total.

Other types of plans were for (the percentages in the following list are rounded):

- autism (5,387 plans; 31%)
- intellectual disability (2,736 plans; 16%)
- other neurological (1,401 plans; 8%)
- developmental delay (1,395 plans; 8%)
- global developmental delay (853 plans; 5%)
- Down's Syndrome (666 plans; 4%)
- other intellectual/learning (869 plans; 5%)
- other sensory/speech (894 plans; 5%).

Physical disabilities were:

- Cerebral Palsy (793 plans; 5%)
- deafness and hearing loss (358 plans; 2%)
- Multiple Sclerosis (285 plans; 2%)
- other physical (566 plans; 3%).

Other findings were:

- The average annual cost of packages was $38,500.
- There was a skewed distribution (positive) of package costs awarded and the modal package was between $10,000 and $30,000. A small number of packages were over $250,000.
- The most common funded supports in dollars were supports for daily tasks, community participation and assistance with personal activities.
- The percentage deemed eligible compared with expected was 102% on average, but this varied from 55% to 133% between sites.
- The average days from access request to plan approval ranged from 31 days to 128 days on average within sites (no average was available across all sites).

The Joint Standing Committee commented:

> Notwithstanding the positive direction the Scheme is taking, there are implementation aspects of the Scheme that need to be improved. The overall planning process is certainly improving, but the committee found inconsistencies in the assessment and application of supports and funding across the trial sites.

It added:

> The information and support required by participants in the pre-planning stage is an issue to be resolved. While the committee accepts that the role and funding of advocacy will be further defined in the context of the ILC framework, there is currently a structural gap in the support available to people before they enter the Scheme, or in the early stages of the planning process. A mental health or psychosocial illness is another area where funding and policy development is contingent on bilateral negotiations with the states and territories and is yet to be fully established.

The ninth Quarterly Report to September 2015 (National Disability Insurance Agency 2015) did not refer to plans for particular psychiatric diagnoses but against the category of psychosocial disability for the first time (and not diagnosis, as above). Of 19,758 participants at the conclusion of the ninth quarter, 1,221 (6 percent) received support primarily for psychosocial disability.

Of the 19,542 active participants who had funded plans as at 30 September 2015, 8,192 (42 percent) met the early invention requirements. Participants in the younger age groups (particularly 0–12-year-olds) often met the early intervention requirements rather than the disability requirements (which is general access). A smaller proportion of participants aged 13–18 have entered the Scheme because they meet the early intervention requirements. *From age 19 onwards, almost all participants meet the disability requirements and not early intervention requirements.*

This may reflect a bias in participant type at trial sites, with some sites such as South Australia dealing exclusively with 0–14-year-olds. These statistics may also reflect a predominance of early intervention packages offered for developmental delay, an alternative criterion discussed above. It is a matter for concern that, although there are guidelines for early intervention to be offered to participants of all ages, there is little evidence that this has occurred to date, notwithstanding the site characteristics of trial sites.

2.6 Summary

- This review aims to identify the psychosocial interventions that are most effective for early intervention (EI) in the NDIS. These are interventions that promote improvement in, or prevent decline in, psychosocial functioning when used as early interventions with people with a current psychosocial disability (or who are at high risk of developing a psychosocial disability) in the situation of mental ill-health.
- This chapter introduced the NDIS scheme, which aims to provide disability supports to people in Australia with permanent support needs due to physical, mental and/or intellectual challenges.
- The World Health Organization International Classification of Functioning (World Health Organization 2001) is the model of disability used by the NDIS. It defines disability as a consequence of a health condition or changes to bodily structures that lead to impairment, activity restrictions and participation limitations. Disability in the situation of mental ill-health is defined as psychosocial disability. Generally, the NDIS will focus on reducing activity restrictions and participation limitations.
- There are three approaches to early intervention in the NDIS:
  - Information, Linkages and Capacity Building (ILC) pathway (formerly called Tier 2), mainly through Individual Capacity Building supports
  - Tier 3, where an Individual Funded package (IFP) will have an early-intervention focus
  - Tier 3, when someone is found eligible for NDIS and an IFP but is in the early stages of their plan.
- It appears that, in the situation of early intervention in the NDIS, supports can be aimed at reducing impairment, as well as activity restrictions and participation limitations.
- Reports from trial sites indicate that few early intervention packages have been developed to support participants over the age of 18.

3.0 Method

The overall aim of this literature and policy review was to identify psychosocial interventions that are most effective for early intervention supports in the NDIS (that is, interventions that promote, or prevent decline in, psychosocial functioning when used as early interventions with people with a current psychosocial disability or who are at high risk of developing a psychosocial disability, in the context of mental ill-health). In order to achieve this overall aim, we addressed the following sequence of key research questions (see Figure 8):

1. What evidence is available regarding effective psychosocial interventions for people living with severe mental illness (SMI) and psychosocial disability?

   (This established the entire range of possible evidence-based interventions for SMI.)

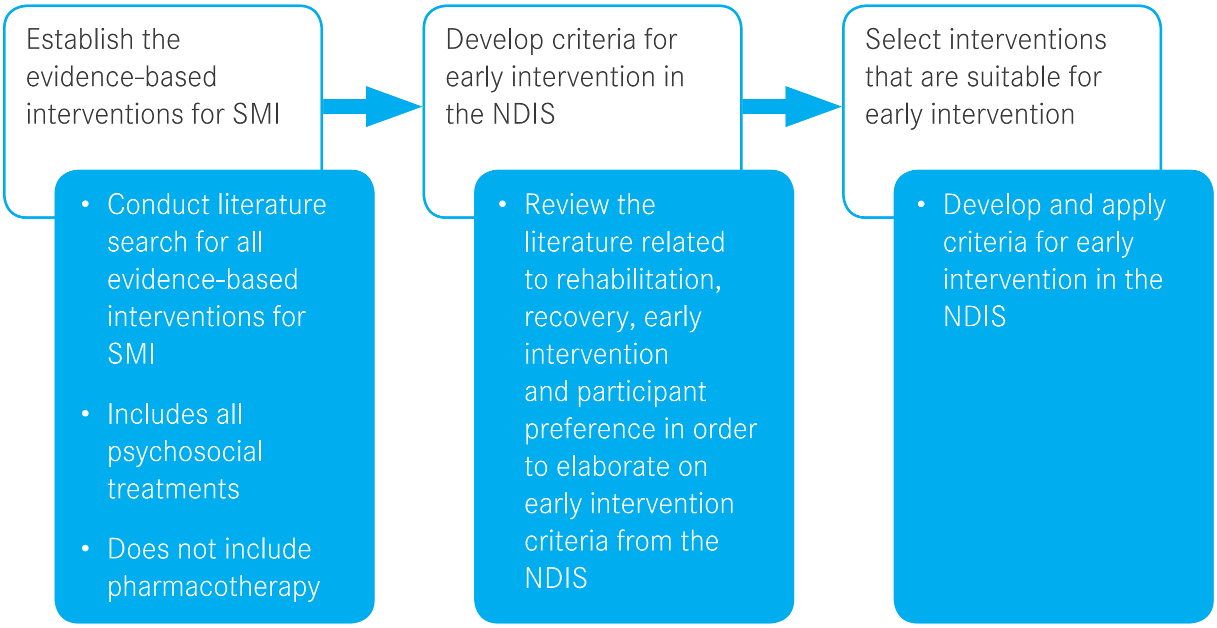
2. What criteria for early intervention in the disability support sector can be developed?

   (In answering this question, a detailed review of the literature relating to rehabilitation, recovery, ‘clinical early intervention’ and participant preference was completed in order to elaborate on the early intervention criteria established from the NDIS guidelines.)

3. Which evidence-based interventions meet the criteria established for early intervention?

   (A wide-ranging literature review of outcomes for all interventions that might be appropriate for early intervention was then undertaken in order to investigate how these outcomes would ‘map’ across to the NDIS early intervention criteria.)

Figure 7: Logic model for selection of early intervention support



The following methods were used to answer each research question.

3.1 Establish evidence-based interventions for disabilities associated with SMI

Research question 1: What evidence is available regarding effective psychosocial interventions for people living with severe mental illness (SMI) and psychosocial disability?

The search for relevant literature was undertaken on Discovery Search database (University of Melbourne), using the search terms 'psychosocial disability' and 'severe mental illness' and 'intervention' for full-text articles in English. The initial search yielded 45 articles, 33 after removing duplicates. Abstracts were reviewed and eight articles were reviewed in detail. In addition, five articles were identified from the reference lists of published papers and other sources. A total of nine were included in the review of psychosocial treatments for serious mental ill-health.

In addition, a review was undertaken to identify Cochrane meta-analyses that assessed the current evidence for psychosocial interventions on functional outcomes for people with mental ill-health in order to identify interventions of interest. The following search terms were used to search the Cochrane library directly:

- 'psychosocial'
- 'early intervention' and 'mental'
- 'early intervention' and 'psychiatric'
- 'early intervention' and 'function'
- 'mental' and 'employ'.

Twenty-seven reviews from the Cochrane database were identified. Summaries of the identified articles were then screened for the following: whether the interventions were psychosocial in nature (for instance, excluding interventions that were primarily psychopharmacotherapies); whether they were relevant to the population of interest (excluding interventions specifically for children or older adults, for instance); whether the reviews included an assessment of effects of the psychosocial intervention on functional outcomes, such as social functioning, living independently, employment, housing and general functioning; whether they reported quality of life outcomes, outcomes for family members or other supports. Reviews were excluded if they only reviewed effects on mental ill-health symptoms. Following this initial screening, 20 reviews were then read in more detail by a researcher to determine the outcomes of each in terms of relevance to the current context.

3.2 Establishing potential criteria for early intervention

Research question 2: What criteria for early intervention in the disability support sector can be developed?

The definitions regarding disability and the NDIS early intervention policy details that were established in Chapter 2 were the basis of this part of the review. The three types of early intervention for individuals within the NDIS were clarified through the review of NDIS policy in that chapter.

Other areas of literature that were considered were:

- literature on 'clinical early intervention' for young people and first episode psychosis (FEP)
- emerging literature on early intervention with other populations
- stepped care approaches that tailor the level of intervention to phase and severity of condition
- recovery approaches that seek to support personal goals and community participation
- rehabilitation approaches that seek to restore maximal community functioning
- consumer reports of unmet needs.

Initial scoping of resources suggested that there was not a great deal of research-based literature that considers 'early intervention' in the disability support context. The literature mainly refers to early intervention in the clinical sense, meaning treatment for emerging mental ill-health as soon as symptoms are apparent (see discussion above, in Section 2.4). Early intervention in the sense used here is a disability support gateway open to participants that is separate from clinical treatment.

NDIS reports and a literature document review were used to establish principles for evaluating the suitability of all evidence-based interventions for disability associated with serious mental ill-health.

In order to determine the evidence for the outcomes of employment services, a literature search was undertaken, with the following search terms:

Intervention: priority intervention*, early intervention', mental health triage'.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Other limits: Dates 2000–15, peer reviewed, in English and available on line.

We found 190 articles (136 after duplicates were removed), of which 130 were discarded after review of title since they were not relevant. (The main reason why many articles were not relevant is that they discussed 'clinical early intervention' only in the first episode psychosis context.) Six articles were reviewed in full text versions; another nine articles were located from bibliography searches.

The literature from this search and NDIS program information was synthesised into a number of guidelines for evaluating the relevance of an intervention to psychosocial disability in the early intervention context.

3.3 Establishing outcomes for evidence-based interventions

Research question 3: Which evidence-based interventions meet the criteria established for early intervention?

Further literature reviews on all individual interventions that were recommended evidence-based interventions were then conducted and the specific application of the intervention in the NDIS and early intervention context was considered (see Chapter 5).

Where the literature to be considered was primarily peer-reviewed scientific literature, reviews were conducted on CINAHL, OVID and EBSCO Discovery databases.

The details of individual literature surveys for each intervention are detailed below for readers who are interested. The general reader may choose to move ahead to Chapters 4 and 5 for results.

3.3.1 Supported Employment

In order to determine the evidence for the outcomes of employment services, a literature search was undertaken, with the following search terms:

Intervention: Supported Employment, individual placement and support (IPS), competitive employment, vocational rehabilitation, employment assistance, supported education.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Only two databases were consulted: PsycINFO and Medline. This yielded 547 records, and an additional 45 records were identified through other sources and a handsearch of bibliographies (one from 2004), (n=592 total). Fifty-four duplicates were removed.

Record titles were screened and 307 records were removed because they did not refer to a vocational intervention (n=284), were not between the chosen dates (n=22) and one was not in English.

This left 231 articles, and these were screened by reading the abstract. Twenty-four systematic reviews/meta-analyses were retained, and 45 papers containing relevant trials and randomised controlled trials (RCTs) were retained; 73 papers providing background, definitions and other information were also retained. The outcomes of individual RCTs were detailed in this review if they: were a trial conducted after the latest systematic review; provided particular evidence about a sub-group (for example, older or younger participants); or provided information about outcomes of particular interest (for example, non-vocational outcomes, long-term outcomes or outcomes relevant to the National Disability Insurance Scheme (NDIS) context).

3.3.2 Family Psycho-education

In order to determine the evidence for the outcomes of Family Psycho-education, a literature search was undertaken with the following search terms:

Intervention: Family Psycho-education, behavioural family education, multiple family groups.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, RCT, trial, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Only two databases were consulted: CINHAHL and Medline. This yielded 23 records. Three duplicates were removed. Record titles were screened and 13 records were removed because they did not refer to Family Psycho-education (n=8) or the population of interest (n=4) or were book reviews (n=1).

The seven articles that remained were screened by reading the abstract and all were retained. In addition, the Cochrane review on Family Psycho-education identified in Step 1 was included in the literature review, as well as ten articles identified through a handsearch of bibliographies (n=18 total).

3.3.3 Social Skills Training

In order to determine the evidence for the outcomes of Social Skills Training, a literature search was undertaken with the following search terms:

Intervention: Social skill*, social skills training, social cognition training, skills training.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, RCT, trial, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Only two databases were consulted: CINHAHL and Medline. This yielded 70 records. No duplicates were removed. Twelve articles identified through a handsearch of bibliographies were also included (n=82). Record titles were screened and 56 records were removed because they did not refer to a relevant population (n=26 remaining).

The 26 articles that remained were screened by reading the abstract and 23 were retained, with five classified as providing general background, ten as reviews, eight as trials and three discarded since they referred to interventions applied to conditions other than SMI.

3.3.4 Cognitive Remediation

In order to determine the evidence for the outcomes of Cognitive Remediation, a literature search was undertaken with the following search terms:

Intervention: Cognitive Remediation.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, RCT.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Only two databases were consulted: CINHAHL and Medline. This yielded 27 records. Two duplicates were removed (n=25 remaining).

Record titles and abstracts were screened and 14 records were removed because they did not refer to Cognitive Remediation (n=11) or the population of interest (n=3).

Eleven articles were retained. In addition, the Cochrane review on Cognitive Remediation identified in Step 1 was included in the literature review, as well as four articles identified through a handsearch of bibliographies (n=16 total).

3.3.5 Outreach and Personal Assistance

In order to determine the evidence for the outcomes of Outreach interventions, a literature search was undertaken with the following search terms:

Intervention: home based outreach, outreach service*, assertive community treatment, ACT.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, RCT, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Only two databases were consulted: CINHAHL and Medline. This yielded 302 records. No duplicates were removed. One article was identified through a handsearch of bibliographies and was also included (n=303). Record titles were screened and 282 records were removed because they did not refer to a relevant intervention (n=21 remaining).

Twenty-one articles remained and were screened by reading the abstract and all were retained, with six classified as providing general background, six as reviews and nine as trials.

Another literature search was conducted on Personal Assistance.

Intervention: Personal* support*, peer support*", care co-ordinators, personal* assistance, personal* assistance service*".

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Dates: 2000–15 (wider dates to capture any data available).

A form of rapid review was used to facilitate timely completion of the literature review. A multi-database tool (EBSCO Discovery) was used. This yielded 12 records, and an additional 20 records were identified through other sources and handsearch of bibliographies. Thirty-one records remained after one duplicate was removed. Record titles were screened and nine records were removed because they did not refer to a personal helpers or mentor schemes.

The 22 articles remaining were screened a second time by reading the abstract and all were incorporated in the literature review.

3.3.6 Cognitive Behavioural Therapy for psychosis

CBT for psychosis is not expected to be in scope for the NDIS as it is offered as a treatment in the health system. A brief overview from a recent systematic review only was included.

3.3.7 Illness Self-Management Training or Activation

In order to determine the evidence for the outcomes of Illness Self-Management Training (also known as 'Activation') interventions, a literature search was undertaken with the following search terms:

Intervention: illness self-management training, psycho-education, illness management, relapse prevention, wellness recovery action plan.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Databases searched included CINAHL, MEDLINE, Embase and PsycINFO. A handsearch was also performed to obtain additional references.

This yielded 240 records. No duplicates were removed. Eight articles identified through a handsearch of bibliographies were included as well (n=248). Record titles were screened and 230 records were removed because they did not refer to a relevant intervention (n=10), were not in English (n=2) or did not refer to a relevant population (n=218), (n=18 remaining).

The 18 articles that remained were screened again by reading the abstract and all were retained, with three classified as providing general background, ten as reviews and five as trials.

3.3.8 Supported Housing

In order to determine the evidence for the outcomes of Supported Housing interventions, a literature search was undertaken with the following search terms:

Intervention: supported housing, housing first, staffed housing, residential support, staffed residen*, 24 hour supported community, residen* rehabilitation.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. A multi-database tool (EBSCO Discovery) was used and 37 articles were obtained after duplicates were removed. All articles were utilised.

3.3.9 Peer Support

In order to determine the evidence for the outcomes of Peer Support interventions, a literature search was undertaken with the following search terms:

Intervention: Peer Support, Peer Support groups, peer group, self-help group.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental, user experience.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Databases searched included CINAHL, MEDLINE and EBSCO Discovery. A handsearch was also performed to obtain additional references.

This yielded five records. No duplicates were removed. Seventeen articles identified through a handsearch of bibliographies were also included (n=22). The 22 articles were screened by reading the abstract and all were retained.

3.3.10 Supports for physical health

In order to determine the evidence for the outcomes of physical health support interventions, a literature search was undertaken with the following search terms:

Intervention: physical health.

Population: bipolar, schiz*, severe mental illness, psychosis, chronic*, depress*, mental*, psycho*, psychiatr*.

Type of report: meta-analysis, review, overview, trial, RCT, quasi-experimental.

Other limits: Dates 2005–15, peer reviewed, in English and available on line.

A form of rapid review was used to facilitate timely completion of the literature review. Three databases were consulted: Cochrane, CINAHL and Ovid (MEDLINE, Embase and PsycINFO). The search yielded 394 articles and no duplicates were removed. Fourteen articles were additionally obtained via a handsearch of bibliographies (n=408 total). Record titles were screened and 381 records were removed because they did not refer to a relevant population. Twenty-seven articles were retained and classified as 15 meta-analyses/systematic reviews, four as trials/single studies and two as predictors of effectiveness. Six remaining studies provided a general statistical background on data associated with persons diagnosed with serious mental ill-health.

3.4 Inclusions and exclusions

This report focuses on severe mental ill-health and its consequences for impairment, disability and limitations to social and economic participation. SMI is often equated with diagnosed conditions such as schizophrenia, bipolar disorder and severe depression or severe anxiety disorders (Solomon & Cullen 2008), and while this is not an exhaustive list of all disorders that can be classified as severe, studies relevant to these diagnoses were included in the literature search.

The review prioritised literature on psychosocial disability, but some important reports focused on all forms of disability, not just psychosocial disability. Evidence from studies on all forms of disability was included if there was no evidence otherwise in that particular area regarding mental health and psychosocial disability. Reports focusing on physical disability were generally excluded. However, much of the information from the NDIS is generic and refers to all forms of disability.

In general, outcomes related to psychiatric symptoms were not considered because it was understood that the NDIS does not fund supports or interventions aimed at direct symptom amelioration. Thus, pharmacotherapies were not reviewed, given they are primarily prescribed for symptom management.

3.5 Quality appraisal

In researching the specific interventions, there was a systematic selection of high-quality evidence. In general, high-quality systematic reviews and meta-analyses were prioritised in reporting. Where trial data was reported, RCTs were the main focus. Qualitative data was not generally used, except where there was a meta-synthesis or if RCTs were not available. This follows evidence criteria used in other overviews such as Bond and Campbell (2008) and Mueser et al. (2013a).

3.6 Summary

In order to understand which interventions will be suitable for early intervention in the NDIS, three key steps were identified:

1. Establish the entire range of possible psychosocial evidence-based interventions for SMI.
2. Identify, through a detailed review of the literature related to rehabilitation, recovery, early intervention and participant preference, further guidelines for NDIS early intervention criteria.
3. Undertake a wide-ranging literature review of outcomes for all interventions that might be appropriate for early intervention to investigate how these outcomes would ‘map’ across to the NDIS early intervention criteria.

4.0 Results

4.1 Evidence-based interventions for disabilities associated with severe mental ill-health

4.1.1 Literature search outcomes

The nine studies retained were systematic reviews (Mueser et al. 2013a, Addington et al. 2010, Bond & Campbell 2008, Gibson et al. 2011), treatment guidelines (McGorry 2005, Buchanan et al. 2010, Menear & Briand 2014) and overviews (Killackey et al. 2015, Corrigan 2006)2015, Corrigan, 2006. They all comprised reports on the full range of recommended evidence-based interventions for the treatment of severe mental ill-health, including schizophrenia. All recommended treatments from the nine articles and the Cochrane reviews were listed and tabulated (see Table 3).

4.1.2 Results

Where a study reported that a particular intervention was effective due to an adequate evidence base, that intervention received a recommendatory 'vote', recorded in the table (see Table 3). Where a Cochrane review reported a positive recommendation, it was noted in the table as well.

All interventions that received at least one recommendation are summarised in Table 3. Supported Employment, including Individualised Placement and Support (IPS) (a manualised form of SE), was recommended as an effective psychosocial intervention for people living with SMI in all nine studies, as well as a positive Cochrane review (attracting ten votes overall); Family Psycho-education was recommended by eight-out-of-nine articles and received a positive Cochrane review; Social Skills Training received nine endorsements; Cognitive Remediation and Outreach seven each; CBT for psychosis and Illness Self-Management Training six; Integrated Therapy for Alcohol and Other Drugs received four full endorsements as well as another endorsement as a 'promising intervention' (meaning a limited but positive range of evaluations to date); Supported Housing, Supported Education, Peer Support and supports for physical health and Token Economy (a behavioural change intervention relevant in inpatient settings) were also recommended, but to a lesser degree.

Two interventions were not considered relevant to a review of disability services and the NDIS. Integrated Therapy for AOD, which under current arrangements is provided through health services, would not be considered a fundable support under the NDIS and is not discussed further. Similarly, Token Economy is used as a tool within health residential settings and so was not considered further in this literature review.

The final list of recommended interventions for SMI and psychosocial disability (at any stage) receiving a high level of endorsement in the literature was: Supported Employment, Family Psycho-education and Support, Social Skills Training/Social Cognition Training, Cognitive Remediation, MST or ACT/Outreach, CBT for psychosis, Illness Self-Management Training (including Medication Management/Adherence Training and Patient Psycho-education), Supported Education, Supported Housing, Physical Health Management (including Weight Management) and Peer Support/Consumer Networking.

Table 3: Tabulation of recommended or evidence-based interventions for SMI

Intervention	**Study**									
	1	2	3	4	5	6	7	8	9	10
Supported Employment	X	X	X	X	X	X	X	X	X	X
Family Psycho-education and Support	X	X	X	X	X	X	X	X	X	
Social Skills Training	X	X		X	X	X	X	X	X	X
Cognitive Remediation	X	X		X			X	X	X	X
Mobile Support and Treatment (MST) or ACT/ Outreach	X	X		X		X	X	X	X	
CBT for psychosis		X		X	X	X	X	X		
Illness Self-Management Training		X			X	X	X	X	X	
Integrated Therapy for Alcohol and Other Drugs		Y				X	X	X	X	
Supported Education	X	Y					Y	X		X
Supported Housing	X	Y					X	X		
Peer Support/consumer networks		Y	X				X	X		
Physical Health Management (including Weight Management)		Y				X	Y	X		
Token Economy (residential)						X				

1. Killackey et al. (2015, in press)
2. Mueser (Mueser et al. 2013a)
3. Cochrane reviews (Kinoshita et al. 2013) and (Pharoah et al. 2010) and (Pitt et al. 2013)
4. Addington (Addington et al. 2010)
5. McGorry (2005)
6. Buchanan (Buchanan et al. 2010)
7. Bond and Campbell (2008)
8. Menear and Briand (2014)
9. Corrigan (2006)
10. Gibson (Gibson et al. 2011)

X = evidence already supports the intervention efficacy
Y = there is promising/emerging evidence for the intervention

4.2 Criteria for early intervention and the NDIS

A literature review was conducted to elaborate criteria for the purposes of understanding which evidence-based interventions could be suitable for early intervention in the NDIS.

4.2.1 Outcome of literature search

This review identified six important areas that contribute to our understanding of early intervention.

Firstly, there is the NDIS policy itself, which is mainly outlined in Chapter 2, the introductory chapter on the NDIS. Secondly, 'clinical early intervention' for first-episode SMI (which is distinct from the meaning of early intervention for disability support that is the focus of this report) provided some important criteria on the possible aims of psychosocial interventions in terms of preserving role functioning and supporting personal goal achievement. Thirdly, evidence from clinical early intervention for other groups demonstrated the possibilities for positive change at any phase of living with mental ill-health. Fourthly, stepped care approaches illustrated the benefits of adequate interventions that are appropriate to level of need in preventing deterioration. The fifth area concerned the recovery and rehabilitative approaches, while the last was the literature regarding participant views on unmet need.

4.2.2 Results

4.2.2.1 NDIS policy review

Review of the NDIS policies on the three types of early intervention discussed in Section 2.4 suggested the following guidelines:

1. For Individual Capacity Building: interventions should be time limited, focused and aim to reduce transition to Tier 3.
2. For early intervention Individual Funded Packages: interventions should positively impact on impairment, activity and participation or should support carers.
3. For 'early in plan': interventions could be organised to target impairment prior to both targeting activity and targeting participation.

4.2.2.2 Approaches to first episode psychosis (FEP) and early intervention

Another approach to understanding early intervention as defined by the NDIS was sought by reviewing the interventions and goals of 'clinical early intervention' used in mental health services, often with youth and people experiencing first episode psychosis (FEP).

'Clinical early intervention' is defined as treatment at the point of first presentation, aimed at reducing the duration of untreated symptoms (Marlowe 2014). Early intervention programs for FEP are based on the concept of 'critical period', where there is a window of time in which the course of illness is 'formative'. Much of the later course from this phase is thought to be predictable (Birchwood et al. 1997). Clinical improvements from early intervention during FEP and, arguably, during this critical phase have not been shown to be sustained later; but service and support use has been shown to be reduced (for instance, reduced use of supported housing and hospitalisations) (Hui et al. 2014). While early intervention in the NDIS will not be within this 'critical period' or apply exclusively to the youth population, this evidence does suggest that good-quality early intervention programs can reduce service needs in the future. Evidence from this sector might be usefully applied to the NDIS in terms of priorities for interventions and important benchmarks for outcomes.

Comprehensive FEP programs include Individualised Medication Management, Family Psycho-education, Individual Therapy and Supported Education and Employment. For instance, one recent clinical trial using this integrated approach demonstrated increases in quality of life at two years post-intervention (Kane et al. 2015).

A clinical staging framework by McGorry et al. (2010) suggested that, for earlier stages of mental ill-health, the treatment focus should be on impairment remediation, with maintenance of functioning and participation where possible. It also suggested that interventions for more persistent illness should be targeted to these areas where possible.

While much of the 'clinical early intervention' literature focuses on intervention shortly after diagnosis, there is also data emerging that significant improvements can occur from interventions delivered *after* two years (Hui et al. 2014, Gafoor et al. 2010, Bertelsen et al. 2008). This evidence may be directly applicable to the NDIS early intervention context since the Scheme's early intervention pathway expects to assist participants two years after diagnosis. This then supports the possibilities for positive changes in this phase. Therefore, the possibilities for improvement and restoration of social roles occurring at all phases cannot be underestimated in promoting hope and recovery and may be an important role for NDIS early intervention.

Early psychosocial adjustment to serious mental ill-health is a significant challenge and may have an impact on issues such as suicidality (McGorry 2005). Critical factors such as loss of ways to achieve valued goals and loss of social role and status lead to hopelessness and poor self-esteem (McGorry 2005). It is important that early intervention, both in the clinical and disability sectors, addresses these critical needs through psychosocial therapies that concern functioning as well as impairment (Addington et al. 2005).

The goals of early intervention in the clinical setting are to achieve employment or education rates similar to those of age-/gender-matched peers living without psychosocial disability and for the majority to achieve satisfaction with employment, education and social attainments (Bertolote & McGorry 2005). Effective clinical early intervention highlights the importance of ensuring that families are respected and valued partners in care and feel supported to provide sustained care as needed for their family member (Bertolote & McGorry 2005).

In summary, the application of FEP literature suggests that early intervention in the NDIS should take into account issues such as: the particular losses in roles and aspirations that may have occurred since becoming ill; the attainments that are normal for the age group, for example education and career in the twenties, family and children in the thirties (National Disability Insurance Agency 2014a); and the adequate support and engagement of families. There is emerging evidence that early intervention after two years post-diagnosis is effective as well.

4.2.2.3 Early intervention with other targets

We identified only a few studies that addressed early interventions with people who were not in a first-episode phase of mental ill-health.

In *Adults of Working Age* (2014), Marlowe argues that 'parity of esteem' with physical health services and preventative services is justified. In outlining principles of early intervention, he suggests five considerations: specific gender considerations for the choice of intervention; specific age group considerations; easy referral and access; no discrimination in access due to substance use; and staging/phasing of the disorder to match to a relevant intervention. Staging can introduce realistic expectations and reduce pessimism and stigma. The suggested phases for an SMI could be:

- Stage 1: acute presentations with short untreated duration
- Stage 2: residual symptoms with partial recovery
- Stage 3: persistent symptoms with functional impairment.

The use of phases could be applicable to an eligible person who is 'early in plan', when early treatments are tailored to meet the needs of the stage/phase and not just to the immediate assessment of severity.

A US study looked at early intervention to prevent disability for people living with physical, mental and behavioural health conditions. The intervention aimed to provide comprehensive support to people who had severe mental ill-health or a combined behavioural/physical health condition and were currently working. People in the intervention group had access to a wide range of supports and avoided the service delays of the usual treatment system.

The intervention group reported higher rates of employment at follow-up, higher income, a stabilisation or increase in work hours per week and a significantly lower rate of application for social security benefits (Bohman et al. 2011). The study concluded that supports provided at any age can be beneficial and can be helpful to people who are already employed.

4.2.2.4 Stepped care approaches

One study described a seven-tiered model of service delivery for people diagnosed with dementia that may be applicable to the early intervention scenario (Brodaty et al. 2003). This model linked levels of service provision with the needs of the person with dementia. As the level of disturbance related to dementia increases, then the use of interventions accumulates. When high levels of disturbance are apparent, more support is required. Higher rates of prevalence occur with lower levels of impairment, based on epidemiological research. This model does not presume that, over time, people with a diagnosis of dementia will acquire psychological and behavioural symptoms secondary to the dementia and thus inevitably move from low disturbance to high disturbance. The model suggests that effective intervention at each stage prevents such escalation (Brodaty et al. 2003).

This approach to stepped care supports the notion that decline is not inevitable but that effective intervention at any level of need is important and represents value for money as it may prevent deterioration/escalation and thus the need for more intensive/expensive supports in the future.

4.2.2.5 Recovery and rehabilitation approaches

Recovery is an approach to thinking about the impact of mental ill-health that is increasingly influencing how people living with it view their potential and how service providers are considering service delivery (Corrigan 2006). Currently, there is great interest in the concept, with many publically funded mental health services moving to recovery-based service and changes to state and national policy and legislation (Slade 2009, Slade 2012, Slade et al. 2012, Department of Health 2011, Ramon et al. 2007, Australian Health Ministers' Advisory Council Commonwealth Government 2013).

Recovery has both practical and conceptual aspects. On one hand, it is about realistic strategies to help consumers cope with and reduce disability using evidence-based interventions (Corrigan 2006). As a concept, it introduces notions such as hope, empowerment and aspirations to inspire the consumer to attain a 'meaningful life' (Anthony 1993, Corrigan 2006, Slade et al. 2012).

Recovery is broadly defined as 'living as well as possible' (South London and Maudsley NHS Foundation Trust 2010), with a minimum of the symptoms of mental ill-health (Slade et al. 2012). The term 'recovery' has been used in a variety of ways over time, and in recent years a number of review articles have established a consensus regarding the terms 'personal recovery' and 'clinical recovery' (Bellack 2006, Bonney & Stickley 2008, Liberman 2002, Noordsy et al. 2002, Rudnick 2008, Silverstein & Bellack 2008) as its two main aspects.

In clinical recovery, set criteria in areas such as remission, stabilisation of symptoms, psychosocial rehabilitation, improved vocational activities, additional social connections and independent living are defined (Bellack 2006, Kopelowicz et al. 2005, Liberman et al. 2002). Contemporary accounts of clinical recovery may incorporate concepts such as role functioning which are a positive advance on models that narrowly focus on symptom reduction (Bellack 2006). This approach to recovery has also been characterised as 'service-based recovery' (Schrank & Slade 2007, Secker et al. 2002), 'recovery from' mental ill-health (Davidson et al. 2008, Slade et al. 2012) or an 'outsider perspective on recovery' (Brown et al. 2008).

The concept of 'personal' recovery is derived from the consumer oriented literature, case studies and qualitative surveys (Bellack 2006). This typifies recovery as a process (Liberman & Kopelowicz 2005) rather than a fixed end point and delineates a number of important characteristics that contribute to it. Recovery is not about symptom remission or 'cure' but the capacity to have a meaningful, purposeful life with hope for the future (Hatfield & Lefley 1993a, Hatfield & Lefley 1993b, Lefley 1997). Deegan states:

> Recovery refers to the lived or real life experience of persons as they accept and overcome the challenge of the disability… to re-establish a new and valued sense of integrity and purpose within and beyond the limits of the disability; the aspiration is to live, work, and love in a community in which one makes a significant contribution. (1988, p11)

In contrast to the clinical definition of recovery, personal recovery has also been described as 'social recovery' (Secker et al. 2002), 'user-based recovery' (Schrank & Slade 2007), 'recovery in' (Davidson et al. 2008, Slade et al. 2012) or an 'insider perspective on recovery' (Brown et al. 2008). The concept of personal recovery, not clinical recovery, is the new approach that is so influential in contemporary policy and service provision.

The consumer/personal approach to recovery does not exclude the use of scientific evidence to deliver effective treatment. In fact, the use of evidence-based treatments is an essential part of delivering recovery oriented services and optimal outcomes (Corrigan & Ralph 2007, Mueser 2012).

The following attitudes and characteristics for services are consistent with recovery values (Substance Abuse and Mental Health Services Administration 2005, Bellack 2006):

- hope – the message that recovery can and does occur
- self-direction – consumers make their own choices
- individualised treatment – treatment is tailored to the individual
- empowerment – consumers have authority over their own lives
- holism – recovery occurs on many levels of a person's life
- being strengths based – recovery is based on building on strengths, not focusing on deficits
- being peer supported – consumers supporting each other is important for recovery
- respect – respect between the consumer and service providers, and between consumers and the rest of society, is important
- responsibility – consumers are responsible for their own care and recovery.

Narrative syntheses of personal accounts and qualitative studies of recovery have suggested that it has stages or phases, which is congruent with the notion that recovery is a process or a journey (Leamy et al. 2011). The recovery stages have been loosely based on the stages of change model developed by Prochaska and DiClemente (Prochaska & DiClemente 1982, Leamy et al. 2011).

Generally, these 'phase models' include a number of stages: the pre-contemplation stage, characterised by demoralisation and dependence; the contemplation stage, characterised by a first awareness of the possibility of recovery and the 'spark of hope'; the preparation stage, with preliminary strengthening and building of determination; the action stage, typified by learning and discovery; and finally, the maintenance and growth stage, exemplified by living beyond disability with self-reliance and active coping (Leamy et al. 2011, Andresen et al. 2006, Andresen et al. 2010, Andresen et al. 2003).

However, there can be no assumption that 'early intervention' is synonymous with 'early in recovery' or 'at an early stage of change'. An NDIS participant may be at any stage in 'recovery', but supports can still be aimed at early stages of intervention.

Clearly, many of the goals of recovery are congruent with the values of the NDIS, which supports choice and control in relation to support planning, independence, economic and social participation and personal achievement of goals. However, concerns have been expressed about the recovery implications regarding the use of the term 'permanent' in reference to the timeframe for the disability. The relevance of recovery to the situation of early intervention is that it emphasises the wide range of possibilities for everyone with mental ill-health, reinforces the importance of independence and choice over treatment, care and support and suggests other possibilities for them besides clinical interventions.

Rehabilitation is a systematic approach to treatment that assists people to overcome impairment, functioning and participation restrictions to help them to achieve recovery (Peterson 2005). It is a professional service and thus will never be equivalent to recovery, which is a process that belongs to the person 'recovering'. However, rehabilitation services can be (and have been) remodelled to enhance personal choice and service flexibility and incorporate peer supports, all of which are more congruent with a recovery orientation (Killackey et al. 2015). Some rehabilitative options are already available in the health system and thus may not be provided via the NDIS. However, whether they are provided by clinical (as part of health care) or in non-clinical or support services, in order for rehabilitative strategies to achieve the best outcomes, the goals must be aligned with a person's recovery goals and harness their motivation and aspiration (Killackey et al. 2015).

4.2.2.6 Participant point of view on unmet needs

Bearing in mind the NDIS emphasis on participant choice and control, it is important to consider what participants are likely to see as their unmet needs, and therefore where they might choose to focus interventions available as part of their ISP. Surveys of people living with psychosocial disability indicate that they desire supports and advocacy that enable them to exercise choice and control, and this is essential to the effective functioning of individualised funding (Williams & Smith 2014, Brophy & Grigg 2015).

Four papers were reviewed that listed areas of reported participant need. A recent epidemiological survey in Australia asked people living with psychosis about their challenges for the next 12 months (Morgan et al. 2012). The five priority challenge areas were financial problems, loneliness and social isolation, lack of employment, physical health challenges and uncontrolled symptoms (Morgan et al. 2011). Although symptoms were in the top five challenges, they were not the most pressing need. Table 4 sets out the needs identified in that survey and others, as well as the possible interventions that could meet them. Clearly, many of the EBIs identified in section 4.1 are appropriate to assist a consumer with any single self-identified need, and it is possible to select a particular intervention from the range of possibilities to individualise and tailor programs.

Another review of service needs listed five main needs identified by people living with psychosocial disability. These were assistance with maintaining physical and mental health, achieving economic stability, increasing social connections, stable, safe housing and intimate relationships (Brophy et al. 2015).

Many people saw a personal support person as a key enabler to achieving many of these goals. The qualities of this support person included being respectful, being knowledgeable about the mental health system, understanding the impacts of living with a mental health condition and having good communication skills (Brophy et al. 2015).

These results indicate that the goals of participants are very much focused on participation, both social and economic. Interventions to target impairment may not seem to have direct relevance for participants, although the flow-on effects would be helpful to participation. This suggests that 'chaining', that is the provision of two linked interventions that target both impairment and participation (such as Social Cognition Training with a social participation support) may be useful.

Table 4: Tabulation of priority of needs identified by people living with SMI

Need	1	2	3	4	Possible evidence-based interventions (EBIs) to meet this need
Uncontrolled symptoms	X	X	X	X	Family Psycho-education; CBT for psychosis; Illness Self-Management Training; Peer Support; Cognitive Remediation.
Loneliness/social isolation	X	X	X	X	Social Skills Training; family interventions; employment programs; Supported Housing.
Financial	X	X		X	Employment programs; Illness Self-Management and individual psycho-education; Supported Housing.
Lack of employment/ daytime activities	X	X	X		Employment programs; Cognitive Remediation; Social Skills Training; family interventions.
Physical health	X	X		X	Health services engagement supports; consumer education.
Suitable housing	X	X		X	Housing programs; Social Skills Training.
Need for family or carer support	X			X	Family Psycho-education and Support; MST or ACT/ Outreach.
Stigma/ discrimination	X				Social Skills Training; family interventions; Social Cognition Training; employment programs.
Access to mental health services	X				Case management and service coordination; MST or ACT/Outreach.
Distress			X		Case management and service coordination; MST or ACT/Outreach; CBT for psychosis; Illness Self-Management Training; hearing voices.
Information			X		Health services engagement supports; health lifestyle programs and education; CBT for psychosis; Illness Self-Management Training.
1. Morgan et al. (2011) 2. Killacky et al. (2015) 3. Thornicroft et al. (2004) 4. Brophy et al. (2015)					

4.2.3 Summarising criteria for identifying potential early intervention services

A number of diverse areas were studied to learn more about possible additional criteria for early intervention in the NDIS.

Firstly, there are criteria from the NDIS on their goals for early intervention and ‘early in-plan’ supports. These are:

- to reduce the person’s future support need
- that for Individual Capacity Building, interventions should be time limited, focused and aim to reduce transition to Individually Funded Packages
- that for early intervention packages, interventions should positively impact on impairment and activity (with less or no focus on participation) or improve the sustainability of informal supports, and be appropriately provided by the NDIS scheme
- that for ‘early in plan’ situations, a participant could choose interventions to address needs or goals in a systematic manner so that resolution of a ‘priority’ or ‘early in plan’ need provides the basis to move to subsequent needs and goals.

Other criteria and information from the NDIS and Independent Advisory Committee (IAC) suggest that the services for early intervention for individuals would be characterised by:

- looking forward to the next developmental stage in a participant's life (National Disability Insurance Agency 2014a). For instance, early intervention for a young adult would focus on supporting education so that in the future obtaining work is more likely
- addressing valued goals and roles and supporting social connections (National Disability Insurance Agency 2014f)
- being evidence based (National Disability Insurance Agency 2014f).

Priorities identified in other literature suggest that supports for early intervention could:

- support the notions of recovery that assert that all people can recover, emphasise the role of hope and underline the importance of individual goals and meaningful activity
- support participant goals in the areas of social and economic participation
- be rehabilitative (Killackey et al. 2015) in nature, not just 'supports' (Collister 2015)
- focus on key features of life stages (National Disability Insurance Agency 2014a) so that early intervention might restore age-appropriate attainments such as education, employment, independent living and relationships (Bertolote & McGorry 2005)
- focus on closing the gap in expectations between those with and those without mental ill-health, such as inequities in employment rates (Bertolote & McGorry 2005)
- focus on restoring valued goals and roles particular to the person with mental ill-health (McGorry 2005) and on enabling a participant to build independence and personal skills so as to progress towards their goals
- be relevant to those with a more recent diagnosis who may have the potential to maintain functioning or restore functioning quickly, thus minimising disruption to existing supports and formal and informal networks. It may be possible to restore a disrupted developmental trajectory (Bertolote & McGorry 2005)
- provide adequate intervention at early stages/lesser levels of disability in order to prevent deterioration and increasing support needs.

All interventions would appear to have an early intervention application. The evidence for each is discussed in the next section, which reviews their documented impacts as well as examining how they might address both NDIS criteria and some of the other priorities listed above.

4.3 Interventions appropriate to NDIS early intervention

A wide-ranging literature review of outcomes for all interventions that might be appropriate for early intervention was undertaken in order to investigate how these outcomes would 'map' across to the NDIS early intervention criteria. This is discussed in Chapter 5.

5.0 Interventions

This chapter presents the evidence for all the evidence-based interventions that may be appropriate for 'early in plan' or early intervention in the NDIS. The section on Cognitive Behavioural Therapy for psychosis (CBTp) is a brief overview since it is offered within clinical services and thus may be excluded from NDIS provision, regardless of its effectiveness or appropriateness for the early intervention situation.

5.1 Supported Employment

People living with SMI consistently express the desire to work as one of their highest priorities (Lehman 1995, Hatfield et al. 1992, Shepherd et al. 1994, Mueser et al. 2001, McGurk et al. 2005, Waghorn et al. 2012, Waghorn & Hielscher 2015, Ramsay et al. 2011). Supporting a wide range of training and non-competitive and competitive work placements is of major importance in improving employment rates for people living with SMI (Mueser et al. 2013a, Bond 2004). Non-competitive work is paid or unpaid employment in designated organisations or in designated positions set aside for persons with nominated disabilities; competitive employment is work in mainstream work settings with full market rate wages. Employment is one of the most significant factors in promoting social inclusion and economic independence (Rinaldi et al. 2010), suggesting that programs supporting job training and placement are important, recovery focused, evidence-based interventions for people living with mental ill-health.

Treatment guidelines suggest that any person living with SMI such as schizophrenia should be offered services such as Supported Employment to assist with obtaining and maintaining employment (Kreyenbuhl et al. 2010, McGorry 2005, Mueser et al. 2013a, Canadian Psychiatric Association 2005). This is based on excellent evidence for its effectiveness. It also has additional benefits such as providing daily structure, valued social responsibility, greater socialisation, opportunities to use social skills, improving self-esteem and improving subjective quality of life (Twamley et al. 2003).

Supported Education is an analogous intervention for education, with rapid placement of a person into a chosen training/study opportunity with ongoing support.

5.1.1 Definition and description of Supported Employment

Supported Employment (SE) is a vocational intervention where a person is rapidly assessed for skills and preferences and searches for a job in the competitive job market. (There is a manualised form of SE called Individual Placement and Support (IPS) (Kinoshita et al. 2013)). Participants receive continuing support from employment specialists once employed, and this support is not time limited (Twamley et al. 2003, Kinoshita et al. 2013, Crowther et al. 2001).

Individual Placement and Support (IPS) was developed in the USA and has been subject to a number of research trials. Its goal is competitive employment (Bond 2004) and clients are expected to obtain jobs directly rather than after lengthy employment training. IPS is designed to be provided as an integral component of mental health treatment (with vocational specialists as part of a mental health service) rather than as a separate service. Services and job placement are based on clients' preferences and choices and follow-on support is continued indefinitely (Drake et al. 2012). Eligibility is based on consumer choice, and a person with SMI is not excluded on the basis of putative 'work readiness' (Drake et al. 2012).

Other forms of employment programs do exist, such as Conventional Vocational Rehabilitation (CVR), also known as Pre-Vocational Training (PVT), an approach where a participant receives training in work-related skills then, when appropriate, takes up a role in a competitive or non-competitive job placement. Non-competitive job options include sheltered employment that provides paid employment (not always at award rates) in a supportive environment.

A 'Clubhouse program' is a program run by staff and clients with the aims of mutual support, skill building and graded job exposure. Two levels of employment experience exist within the clubhouse: firstly, 'work crew', where a participant works with peers and staff to run the clubhouse; secondly, the participant can take up transitional employment, which is a temporary job that enhances work skills. However, the job 'belongs' to the clubhouse, which means that at the end of the placement it will revert to the program and be reassigned to another participant.

5.1.2 Evidence

5.1.2.1 Meta-analysis and systematic reviews

The most recent Cochrane review of vocational rehabilitation focused on Supported Employment (Kinoshita et al. 2013). Meta-analysis showed positive outcomes for that intervention compared with other vocational approaches or treatment as usual (TAU) on primary employment outcomes such as days in competitive employment (CE), obtaining competitive employment, tenure in competitive employment and decrease in the time to starting first competitive employment. Rates of obtaining any paid work were increased, as were number of days in any paid work. The only area where Supported Employment was not superior was for tenure in any paid employment.

Similarly, high-fidelity IPS was superior to all other approaches (including low-fidelity IPS) in achieving more days in competitive employment, but there were no differences in tenure for *any* paid employment for high-fidelity IPS compared with all other approaches.

In terms of non-vocational outcomes, there was no difference between IPS / Supported Employment and conventional vocational rehabilitation (CVR) for mental state, relapse (hospitalisation), quality of life, general functioning, economic costs and adverse effects (Kinoshita, Furukawa et al. 2013).

Kinoshita et al. (2013) expressed reservations about length of follow-up, which, although it occurred frequently over 12 months, still did not provide sufficient insight into the question of durability of effects. Another concern was variability of outcomes reported and the skewed data, reducing the number of studies included in comparisons. Thus it was suggested that the evidence for Supported Employment was of low quality, which was the most conservative stance on trial quality of all the meta-analyses and reviews.

Table 5: Major outcomes of the Cochrane review of vocational rehabilitation trial (Kinoshita et al. 2013)

Outcome	Number of trials analysed (number of participants)	Outcome*	Quality^
Number of days in competitive employment over 24 months	1 (n=204)	17 days vs. 71 in favour of Supported Employment	Low-quality evidence (uncertain about the estimate)
Days any type of paid employment, 21 months average	2 (n=510)	85 days vs. 44 in favour of Supported Employment	Low-quality evidence (uncertain about the estimate)
Job tenure competitive employment (weeks) over 24 months	1 (n=204)	2.5 weeks vs. 9.9 in favour of Supported Employment	Low-quality evidence (uncertain about the estimate)
Job tenure any paid employment, over average 22 months	2 (n=423)	15 weeks vs. 4 – not significant	Low-quality evidence (uncertain about the estimate)
Time to first competitive employment	1 (n=204)	396 days vs. 162 in favour of Supported Employment	Low-quality evidence (uncertain about the estimate)
*All comparisons are of Supported Employment compared with CVR (other vocational approaches including PVT) ^Quality determined by study authors, based on their assessment that there was low-quality data (highly skewed) and high variability in outcomes utilised.			

In a 2008 systematic review and summary, Bond et al. (2008) compared Supported Employment with CVR, finding that, on average, 61 percent of those enrolled in the former obtained competitive employment, compared with 23 percent of those in CVR. Those in Supported Employment took ten weeks less to start their first competitive employment, and 44 percent of them worked over 20 hours per week, compared with 14 percent of those in CVR. However, the tenure (meaning the longest time in any one job) was not significantly different from those enrolled in CVR, although it was attained across double the number of participants (Bond et al. 2008). This meta-analysis did not report on any outcomes related to non-competitive employment.

A review by Bond (2004) found similar results (40–60% rates of competitive employment for IPS and 20% competitive employment for CVR). Increases in self-esteem and better symptom control were observed for those employed. Again, the tenure was not significantly different from those enrolled in CVR.

In a recent systematic review, Marshall et al. (2014) found a high level of evidence across 12 systematic reviews and 17 RCTs. This review focused exclusively on competitive employment outcomes, where Supported Employment was superior to comparison conditions (usually CVR) in all studies (competitive employment rates of 58–60% compared with 23–24%, the percentages being averaged across a number of reviews and trials). Other positive outcomes were greater hours worked, more weeks worked per year, higher wages and fewer days to first competitive employment.

A sub-analysis of four trials suggested that competitive employment might be associated with improvements over time in symptom control, quality of life, self-esteem and social functioning. These improvements were only associated with attaining competitive employment itself, not with being enrolled in Supported Employment (Marshall et al. 2014).

An earlier Cochrane review compared Supported Employment with treatment as usual (TAU) and CVR (Crowther et al. 2001). (Treatment as usual would be traditional mental health services without any specific vocational programs.) Crowther et al. (2001) found that SE was more effective than CVR in achieving competitive employment (12% compared with 34% employment rates at 18 months favouring Supported Employment). Its clients also earned more and worked more hours per month than those in CVR. CVR had similar effectiveness to standard community care.

Their conclusions were based on three analyses. Firstly, CVR was compared with TAU (n=1,204 from five trials), with no difference between the groups in obtaining competitive employment or all types of employment. Secondly, Supported Employment was compared with TAU (n=256, one trial). There was no difference in competitive employment at 12 months, but at 24 and 36 months the rates of competitive employment were better for SE. Thirdly, Supported Employment was compared with CVR (n=484, five trials, all in the USA). Competitive employment rates of 12% compared with 34% employment rates at 18 months favoured SE. These rates were attained for a demographically diverse group (for a wide range of ethnicities, diagnoses, etc.).

Another two reviews focused on specific groups.

The first looked at first episode psychosis (FEP) and vocational rehabilitation (Rinaldi et al. 2010). The authors stated: “a job is the central hub from which many of our other areas of functioning emanate. For this reason, employment can be considered to be one of the most important factors in promoting recovery and social inclusion” (p.148). They found that people living with FEP had an interest in work but faced challenges such as low expectations (from self and others), managing symptoms at work and managing the impact of depression (which was often secondary to not being in employment). They found very low rates of employment for young people with SMI, but early intervention could be very helpful in reducing employment and educational drop-out. They identified cognitive challenges as having a role to play, and it was not clear if such challenges could be improved by evidence-based interventions (Rinaldi et al. 2010).

The second review (Mueser et al. 2011) looked at the effectiveness of SE for people with dual disorders (SMI and substance abuse). This was a secondary data analysis of four RCTs selecting those participants with a substance use disorder (SUD), n=106. See Table 6 for a summary of the results. It shows that IPS is effective with dual disorders but that tenure and total weeks working are not significantly greater than CVR. Although greater rates of employment were obtained in SE, the work outcomes for those who obtained employment were not significantly different. No non-competitive employment outcomes were reported.

Table 6: Effectiveness of Supported Employment for people with dual disorders (Mueser et al. 2011)

	SE	**CVR**	**Significant result**
Competitive employment obtained	60%	24%	Yes
Time to first job	132 days	252 days	Yes
Wages	$3,050	$807	Yes
Tenure of those working	21	19	No
Hours worked among those obtaining a job	614 hours	352 hours	No
Total weeks of those working	28	22	No

Twamley et al. (2003) identified 11 RCTs (n=1,517 overall) in which PVT and IPS were compared with standard community care or each other (all trials from the USA). Participants in IPS were more likely to be in mainstream employment than those who received prevocational training at four, six, nine, 12, 15 and 18 months (for example, 34 percent versus 12 percent at 12 months).

In conclusion, meta-analysis and reviews consistently show that Supported Employment is superior to pre-vocational training methods for obtaining competitive employment, total weeks worked and wages, with often double the rates of job attainment. It shows the benefits of developing programs that directly address desired outcomes and make them proximal outcomes where possible, rather than taking an indirect approach (as in CVR).

However, for those obtaining a job, the differences in tenure and non-vocational outcomes such as quality of life are not significant. Even with the more successful Supported Employment model, half of participants in SE programs did not achieve competitive employment (Twamley et al. 2003). In addition, the vast majority of these trials were conducted in the USA, where particular employment and income support considerations apply.

Most of the literature on Supported Employment also failed to detail outcomes from non-competitive employment, so a complete picture of the possible outcomes was not obtained. When non-competitive employment outcomes are considered, CVR is shown to be superior to TAU (Fossey & Harvey 2010). For instance, a trial in Germany found CVR attained double rates for *any* work compared with TAU (40% compared with 19%). Additionally, the CVR intervention itself was associated with improved functioning and quality of life (Watzke et al. 2009).

Many of the meta-analyses are based on trials where all participants had goals for competitive employment. For the group wishing to attain competitive employment, SE may indeed be the best approach. However, for people not interested in competitive employment, other options may be more effective. At this stage, meta-analyses have not provided analyses that explore whether particular groups of participants might do better in competitive versus non-competitive employment or Supported Employment versus pre-vocational training.

Finally, job tenure is an issue for all types of vocational rehabilitation, with average time in an employment position of only six months (Becker et al. 2007). Improving tenure might considerably enhance non-vocational outcomes such as quality of life and social networks.

There are still some evidence gaps when it comes to establishing which participants are most likely to attain employment, and consequently what enhancements would add most value for those not easily doing so.

5.1.2.2 Results of Australian trials

Two Australian studies showed that it was possible to set up IPS programs in Australia, something that has been challenging to date, given that government employment services and government clinical services are administrated separately and thus cross-sectoral cooperation is required.

One RCT study with adult participants compared an IPS program with conventional disability support and obtained 43 percent compared with 24 percent respectively commencing competitive employment (Waghorn et al. 2014). Results were not as strong as those for international studies in this area (Waghorn et al. 2014).

Another Australian study was with young people in an early intervention program. It found very positive results for Supported Employment compared with conventional vocational rehabilitation (Killackey et al. 2008).

5.1.2.3 Factors impacting employment outcomes

Cognitive functioning: cognitive function and psychosocial impairment may be the major challenges in attaining and retaining employment (Twamley et al. 2003, Drake & Bond 2008, Loveland et al. 2007). In a meta-analysis for individuals with bipolar disorder (BD), Tse et al. (2014) found that good cognitive functioning (verbal memory and executive functioning) and higher levels of education were associated with better employment outcomes. In a summary of over 62 studies since 1998, Marwaha et al. (2004) found that cognitive symptoms had a major impact on job outcomes. Tsang et al. (2010) and Rosenheck et al. (2006) also found that cognitive functioning was a significant predictor of employment. Research into the impact of cognitive deficits and programs to remedy them seems to be promising (McGurk & Mueser 2004).

Functioning: general and social functioning in particular appear to affect work outcomes. Psychological functioning can be defined as the ability to achieve goals, and covers behaviour, emotion, social skills and overall mental health (Meadows and Burgess 2009). Marwaha and Johnson (2004) found higher levels of pre-morbid functioning and social functioning were associated with improved vocational outcomes. Other authors reported that improved social support and skills (Tsang et al. 2010), social functioning (Michon et al. 2005), better social adjustment skills (Michon et al. 2005) and better social cognition (Rosenheck et al. 2006) were linked to better employment results.

5.1.3 How the reported outcomes may relate to NDIS early intervention

In the language of disability, this is an intervention that supports people to both carry out job-related activities and participate in the work force. The literature above suggests that employment programs readily assist approximately 50 percent of participants. Other participants may need more support at the impairment and activity level to obtain employment, or may be best suited to employment in modified environments such as social firms. Social Skills Training and Cognitive Remediation may help at the impairment or functional level and assist with developing the skills required to attain and sustain a job.

An unsatisfactory aspect of Supported Employment is the short tenure in jobs that are attained, which may mean that support needs are not reduced in the longer term. Interventions that support longer tenure, such as employment in social firms or pre-vocational training, may play an important role in supporting longer tenures.

Clearly, early intervention to support employment can reduce long-term sequelae such as dependence on income support and social isolation. Taking up a valued role is important for self-esteem. Enhanced income is likely to lead to more independence and a wider scope of choices in leisure activities and living conditions. Given that many people with SMI express the desire to improve their economic situation and to work and gain the many benefits doing so may offer (Lehman 1995, Hatfield et al. 1992, Shepherd et al. 1994, Mueser et al. 2001, McGurk et al. 2005, Waghorn et al. 2012, Waghorn & Hielscher 2015), Supported Employment is an excellent choice for early intervention (Brophy et al. 2014).

5.2 Interventions that support family and carer engagement

The Australian survey of people living with psychotic illness reported that over 50 percent of participants saw family members daily (Morgan et al. 2011, Harvey & O'Hanlon 2013). However, family members are frequently not in contact with services, even though they often provide substantial support for their relative (Harvey & O'Hanlon 2013). Australian studies show that families may be under stress (Hayes et al. 2015); Family Psycho-education offers the opportunity to engage them and ensure the support they provide is sustainable.

The range of evidence-based interventions that might provide supports to families includes Family Psycho-education, in long and short forms or single and multifamily groups (Pharoah et al. 2010), Open Dialogue approaches (a Finnish family-inclusive recovery intervention) (Seikkula et al. 2011) and Peer Support programs such as Family to Family, a peer-led family psycho-educational model from the USA (Duckworth & Halpern 2014).

Family Psycho-education seeks to impart knowledge, social and personal skills that enable families and consumers to work more effectively with the challenges of living with SMI and psychosocial disability. Historically, the aim of the intervention was to reduce stress for the person living with SMI, thus decreasing the risk of relapse (Pharoah et al. 2010). With improved mental health in their relative and better coping skills, there was decreased negative caregiver experience for family members (Falloon 2003). Contemporary Family Psycho-education has been adapted to focus on other aims, such as employment (Falloon 2003) and illness self-management (Kelly et al. 1990, Kopelowicz et al. 2012) .

The common attributes of long-form Family Psycho-education programs include: sessions over six months or more; the presence of the consumer in most sessions and a mix of modules on relapse prevention, information provision, skills training in coping, stress management, communication, problem solving and goal setting (Fadden 1998). Often the intervention occurs with a single family, but a common variant is the multiple family format (McFarlane et al. 2003). Short versions of Family Psycho-education, such as single-session consultations, are also possible to meet the range of needs in families (Hayes et al. 2013, Harvey & O'Hanlon 2013, Lucksted et al. 2012).

5.2.1 Evidence

The evidence amassed since the 1980s suggested that, overall, Family Psycho-education programs are effective in the reduction of relapse in consumers and in caregiving difficulties in their carers (Falloon et al. 1982, Falloon et al. 1985, Falloon et al. 1984, Falloon and Pederson 1985, Pilling et al. 2002, Pitschel-Walz et al. 2001). Clinical guidelines in the UK, USA and Australia state that Family Psycho-education should be an essential part of contemporary treatments for schizophrenia (McGorry 2005, National Collaborating Centre for Mental Health 2002, Kreyenbuhl et al. 2010).

Although there has been a focus on reducing unhelpful attitudes and behaviours in families, one of the important factors in Family Psycho-education is actually in enhancing supportive comments and interpersonal warmth within families (Falloon 2003). By providing information about mental health and mental ill-health and their impacts on living and social participation for both the person with mental ill-health and their family, there is greater understanding, empathy and support within the family and realistic and positive expectations (Falloon & Lillie 2015).

5.2.1.1 Meta-analysis and systematic reviews

The Cochrane review included 53 trials of Family Psycho-education (Pharoah et al. 2010). The authors reported that, overall, the intervention decreased the frequency of relapse and hospitalisation, increased medication adherence and reduced general social impairment. These trials were from across the world, included a majority of participants with schizophrenia or schizoaffective disorder and compared outcomes with standard care. Quality of life was improved and satisfaction was high for carers. Quality was judged as low due to inadequate information regarding trial procedures such as randomisation, blinding and other sources of bias (Pharoah et al. 2010). Although these are all positive outcomes, the main outcome of interest to the NDIS context would relate to the improved sustainability of carer support evidenced in improved quality of life. By improving family cohesion and decreasing the risk of family breakdown, supports from the immediate family environment are enhanced. This may reduce the need for reliance on supports funded through the NDIS later on.

In a review of family education for early intervention in first episode psychosis, MacFarlane et al. (2012) emphasised the important role of mental health literacy, recovery, the need to support ongoing social connections for both carers and the person with mental ill-health and maximising confidence and mastery as important goals and outcomes for Family Psycho-education.

Another review indicated that the stress of caregiving could be reduced by Family Psycho-education and that the intervention was applicable for a range of mental health concerns (Falloon 2003). Superior outcomes were obtained when carers and families were well integrated with the professional support team (Falloon 2003).

A review of Peer Support to family members looked at the evidence for Family to Family (Duckworth & Halpern 2014). It reported one trial that showed improvements in problem focused coping, including empowerment and knowledge, and emotion focused coping, which includes acceptance and reduced distress.

Another review from the UK incorporated 50 trials and focused on outcomes for families (Lobban et al. 2013). It indicated improvements in relatives' emotional response, coping and problem solving, social support, beliefs and knowledge and needs met, reduction in negative caregiver experience (burden) and improved family functioning and relationship quality. However, the authors reported that methodological quality was low in most trials due to poor adherence to trial standards allowing for the possibility of bias in many of the studies.

Another overview reported outcomes from trials across the world with many different types of mental ill-health (Lucksted et al. 2012). It found reduced relapse, reduced hospitalisation and improved functional outcomes for participants and improved hope, knowledge and empowerment. Outcomes for carers were mixed, with findings that negative caregiver experience and carer distress were reduced and coping, social support and knowledge about mental ill-health was improved in some, but not all, trials.

McFarlane et al. (2003) indicated that a broad range of outcomes for people with psychosocial disability were possible, including increased engagement with vocational rehabilitation, increased employment rates and improved social functioning.

Lyman et al. (2014b) conducted a systematic review of FPE and found over 100 studies in the area, concluding that evidence was strong for the intervention. As with the meta-analyses reported above, the authors reported the benefits to relapse and hospitalisation and also greater mental health literacy (both for the disorder and the care system), improved problem solving, better self-care and improved quality of life.

An early meta-analysis of 18 studies showed reduced relapse for people with SMI (Pilling et al. 2002). No consistent impact on caregiver difficulty was observed since this was inconsistently reported in the studies included, but the authors suggested that it is possible that challenges to the family might not be ameliorated and, instead, supports might need to be ongoing.

A Swiss meta-analysis that combined an overview of other meta-analyses with their own independent meta-analysis of 31 trials showed that longer-term family interventions have greater impact than short-term interventions or relatives-only groups and bring positive benefits for social adjustment and improved mental health literacy in relatives (Pfammatter et al. 2006).

A mixed-method systematic review of outcomes for family members from Psycho-education (Sin & Norman 2013) reported: increased knowledge about SMI; improved coping; improved attitude to their family member; reduction in caregiver difficulties; improved social support; reduced distress; and improved general wellbeing.

Multi-group formats were seen as highly satisfactory for carers due to the sharing of experiences. Skilful, engaging and warm characteristics in practitioners were also valued, as was the improvement in knowledge about mental ill-health (Sin & Norman 2013). Families also appreciated Family Psycho-education as early as possible in service engagement.

In summary, Family Psycho-education reduces distress and improves empowerment, coping and problem-solving skills in carers – all goals that would lead to greater sustainability in carer support.

5.2.1.2 Results of trials

Another form of family-based support is Open Dialogue, an intervention developed in Finland (Seikkula et al. 2011). It is an intervention that rapidly sets up a supportive collaborative team around a person as soon as symptoms of mental ill-health are recognised in order to minimise the impact of the illness on activities and participation (Seikkula et al. 2011). Trials from Finland show that reduced relapse, reduced symptoms and very high rates of employment were maintained (62–78%). The study authors attribute positive results to reduced times without treatment and collaborative teams working with the person with mental ill-health and family that include employment specialists and other rehabilitation supports from the outset. Thus expectations for activity and participation are maintained at all times alongside engagement with social networks. A third characteristic lies in the approach of service providers who support the empowerment of service users (Seikkula et al. 2011) and staff who are highly experienced in working with families and extended networks (Lakeman 2014). The approach of Open Dialogue suggests that early intervention is very important in reducing future support needs and that support for collaboration and coordination between supports is vital.

Although information about mental ill-health and related issues need not be delivered face-to-face or in a family format, the impacts of internet-convened Family Psycho-education would appear to be weaker (Glynn et al. 2010). A 12-month trial of an online multimodal/multifamily group program was rated as satisfactory by participants but there was little impact on the family or the health of the person with mental ill-health (Glynn et al. 2010).

Family Psycho-education uptake has been shown to increase with the use of Motivational Interviewing to explore family participation (Sherman et al. 2009).

5.2.2 How the reported outcomes may relate to NDIS and early intervention

The evidence above suggests that FPE may be a useful support for participants in the NDIS and their families in the following ways:

- Reduced relapse and hospitalisation suggests that impairment has been reduced. This is also important because less relapse means that activity and participation are not compromised.
- The improvements in carer quality of life and coping and the reduction of distress and caregiver difficulty mean that the sustainability of caregiving is enhanced.
- Family Psycho-education, particularly in the early intervention context, reduces the likelihood of unhelpful family reactions developing as a reaction to the participants' psychosocial disability (Lucksted et al. 2012, McFarlane et al. 2012).
- Family Psycho-education may prevent family breakdown and thus preserve supports from the immediate family network.

- Motivational Interviewing (Sherman et al. 2009) as a preliminary to Family Psycho-education might be appropriate at the NDIS pre-planning stage, or as part of supports that assist participants to coordinate and plan their chosen supports.
- Programs with a strong recovery focus such as Open Dialogue can lead to positive outcomes in maintaining participation and overcoming any limitations in activity.
- Multifamily groups may be useful in the context of ILC in supporting carers.

While the evidence for Family Psycho-education is very strong, suggesting it has a useful role in early intervention, there may be a limited number of participants who find a family intervention attractive and may instead choose supports that directly enhance independent living. On the other hand, it might be possible to 're-vision' Family Psycho-education so it could be used to support independence goals. For instance, it could be used as part of a package to assist a participant and their family to plan and transition to the participant's independent living situation.

5.3 Social Skills Training and Social Cognition Training

In the most recent Australian survey of people living with psychotic illness (Morgan et al. 2011), nearly a quarter of survey participants reported feeling lonely and isolated, and double this number felt that their illness made it hard for them to maintain close relationships. Thirty-seven percent nominated loneliness and social isolation as their top challenge for the year ahead. Stigma played a role: one-quarter of survey participants said that the fear of stigma stopped them doing things they wished to do, and one-fifth said the actual experience of stigma had been prohibitive in this regard. In spite of these major issues regarding social participation, over two-thirds of survey participants had never attended a social program.

Support for social skills would appear to be an essential ingredient to assist people with psychosocial disability to reduce activity limitation and participation restrictions as it addresses core impairments in self-help, self-care and socialisation (Lyman et al. 2014a). Social skills enhancement assists people to be able to express their feelings competently, achieve goals, improve relationships and support independent living (Kopelowicz et al. 2006).

There are two approaches to remediating challenges in social functioning for people living with serious mental ill-health. One is to intervene at the level of social cognition, which is defined as the mental operations involved in observing, perceiving and interpreting the social world (Kurtz 2012). The second is to provide intervention at the behavioural level with Social Skills Training.

Improving social skills would appear to improve resilience to stress, thus reducing vulnerability to environmental challenges (Kopelowicz et al. 2006, Pfammatter et al. 2006). Social cognition appears to be more strongly related to community participation, such as work functioning and interpersonal relations, than neurocognitive functioning (Fett et al. 2011).

5.3.1 Definition and description of intervention

Social skills programs use behavioural therapy and techniques to teach people how to communicate emotions and requests (Almerie et al. 2015). Core elements include an accurate behavioural-based assessment of social and interpersonal skills. There is a balance between verbal and non-verbal communication at the perception, processing and transmission level (Almerie et al. 2015). These interventions can be 'packaged' with other interventions to enhance gains in other programs. For instance, social skills can enhance employment opportunities when both programs are provided (Pfammatter et al. 2006).

Psychosocial skills training packages are often very structured interventions that are highly interactive and encourage repetition to ensure skills are learnt and retained (Heinssen et al. 2000). Optimal results are achieved with focus on specific goals, graduated approach to skill difficulty and thorough mastery of skills at each level (Heinssen et al. 2000). Although the structure of the intervention would appear very 'behavioural', Social Skills Training can be individualised, focused on the goals of the participant and feature high levels of personal engagement between trainer and participant (Lyman et al. 2014a).

An important question remains regarding the generalisation of learnt social skills (that is, improvement at an impairment and activity level) to assist with participation and general social confidence (Pfammatter et al. 2006). The evidence presented below suggests generalisation is quite possible.

5.3.2 Evidence

5.3.2.1 Meta-analysis and systematic reviews

The Cochrane meta-analysis (Almerie et al. 2015) of 13 RCTs (975 participants) showed improved social functioning, reduced relapse rates and improved mental state and quality of life compared with standard care. When comparing social skills programs with supportive discussion and activity groups (that is, matching treatment exposure to ensure no exposure bias), then no advantage for social skills programs was seen. However, the authors reported the level of evidence was low, mainly due to poor randomisation methods. However, the generalisation of the results of this meta-analysis for Australia is questionable as most studies that were included in it were conducted in China (Almerie et al. 2015).

Another meta-analysis of 27 studies showed that undertaking social skills programs is useful for people with persistent mental health conditions (Heinssen et al. 2000). Any challenges with cognitive processing or negative symptoms may decrease the effectiveness of the training. Thus it was suggested that adaptations to cognitive capacity through procedural and environmental 'accommodations' is important. Effectiveness of skills training can be improved if it is performed within familiar environments and where the skills are most challenged (that is, in the day-to-day life environment) (Heinssen et al. 2000).

In a meta-analysis of high-quality trials (all with controls) for structured behavioural training, Kurtz and Mueser (2008) found a range of effect sizes on social cognition outcomes, from nil to moderate/large and moderate to large, on 'community functioning' and symptoms. This suggests that although underlying social cognitive impairment may not always be mitigated, activity and participation could be supported.

In a review of over 100 RCTs, Lyman et al. (2014c) found good-quality evidence from a wide range of studies. Positive outcomes included improved behavioural skills, improved social role functioning, improved self-efficacy and moderate effects on social and daily living skills and community functioning. They also found that integrating social skills interventions with other interventions resulted in more reliable improvement and that individual tailoring of multi-modal programs was desirable.

In a summary of all meta-analyses that were published between 1990 and 2005, Pfammatter et al. (2006) found that Social Skills Training has a significant, consistent and enduring impact on the improvement in social skills for people living with SMI. This benefit extended to social functioning as well as decreases in symptoms and hospitalisation. Given the methodology, which drew together results from a wide variety of trials, this finding indicates consistent benefits from social skills interventions.

Another meta-analysis that reviewed social skills in relation to life skills programs (that is, those incorporating home management or personal care) found only a small number of relevant trials with poor-quality evidence (Tungpunkom et al. 2012). This analysis was of limited relevance to this review, but does indicate the challenges in implementing consistent manualised interventions that can be usefully compared.

5.3.2.2 Results of trials

The extent to which gains in social skills can lead to improvements in social functioning more generally is an important issue in the utility of Social Skills Training (Combs et al. 2007). A pilot trial with inpatients with a small number of participants (n=18) showed general improvement in social functioning resulting from a social cognition intervention (Combs et al. 2007).

Longitudinal studies have also provided some evidence of causal mechanism as improvement in social cognition was observed prior to improvement in participation outcomes such as work outcomes (Horan et al. 2012, Horan et al. 2008). This suggests that it is a particularly useful target for early interventions (Horan et al. 2012, Horan et al. 2008).

5.3.3 How the reported outcomes may relate to NDIS early intervention

Social Skills Training is clearly useful for promoting social inclusion. It may be very helpful in achieving personal goals, especially where these relate to socially based aspirations. Enhanced social skills also enable greater independence. As social functioning underpins many aspects of life (including employment, education, family and social connections and recreational activities), improvement of them as early as possible would be important for reducing deterioration and improving functioning. Social Skills Training can be personalised so that a participant's particular needs and goals are a focus of the intervention.

Social skills can improve independently of both specific cognitive or learning limitations (Tenhula et al. 2007) and of symptom levels (Combs et al. 2007), suggesting that Social Skills Training is a useful intervention for all participants.

Given their clearly expressed desire to improve social connections (Morgan et al. 2011, Brophy et al. 2014), this is evidently an important support that participants can choose in the context of early intervention.

5.4 Cognitive Remediation

5.4.1 Definition and description of intervention

Cognitive Remediation (CR) is an intervention that seeks to improve cognitive functions such as working memory, attention and executive function and language. Cognitive impairments are often a feature of mental ill-health, particularly psychosis, and are associated with activity and participation limitations (Turner et al. 2014, McGurk et al. 2007b, Medalia & Saperstein 2013). A meta-analysis from Europe, using data from 113 studies and 7,794 participants (n=4,365 living with schizophrenia), reported significant impairments in the areas of memory, IQ, attention and executive function (Fioravanti et al. 2005). Memory showed the most impairment.

A literature review found that impairments in attention, working memory, reasoning, problem solving and social cognition have the greatest impact on participation in employment (Tan 2009). Thus interventions to support improvements in cognition would appear to be particularly useful. CR is often implemented individually using a computer, but group interventions and/or paper-and-pencil approaches also exist (Turner et al. 2014, Grynszpan et al. 2011). Cognitive Remediation draws on constructive learning techniques that ensure a high degree of success and reinforcement through practice (Barlati et al. 2013).

Evidence suggests that particular impairments for people with schizophrenia include problems with selective attention (an inability to selectively attend to relevant information and ignore other information), sustained attention (the ability to maintain attention for a length of time) and processing speed (the speed at which cognitive processes occur) (Fioravanti et al. 2005, Medalia & Saperstein 2013). Although psychotic symptoms (particularly positive symptoms) can be reduced by medication, cognitive impairment is not improved by, and can in fact be negatively affected by, medication (Barlati et al. 2013, McGurk et al. 2007b).

The amount of research in the area is rapidly expanding, but wide variations in participants, comparisons and trial methodology mean that synthesis of results for the field overall is challenging (Fioravanti et al. 2005).

5.4.2 Evidence

5.4.2.1 Meta-analyses

A comprehensive meta-analysis of the intervention from the USA that included computerised and non-computerised CR showed it had medium effect size for general cognitive performance and smaller effect size on psychosocial functioning. The impact on the latter was greater when a rehabilitative intervention was incorporated with the CR (McGurk et al. 2007b). Effects on particular cognitive domains showed small-to-moderate effect sizes on attention, processing speed, verbal working memory, problem solving, social cognition and symptoms. Verbal learning and memory showed little improvement (McGurk et al. 2007b).

Another review also found that CR can lead to optimal improvement in functional outcomes when practice and rehearsal is linked to 'real world' situations and rehabilitation contexts (Medalia & Saperstein 2013). In addition, addressing confidence and motivation also enhances functional improvement from CR interventions (Medalia & Saperstein 2013).

A large meta-analysis by Wykes et al. (2011) showed that CR had durable effects on cognition. Better effects were obtained when participants were clinically stable. Wykes et al. also found that linking CR with rehabilitation improved effects on functioning. In addition, coaching in strategy and not just rehearsal increased effects. Age had no impact on treatment effectiveness. Greater level of symptoms was associated with smaller, but still significant, improvements.

A meta-analysis from Switzerland indicated that CR training benefits attention, executive functioning, memory and social cognition (Pfammatter et al. 2006). There was additional benefit to social functioning and reduced symptoms (both negative and positive).

An overview of CR interventions from Italy was particularly supportive of CR for early intervention (Barlati et al. 2013). The authors found that many meta-analyses (mainly including participants with psychosis) showed positive outcomes for CR on cognitive measures, symptoms and functioning. They particularly noted that CR as an early intervention could improve cognitive function and also benefit social functioning and employment.

A Hong Kong meta-analysis of studies from across the world focused on trials of Computer-Assisted Cognitive Remediation (CACR) that reported on employment outcomes. The interventions ranged from two to 24 months and one-to-three-year follow-up periods. CACR recipients had 20% greater employment rates (significant), worked 20 days extra per year and earned more than those not receiving CACR (Chan et al. 2015).

One of the drawbacks of the studies was that, given the diversity in measures and outcomes for cognitive functioning that are used in CR research, many of the meta-analyses could only report a generic measure of cognitive improvement rather than demonstrate improvement in particular domains.

One meta-analysis that did look at outcomes for specific cognitive domains for CACR found small significant effect sizes for verbal memory, working memory, sustained attention and speed of processing, as well as for an overall generic measure of cognitive performance (Grynszpan et al. 2011). A medium significant effect size was found for social cognition.

CR has mostly been aimed at participants with psychosis, but there is evidence of its effectiveness with other conditions. A Spanish systematic review found that it is effective for affective disorders, including schizoaffective disorders (Anaya et al. 2012), with an effect size of 0.34, which is very similar to the effects of CR for schizophrenia and non-affective psychosis. The systematic review used a generic measure of cognitive functioning, so impacts on specific aspects of cognition could not be assessed. The authors concluded that the data was not yet sufficient for determining the effects of particular demographic factors such as gender, age or education, nor was the durability of effects demonstrated.

There is emerging evidence that CR can also be effective for enhancing the cognitive performance of people with bipolar disorder (Harvey et al. 2010), depression (Motter et al. 2016) and anorexia nervosa (Tchanturia et al. 2014).

5.4.3 How the reported outcomes may relate to NDIS early intervention

Cognitive Remediation can have a strong recovery focus, with an emphasis on supporting goal achievement, social interaction, participation in education and performance at work (Barlati et al. 2013).

CR reduces cognitive impairment, which can be a core psychosocial disability for people living with SMI (McGurk et al. 2007b). It would appear to have particular benefit as a support that participants can utilise in the context of early intervention or 'early in plan', since improved cognition can lead to many other improvements in activity and participation domains (Barlati et al. 2013). Meta-analysis has demonstrated that CR can improve non-cognitive outcomes such as employment (Chan et al. 2015). This suggests that it can reduce a person's future need for support directly, through enhancing participation in such activities as employment. Cognitive Remediation would appear to have a useful role as a capacity-building support. So its main benefit may not be the direct enhancement of social participation and engagement, but rather the reduction in impairment that is a barrier to them. In terms of staged models for service planning, CR would be a useful initial support.

5.5 Outreach and Personal Assistance

5.5.1 Definition and description of intervention

Outreach (known as Assertive Community Treatment (ACT) or other variations such as Mobile Support and Treatment (MST) in the clinical sector) is a form of Case Management that includes needs assessment, coordination of relevant services and provision of treatment, care and support for a person living with SMI (Rosen et al. 2007). It is sometimes regarded as an intensive form of Case Management or, alternatively, is conceived as a different level and type of support. It provides high levels of support for people in the community who have intensive and complex needs (Rosen et al. 2007).

Personal Assistance (Pita et al. 2001) or programs described as personalised supports (Siskind et al. 2012) are programs that foster long-term trusting relationships used as a basis to sustain recovery (Fisher & Ahern 2000). They are defined as one-on-one support of a non-clinical nature. The support worker will have competencies in delivering support but may not be clinically trained (Siskind et al. 2012).

The notion of personal assistance originated in the field of physical disability and was aimed at assistance in daily activities and health maintenance (Pita et al. 2001). It has been adapted for supporting people with mental health disabilities and has evolved to incorporate consumer-directed personalised assistance (Pita et al. 2001). However, the extent of choice in Personal Assistance varies across the world and between different schemes (Mayo-Wilson et al. 2008). Variations can occur in the level of consumer direction possible regarding the type of supports offered, as well as duration, frequency and the selection of the person who will be giving the support (Pita et al. 2001, Fisher & Ahern 2000). Often Personal Assistance in the field of psychosocial disability will be in the form of coaching and planning for the consumer to undertake activities themselves rather than completing tasks for them (Pita et al. 2001).

Personal Assistance can be seen as an alternative model of Outreach and intensive support that is more fully based on recovery principles (Fisher & Ahern 2000). This is because it encompasses values such as self-determination and non-coercion (Fisher & Ahern 2000), although Outreach/ACT models are capable of incorporating recovery principles as well (Rosen et al. 2007).

5.5.2 Evidence

5.5.2.1 Meta-analysis and systematic reviews

There is extensive RCT evidence for Outreach and less for Personal Assistance.

Overall, Outreach/ACT support increases contact with services, decreases hospital-based care, improves quality of life, increases housing stability and reduces symptoms (Rosen et al. 2007). Higher model fidelity leads to better outcomes. Outreach is best suited to participants with difficulties in community living, difficulties in engaging with services and higher levels of impairment (Rosen et al. 2007).

A Cochrane review compared Intensive Case Management (a generic term which includes Outreach-/ACT-type interventions), non-Intensive Case Management (service coordination delivered by an individual person in a service with a case load of at least 20 clients) and standard care (outpatient support) (Dieterich et al. 2010). Intensive Case Management was associated with shorter hospital stays, less homelessness and better social functioning (for example, employment), but with no significant differences in global state compared with standard care. No differences were reported between Intensive and non-Intensive Case Management for length of hospitalisation and broad outcomes such as service use, mortality, social functioning, mental state, behaviour, quality of life, satisfaction and costs, except that people in Intensive Case Management were more likely to maintain connections to services (Dieterich et al. 2010). This suggests that there is a need for at least a base level of coordination and support for good outcomes but that intensity can vary and still be adequate. Intensive Case Management is of particular benefit to the group of people who have a high level of hospitalisation (about four days per month in the past two years).

The previous Cochrane review in 1998 had similar conclusions. ACT recipients were more likely to remain in contact with services and less likely to be admitted to hospital than those in receipt of standard care (Marshall & Lockwood 1998). The authors concluded that they were more likely have better accommodation status and employment and increased satisfaction than those receiving standard care. There were no differences in outcomes regarding mental state and social functioning. They also concluded that ACT was helpful in reducing hospital use, especially in those who have high levels of hospital use, similar to the conclusions of the later review.

Reduced hospitalisation has been a widely reported outcome for ACT/Outreach trials. There is interest in its reduction since it is expensive and often not desired by clients (Burns et al. 2007). A meta-analysis found inconsistent effects on reduction in hospitalisation rates (Burns et al. 2007). This was attributed to policy and availability regarding hospital beds, and not just program effectiveness per se. If there are considerable hurdles to accessing hospital beds or bed use is already low, then floor effects may occur and use is not reduced. Conversely, where existing hospital use is high and community support poor, then introduction of ACT will have maximum impact on hospitalisation rates (Burns et al. 2007).

Another overview from the USA reported positive outcomes for ACT in the areas of reduced hospitalisation, improved housing stability, better retention in treatment and high satisfaction for family and participant. There were weaker associations with higher quality of life and reduced symptoms (Monroe-Devita et al. 2012).

A review of consumer-provided services incorporated into ACT/Outreach and Case Management indicated that very similar outcomes were obtained, but with improved treatment engagement. This is a very important outcome for Outreach since it is primarily aimed at people who are not/were not easily engaging with services (Wright-Berryman et al. 2011).

A meta-analysis that evaluated the effectiveness of ACT/Outreach for homeless people with SMI found that there was a 37% greater reduction in homelessness and a 26% greater reduction in symptoms compared with standard Case Management (n=5,775, across ten trials) (Craig M. Coldwell & William S. Bender 2007). This suggests that ACT/Outreach can have a role in supporting personal goals around stable housing.

Resource Group ACT/Outreach (RACT) is based on traditional ACT but incorporates recovery principles such as being person-centred and including participants and significant others in the ACT team (Nordén et al. 2012). A meta-analysis showed large effects on functioning, medium effects on symptoms and medium-to-large effects on wellbeing for RACT compared with standard treatments (Nordén et al. 2012). Effects on functioning were obtained independently of changes to symptoms. This intervention demonstrates the recovery possibilities in adaptations of ACT/Outreach.

An analysis of service use and ACT in the USA indicated that it reduced emergency department visits, inpatient stays and other outpatient use. However, it was not associated with improved access to physical health care (Wiley-Exley et al. 2013). This indicates that ACT/Outreach may need to make specific adjustments to incorporate integration with physical health services, possibly by inclusion of primary health carers in the ACT team (Wiley-Exley et al. 2013).

A recent Australian systematic review on Personal Assistance showed that there was moderate evidence for the reduction in hospitalisation and symptom reduction and improved satisfaction with personalised support programs and weak evidence for improved functioning (Siskind et al. 2012). Although 15 studies met inclusion criteria for the review, the quality of many trials was considered poor. The strongest finding was that there was a reduction in hospitalisations reported in four-out-of-five trials where this was measured. Two trials reported high client satisfaction and four reported qualitative material suggesting that clients felt valued by their support person and had their personal choices respected and their recovery supported. Some concern was expressed that the friendship and support of the support worker reduced the need for the participant to obtain or sustain external friendships and links with family (Siskind et al. 2012).

There was limited evidence regarding peer support workers in the support mentor role, but what evidence existed suggests that they can achieve outcomes similar to professionals (Siskind et al. 2012).

5.5.2.2 Results of trials

Individual trials of ACT/Outreach were not reviewed since there was adequate summary of ACT outcomes in meta-analyses and overviews.

A small number of trials for Personal Assistance identified through the Siskind systematic review (Siskind et al. 2012) are further described here as they either had a particularly relevant outcome reported or were conducted in Australia.

Consumers attending psychosocial rehabilitation facilities across the USA (n=444) rated their highest needs for which Personal Assistance was required. Approximately two-thirds endorsed each of the following three needs: the need for assistance with transportation, someone to discuss problems or feelings with and help in dealing with agencies and medical facilities (Pita et al. 2001).

In a qualitative study of befriending (a component of Personal Assistance) (Siskind et al. 2012) (n=9) (Bradshaw & Haddock 1998), participants reported increases in social activity, confidence in social situations and improved energy and interest in going out. The reasons participants felt these changes occurred was related to a sense of energisation brought about by their befriending visitor and the opportunity to do social activities that were too challenging to undertake alone (Bradshaw & Haddock 1998).

One small study reported on a skills training program (Tauber et al. 2014). Half of participants also had access to a support person of their choosing and half had the skills training only. At follow-up, the supported group were found to have significantly improved interpersonal functioning compared with the non-supported group. Symptoms, skills learning and retention were no different between the groups (Silburn 2015, Tauber et al. 2014). This may be evidence that personal support can enhance the generalisation of skills and knowledge from other concurrent interventions.

Two Australian studies looked at personal support in the context of a housing program. The first showed improvements in community activity and reduced need for hospitalisation (Meehan et al. 2011). There was maintenance rather than improvement in functional gain. This program was aimed at supporting participants discharged from a long-stay facility to stabilise functioning at a time of transition, which was achieved (Meehan et al. 2011).

The second study that provided intensive support (four-to-five hours per day) (n=85, no comparison group) in conjunction with a supported housing initiative showed sustained tenancy, reduced hospitalisations, new friendships and greater community activities (Muir et al. 2010).

In summary, the outcomes of Personal Assistance include reduced hospitalisations and service use and high levels of satisfaction. Interestingly, Personal Assistance programs show potential to be implemented alongside other, more targeted, interventions in order to enhance the generalisation of skills to wider life domains.

5.5.3 How the reported outcomes may relate to NDIS early intervention

The literature on ACT/Outreach and Personal Assistance indicates that these interventions may have useful application in the situation of early intervention, although the outcomes that have been measured to date tend to focus on clinically related service use variables.

Firstly, Outreach may be usefully adapted for the situation of supporting and coordinating supports for NDIS participants who are living with more severe psychosocial disabilities or particular challenges such as homelessness. Less intensive forms of coordination may not be sufficient to support engagement with chosen supports (Rosen et al. 2007).

Personal Assistance may be broadly useful to support participants to engage with their chosen supports and achieve their goals. It could be combined with other interventions, for instance in supporting a participant who has chosen to join an SE program. It is understood that the NDIS will not fund a person to be a support to a person with disabilities, but programs that provide Personal Assistance, similar to the current Personal Helper and Mentor Scheme (PHAMS), might still be appropriate.

The evidence is not extensive for personalised support compared with MST or ACT/Outreach, but the model has advantages in that it is congruent with recovery principles and self-determination for people living with SMI. It provides reasonable supports in the community context and avoids an institutional response to need.

5.6 Cognitive Behavioural Therapy for psychosis

5.6.1 Definition and description of intervention

Cognitive Behavioural Therapy for psychosis (CBTp) is based on the understanding that a person's subjective response to psychosis is key to the level of distress it causes them (Holt & Tickle 2014). It follows that, by reframing responses or changing behavioural strategies to psychotic experiences, much of the distress can be reduced, even if the symptoms themselves cannot be eliminated (Ritsher et al. 2004). CBTp is a treatment that can be provided in individual or group formats.

There is moderate evidence that CBTp can assist with changes to negative beliefs about voices and with improved coping, which then leads to reduced distress (Ruddle et al. 2014). There is a wide range of strategies that also assist in coping with psychosis (Ritsher et al. 2004, Farhall et al. 2007), which CBTp can help people to learn about and implement (Ruddle et al. 2014).

5.6.2 Evidence

Cognitive Behavioural Therapy for psychosis (CBTp) is an EBI whose effectiveness is well evidenced. However, the main outcome reported is the reduction in symptoms and relapse (Addington et al. 2010), and improvements in activity and participation are seen as secondary to symptom reduction (Addington et al. 2010). A Swiss meta-analysis also showed consistent benefits on persistent positive symptoms (Pfammatter et al. 2006). While this is an important outcome, it may not be relevant to the NDIS outcomes of interest, depending on the understanding of 'impairment'.

5.6.3 How the reported outcomes may relate to NDIS early intervention

CBTp may have great benefit in reducing symptoms and may be especially useful in the situation of medication-resistant symptoms. If positive symptoms are considered an impairment, then their mitigation may reduce activity limitations and participation restrictions.

However, CBT for psychosis is generally considered a clinical treatment and, where it is available, is often provided by clinicians in mental health services. Actual levels of receipt of this service in health settings are very low (Haddock et al. 2014), but this does not mean that the NDIS would 'fill the gap' in providing it if it is deemed a health service.

A wide range of adaptations means that CBTp can be used to focus on a variety of problems and concerns (Addington et al. 2010). It would appear that other interventions such as Social Skills Training achieve outcomes related to activity and participation more directly. It may be useful in the NDIS if CBTp is used in conjunction with other treatments that directly address NDIS outcomes, for instance if it is combined with a program for return to work or education.

5.7 Illness Self-Management Training or Activation

5.7.1 Definition and description of intervention

Illness Self-Management Training (ISMT) or Activation and (individual) psycho-education refer to a variety of programs that aim to increase consumer knowledge and understanding about mental ill-health. Xia et al. (2011, p7) refer to the core purpose of psycho-education as helping to enable a consumer to engage in 'behaviour change'. This primarily occurs through encouraging active involvement in treatment and self-management, which are core principles in the mental health recovery model (Mueser et al. 2013b). ISMT can occur in a group or individual format, and may include family involvement in the treatment process. Family Psycho-education as a separate type of intervention is discussed in more depth elsewhere in this literature review (see Section 5.2).

ISMT targets a variety of needs for consumers. For the treatment of schizophrenia, Mueser and McGurk (2004) outline three key areas where it is useful: knowledge of schizophrenia and principles of its treatment to inform decision making; monitoring of early-warning signs of relapse and developing a response plan; and learning and practising coping mechanisms to deal with persistent symptoms. Antipsychotic medication non-adherence in people with schizophrenia is a common reason for relapse and hospitalisation (Mueser & McGurk 2004, Xia et al. 2011, Yamada et al. 2006). ISMT aims to develop strategies to improve medication adherence to reduce relapse rates, however relapse can occur despite adherence (Mueser et al. 2013b, Tursi et al. 2013). Developing and enacting a response plan to the early signs of relapse is postulated to reduce the chances of relapse and hospitalisation, while coping mechanisms aim to manage persistent symptoms and reduce potential disruption to everyday life (Mueser et al. 2013b).

5.7.2 Evidence

5.7.2.1 Meta-analysis and systematic reviews

Ten articles (Lyman et al. 2014b, Zou et al. 2013, Tursi et al. 2013, Xia et al. 2011, Álvarez-Jiménez et al. 2011, Cuijpers et al. 2009, Beynon et al. 2008, Lincoln et al. 2007, Scott & Gutierrez 2004, Mueser et al. 2002) met the inclusion criteria for the purposes of this section and covered conditions such as schizophrenia, bipolar disorder and depression. The review articles in general presented evidence that pointed to ISMT assisting in the reduction of relapse events and rates of re-hospitalisation. Three articles (Lincoln et al. 2007, Lyman et al. 2014b, Tursi et al. 2013) found positive effects for Family Psycho-education initiatives in reducing the psychosocial burden of mental ill-health and improving problem-solving abilities for family members, as well as reducing symptoms and preventing relapse in consumers.

The Cochrane review undertaken by Xia et al. (2011) analysed 44 RCTs (5,142 participants, mostly inpatient) conducted between 1988 and 2009. These focused on schizophrenia and other related types of serious mental ill-health and had a median length of around 12 weeks' duration. Their purpose was to compare the effects of psycho-educational interventions (group and individual) with standardised forms of care. Incidences of treatment non-compliance were lower in the psycho-education group for the short, medium and long term. Relapse and hospital readmission rates were lower in the psycho-education group, with scale-derived data showing improvements in social and global functioning. Satisfaction in mental health services and quality of life were also higher in this group. Xia et al. (2011) noted the risk of bias for the trials as moderate and called for further research to investigate the approach. Limitations of the analysed evidence were not discussed in depth in the Cochrane review, however 27 citations that were new at the time of its publishing are yet to be assessed.

Zou et al. (2013) performed a meta-analysis to examine the outcomes of ISMT for people with schizophrenia. Thirteen studies from 1996 to 2010 with a total of 1,404 participants were included. ISMT was associated with a significant reduction in relapse and re-hospitalisation, with improvements in medication adherence and symptom reduction. Unlike Xia et al., Zou et al. could not confirm any benefits (through meta-analysis) regarding psychosocial functioning as the studies contained incomplete information for computing effect sizes, along with the variety of scales used to measure functioning. Five studies reported improvements in psychosocial functioning, while another five reported no significant improvements. The reason for this was unclear, although Zou et al. did question whether the timeframe of the study would influence outcomes; in other words, a longer study timeframe may have allowed more indirect or delayed effects on psychosocial functioning to emerge. This finding contrasts an earlier meta-analysis by Lincoln et al. (2007) on 18 RCTs assessing psycho-education for schizophrenia and other psychotic disorders, which reported significant effect sizes for the reduction of relapse and re-hospitalisation at 12 months after treatment but significance failed for longer follow-up periods. In this meta-analysis, Lincoln et al. report that psycho-education had no effects on medication adherence, symptoms and functioning. While the reason for this was also unclear, an additional finding was that psycho-education offered to patients only (and not to their families as well) was ineffective. This may have been due to a number of issues such as: lack of patient insight into their illness; lack of support post-treatment for patients; and issues learning the program material (for example, poor concentration and memory).

Two articles (Beynon et al. 2008, Scott & Gutierrez 2004) reviewed psychological treatments for the prevention of relapse in patients with bipolar disorder. Beynon et al. (2008) compared the interventions of CBT, Psycho-education, Family Therapy, Care Management and Integrated Group Therapy.

The three RCTs investigating Psycho-education all demonstrated reduced rates of manic relapses. Two trials showed reduced rates of depressive relapses, while one trial did not show a statistically significant difference in the rate of depressive relapses. The review by Beynon et al. is limited due to the small numbers of studies analysed within Psycho-education, as well as an inability to draw conclusions around relative efficacy of the interventions. Similarly, Scott and Gutierrez (2004) analysed a number of RCTs to investigate different intervention types in the treatment of bipolar disorder. The review only looked at one RCT (Colom et al. 2003), which assessed the efficacy of group psycho-education versus a non-structured intervention over a two-year period. Colom et al. reported that group psycho-education was significantly more effective at preventing manic and depressive relapses, as well as reducing the number and length of hospitalisations per patient.

Cuijpers et al. (2009) examined 25 RCTs that had studied the efficacy of the 'Coping with Depression' (CWD) course, a psycho-educational intervention taught in a group or individual format that is used in a variety of countries for the treatment, prevention and relapse prevention of depression. Populations studied in these RCTs included: adults, older adults, adolescents, primary care patients and ethnic minorities. Of relevance to this literature review regarding early intervention, CWD has shown in the analysis to be "effective in the prevention of new cases of major depressive disorder, in those who did not meet criteria for such a disorder at baseline" (Cuipers 2009). The analysis also showed that "those who participated in a preventive version of the CWD had 38% less chance of developing a major depressive disorder than those who did not participate" (p456). CWD was found to have a small effect on treating individuals with existing depression, particularly adults, and the authors questioned whether the use of the course on "complex target groups" (p456) resulted in a lower mean effect size. Cuijpers et al. commented that more research was required to: ascertain which populations CWD would be more effective in; compare CWD against anti-depressive medication; and assess what elements of the CWD skill 'toolbox' are effective and why. Tursi et al. (2013) performed a systematic review on 15 studies evaluating psycho-education for adults with major depressive disorder. Their findings suggested that increased knowledge through psycho-education led to a better prognosis for patients and reduced psychosocial burden for the family. Tursi et al. mentioned that the studies reviewed had methodological limitations including heterogeneity of participants, methods and criteria of evaluating psycho-education and poor descriptions of the therapeutic approaches. These limitations meant that the authors could not perform a meta-analysis.

5.7.2.2 Results of trials

Five trials met the inclusion criteria for the purposes of this section. They specifically reported on bipolar disorder (Barnes et al. 2015), major depressive disorders (Morokuma et al. 2013), illness management and recovery programs based on the work of Gingerich and Mueser (Levitt et al. 2009, Hasson-Ohayon et al. 2007) and a peer-led Wellness Recovery Action Program (WRAP) (Cook et al. 2012). Apart from the Barnes et al. RCT (2015) on an Australian internet-based preventive intervention (as an adjunct to medication), which found no significant difference between the intervention and an active control, the remaining four trials recorded positive effects for the intervention similarly to the aforementioned meta-analyses and systematic review studies. As such, a brief summary of two studies focusing on specific disorders will be provided in the context of this section.

Barnes et al. (2015) recruited 233 participants diagnosed with bipolar disorder and randomised them to an active or control group and reported on the results at 12 months. They discussed possible reasons for no significant difference in effect between the intervention and control groups. The intervention may have been limited in its effect as both groups would have access to other information about healthy lifestyles that may or may not have influenced the outcomes. The study population had a high morbidity in relation to depressive symptoms, which brought into question the stage at which this type of intervention is useful for bipolar disorder. Participants also reflected considerable heterogeneity due to intentionally broad inclusion criteria, and the inherent reliance on self-reported symptoms may have led to the inclusion of participants with a primary diagnosis other than bipolar disorder.

Morokuma et al. (2013) used an RCT to test the efficacy of a psycho-education intervention on 34 patients diagnosed with a major depressive disorder, randomised to the intervention or a control group. The time to relapse in the intervention group was significantly longer at nine months, and this group showed a significantly greater decrease in the depression than the control group. Morokuma et al. postulated that the psycho-education part of early warning sign detection may have played a part in the intervention effectiveness, however the study was limited in that the symptom knowledge questionnaire was not readministered at its conclusion to assess the effect of psycho-education. Furthermore, the intervention was administered without any 'topic limits', meaning that the effect of this non-specificity was unable to be proven. Other limitations included a small amount of participants, the majority of whom were middle-aged participants from Japan, restricting generalisability.

5.7.3 How the reported outcomes may relate to NDIS early intervention

The outcomes for Illness Self-Management Training and Activation appear promising at this stage, although their impact has been mainly documented on relapse; the effect on functional outcomes is not clear. Illness Self-Management Training may be a useful support for early intervention on account of its educative nature and because it supports independence in managing daily living with an SMI. It can be used as a vehicle to deliver very positive messages about recovery and maintaining activity and participation. However, it has no direct role in supporting participation, so its ultimate impact is limited. It could play a useful role as an adjunct to such interventions as Supported Employment as it can help with resolving concerns about managing mental ill-health in the workplace, for instance. It is potentially an intervention that can be adapted to suit a wide range of participant goals.

5.8 Supported Housing

People living with SMI and disabilities have a right to live independently (Wiesel et al. 2015) and need secure, affordable housing. 'Adequate housing' is housing that is affordable, accessible, habitable, appropriately located and culturally suitable. It is a human right (Australian Human Rights Commission 2015, Killackey et al. 2015). Housing has become a more pressing concern since community care replaced institutional care for those living with SMI (Chilvers et al. 2006). In Australia, this transition occurred in the 1990s, when the majority of institutional care facilities were closed (Meadows & Singh 2003).

The 2010 second Australian national survey of psychosis (SHIP) (Morgan et al. 2012) provided a snapshot of the housing situation for people living with psychosis across Australia. Although the group studied in the survey is not identical to the group who are expected to access the NDIS, the survey, based in epidemiological methods as it is, gives an excellent overview of the housing situation for people living with SMI.

Of the 1,825 people living with psychosis who participated in the SHIP survey, 27 percent were in public rental accommodation, 22 percent in private rental, 19 percent were living in the family home, 13 percent in their own home, 11 percent in a supported group accommodation, 5 percent were homeless and a final 3 percent lived in other accommodation (including institutions, hospital, caravan or prison) (Harvey et al. 2012). A high proportion would have liked to live in own home or flat (40 percent), but only 13 percent had attained this; and only 10 percent wished to live in the family home, whereas nearly double this figure actually did (Harvey et al. 2012).

Nevertheless, four-fifths of survey participants were very or somewhat satisfied with their housing, but only 4.4 percent were very dissatisfied, and this was significantly associated with no choice and lack of privacy in their current housing (Harvey et al. 2012).

The number of homeless people (5 percent) represented a reduction in homelessness from the previous survey in 1998 (from 13 percent), although 12.8 percent were homeless at some point in the previous year. The improvement may be due to various changes such as policy modifications, implementation of housing programs and changes to clinical procedures such as a 'no discharge into homelessness' practice in hospitals. In spite of this, 7.5 percent of participants who had had a hospital stay in the past year were not asked about housing and had nowhere to stay on discharge (Harvey et al. 2012).

The previous paragraphs suggest that there are two issues regarding housing for people with SMI and psychosocial disability: firstly, a need for interventions for those at risk of homelessness; and secondly, providing preferred housing/higher-quality housing to those who are dissatisfied with their current situation.

Since the provision of housing can be costly in terms of development, capital requirements and on-going care requirements (Chilvers et al. 2006), it is important to ensure that housing programs are effective and provide the best possible value.

5.8.1 Definition and description of intervention

Supported Housing or 'outreach support schemes' support people with SMI to live in self-contained, independent accommodation in the community. The accommodation is accessed by a regular tenancy agreement. (In this literature review these schemes are all categorised as 'Supported Housing' (SH) as the latter has become a standardised intervention.)

Reif et al. (2014) describe permanent supportive housing as a "direct service that helps adults with mental and substance use disorders who are homeless or disabled identify and secure long-term, affordable, independent housing. Service providers offer ongoing support and collaborate with property managers to preserve tenancy and help individuals resolve crisis situations and other issues" (p288).

The person receives regular (at least fortnightly) visits by professional Outreach workers. Again, the minimum aim is to maintain tenancy (Chilvers et al. 2006).

The advent of Supported Housing is associated with more recovery focused principles, such as:

- Housing is chosen by the program participant, not assigned.
- Program participants are viewed in terms of the 'normal' roles of community member, tenant and citizen (rather than patient, program resident or service recipient).
- Control is handed from staff to the individual.
- There is a focus on social integration.
- There is a separation of housing, services and supports.
- Skills learning occurs in permanent settings rather than before placement.
- There are flexible supports rather than standardised levels of service.
- There is a focus on facilitative environment rather than on least restrictive environment.
- There is less emphasis on professional services and more emphasis on natural supports.
- Housing is conceptualised as a right and a prerequisite for effective rehabilitation (Tabol et al. 2010).

Supported Housing enables a process of adaptation so participants learn how to deal with the problems and challenges of independent living, such as stigma, discrimination and poverty. It can be a basis for recovery through independent living, reduced depression, increased dignity, self-worth and motivation to join the community (Killackey et al. 2015). Conversely, there is also a risk of isolation that can threaten housing stability, since often consumers live alone in these schemes (Chopra et al. 2011).

There are other specific services that have been developed to respond to particular situations. For instance, critical time intervention is a brief, focused service delivered at point of a transition, for example at discharge from hospital (Killackey et al. 2015).

'Supported Group Accommodation' (SGA) or 'Supported housing schemes' accommodate a number of people with SMI who live in self-contained accommodation on one site. Professional support is available for various times (it can be 24-hour or only during office hours). Supports on offer include counselling, therapeutic groups, emotional support, information and instruction in both individual and group formats. The minimum goal of residing in such a program is to maintain the tenancy, but there may be additional personal goals such as abstaining from using alcohol or other drugs. Part of the rationale of such programs is to provide a 'safe haven' while a person engages in productive changes in their life (Chilvers et al. 2006).

5.8.2 Evidence

5.8.2.1 Meta-analysis and systematic reviews

A Cochrane review of housing programs for people with SMI was conducted in 2006 (Chilvers et al.). No trial out of the 139 that were identified in the literature search undertaken for the Cochrane review met with criteria for the meta-analysis). This was because trials seldom used a randomised methodology (that is, they assigned participants to alternative types of treatment randomly), did not compare types of housing program (but instead compared hospital inpatient treatment with residential treatment, for instance) or did not collect relevant or appropriate outcome measures.

The authors stated:

> Dedicated schemes whereby people with severe mental illness are located within one site or building with assistance from professional workers have potential for great benefit as they provide a 'safe haven' for people in need of stability and support. This, however, may be at the risk of increasing dependence on professionals and prolonging exclusion from the community. Whether or not the benefits outweigh the risks can only be a matter of opinion in the absence of reliable evidence. There is an urgent need to investigate the effects of supported housing on people with severe mental illness within a randomised trial. (1993, p2)

This systematic review had less stringent criteria for including studies and 44 were included, but only a handful of randomised controlled trials (RCTs). They graded all interventions into four categories for comparison: residential care and treatment (similar to SGA), a Residential Continuum model, Supported Housing and non-model housing (all other comparison conditions). Table 7 compares the four models on staffing, conduct rules, development era, guidelines on alcohol and other drugs and support of functioning gradient.

Table 7: Comparison of four types of housing support (Leff et al. 2009)

	Residential care and treatment (similar to SGA)	Residential Continuum (RC) model	Supported Housing (SH)	Non-model housing
Staff on site	On site	Not on site	Not on site	Not specified
Rules of conduct	Yes	Yes	No	Not specified
Era developed	Earliest	Later	Recent	Not specified
Use of AOD	Not allowed	Not allowed	Harm reduction approach	Not specified
Support of functioning gradient	Mainly fixed; can progress but often aimed at long-term support	Can progress along stages of independence	Aimed at supporting fluctuating functioning by wrap-around services when needed	Not specified
AOD = Alcohol and Other Drugs				

All three interventions improved housing stability, with effect sizes of 0.48 to 0.8 and with the Residential Continuum model most effective. Leff et al. (2009) reported that demographic characteristics were similar across the four compared types of housing intervention but could not assess functional variables as there was not enough data. This meant the comparisons were relatively valid as the groups were reasonably equivalent.

For reduction in symptoms, residential care and Residential Continuum had an impact; Supported Housing did not. Both residential care and Supported Housing reduced hospitalisation (the latter more so, but there were no reports on Residential Continuum for more comparisons). For reduction in abuse of alcohol and other drugs, residential care and Supported Housing were the most effective, with Residential Continuum not showing much impact. Both residential care and Supported Housing were effective for improving employment (this was not tested for Residential Continuum). Satisfaction (specific measures not detailed) with residential care was the lowest; it was moderate for Residential Continuum and high for Supported Housing. Sub-groups that benefited most from any housing intervention were white females (studies were mainly from the USA). Those without co-occurring substance abuse disorders had greater satisfaction with their housing and a greater reduction in alcohol and drug abuse. Some aspects of housing that are presumably relevant, such as number of residents, neighbourhood character and urban or rural setting were not reported in studies, which represents a gap in the literature (Leff et al. 2009).

The authors concluded that all interventions support housing stability and all achieved distal or non-housing outcomes. There was a lot of variation between interventions, so more information is needed on which are best for whom and when.

This very useful analysis of the various types of programs concludes that all programs can be helpful in improving outcomes for people living with mental ill-health, given the range of different needs across the population, where ‘one size does not fit all’. However, this meta-analysis actively excluded non-USA studies, and thus generalisation to the Australian context must be applied carefully.

Specific reviews of Supported Housing showed that it reduced homelessness, increased housing tenure and decreased ED visits and hospitalisations for people with SMI and co-occurring substance abuse (Rog 2004).

Supported Housing had no effect on symptoms and AOD abuse. There was an increase in consumer satisfaction with Supported Housing compared with TAU, non-housing programs or other housing support types. Effects were most pronounced in comparisons with TAU or non-housing programs, and less when compared with other housing support types (Rog 2004).

Independent housing was associated with greater satisfaction with housing and neighbourhood, and inadequate housing was associated with decreased functioning but no causality can be assumed. Stable housing tenure was also related to decreased service use and costs (Rog 2004).

Another review of Supported Housing reported that most participants placed in it with Case Management were able to sustain tenure for over a year (Benston 2015). However, it also suggested that there are still significant methodological flaws in the research regarding bias, variations in program definitions, inadequate fidelity measures and lack of appropriate controls, echoing Leff et al. and Chilvers et al. from above. They suggested a need for further study with regard to overcoming these methodological flaws.

A third review of Supported Housing (Fakhoury et al. 2002) showed that functioning can improve, social integration can be facilitated and residents are generally more satisfied in it than they are with conventional hospital care. They also reported that low-restrictiveness programs with more independent living arrangements met with greater consumer satisfaction, but loneliness and isolation can be of concern.

Nelson et al. (2007a) compared housing support programs such as Supported Housing and Supported Group Accommodation (SGA) for homeless people living with mental ill-health, as well as the role of Assertive Community Treatment (ACT) and Intensive Case Management (ICM). Supported Housing led to the best outcomes for maintaining housing tenure. SGA was not as effective because housing was only provided for the course of the program. ACT and ICM were also helpful in supporting housing, but not as effective. Outcomes over the long term were not apparent (Nelson et al. 2007a).

The combination of Supported Housing and clinical support such as ACT or ICM had a good impact on housing outcomes and also on non-housing outcomes, suggesting that such combinations may be best for providing comprehensive improvement in outcomes.

Housing programs also led to better engagement with services overall. SGA was also associated with less hospitalisation, but there was less satisfaction with privacy in comparison with independent living in Supported Housing.

In conclusion, all types of residential support would appear to have a role to play in supporting participants. Supported Housing provides positive outcomes in functioning, has high satisfaction and is congruent with recovery principles. It may be particularly suitable when housing is a direct need (for instance, resolving homelessness immediately) or when it is the proximal outcome required.

5.8.2.2 Results of trials

A small number of trials are reported here to supplement the reviews.

In a study of Supported Housing with 301 participants, housing achievement was correlated with better improvement in community integration, quality of life and reduction in symptoms. The vast majority were successfully housed at least once (283 out of 301 participants). The authors covered a range of outcomes, including an immediate improvement in housing and access to services, working alliance and hope for change, then intermediate outcomes of service participation and more engagement with treatment. Distal changes included a decrease in substance use, increase in subjective wellbeing, improved illness self-management, employment and increased social participation. The final range of changes were decreased service use, increased quality of life and improved physical health (Stergiopoulos et al. 2014).

A 2010 trial that compared SGA with Supported Housing showed no differences in clinical or community adjustment outcomes. Supported Housing clients had fewer days incarcerated and felt they had more choice in their treatment (Tsai et al. 2010).

Another trial showed that housing choice and quality and control over professional support predicted subjective quality of life and adaptation to community living (Nelson et al. 2007b).

Additional research suggests that cognitive deficits can increase the risk of becoming or remaining homeless. Thus there is a priority in identifying them and working with them effectively. It may be important to assess cognitive functioning, recognise that it is a risk factor and consider it when planning for housing support services (Backer & Howard 2007). Cognitive Remediation to enhance cognitive functioning may be useful. Alternatively, specific practice modifications to work with people with cognitive deficits (Backer & Howard 2007) may be utilised.

5.8.3 How the reported outcomes may relate to NDIS early intervention

People with SMI have high levels of unstable housing (Siskind et al. 2013), and the combination of that and SMI is associated with functional disability, victimisation, physical illness, mortality, increased number of emergency department presentations and decreased engagement with community and mental health services (Siskind et al. 2013). The provision of housing, personalised support and clinical services can assist with dual SMI and instability in housing (Siskind et al. 2013). The outcomes of quality independent housing include an increased sense of independence, valuing of privacy, choice of house mates, increased physical and mental health and increased social participation (Wiesel et al. 2015).

Supported Housing may be a very important support that participants can choose in the context of early intervention because, with stable housing, many other activity and participation opportunities become possible (Wiesel et al. 2015). Clearly, living independently is a significant goal for many participants (Harvey et al. 2012), and thus Supported Housing is likely to be a key support for their needs and aspirations. Although the evidence is not rigorous at this stage, Supported Housing is a promising, cost-effective support for recovery in the early intervention context. Since it is a crucial foundation for a range of social inclusion opportunities, supports the mental health of people living with mental ill-health and would appear to be a very significant goal for many NDIS participants, then, in spite of evidence limitations, it seems to be a key early intervention support.

5.9 Physical health supports

The increased mortality rates and prevalence of chronic illness in persons with serious mental ill-health are well documented in the literature. Brown et al. (2010) measured the 25-year mortality rate of a cohort of 370 UK residents diagnosed with schizophrenia and found that their mortality risk is two-to-three times higher than that of the general public. Cardiovascular mortality increased relative to the general population over the course of the study, and most of the increased mortality was attributed to the effects of cigarette smoking. Vancampfort et al. (2011) referred to the high prevalence of cardiovascular disease and metabolic disorder risk factors in those diagnosed with schizophrenia to be a “complex interplay” (p703) between environmental (physical inactivity, poor diet, substance abuse), genetic, illness-related and antipsychotic treatment factors. The international review undertaken by Scott and Happell (2011) showed increased prevalence of chronic illness such as obesity, symptoms of cardiovascular disease, diabetes mellitus, metabolic syndrome and respiratory disease by at least two times–and HIV prevalence may be increased up to eight times–in those with serious mental ill-health.

5.9.1 Definition and description of intervention

The studies reviewed in this section cover physical therapy and exercise, diet and nutrition, smoking cessation and weight loss. In the systematic review on physical therapy within a multidisciplinary approach for people with schizophrenia, Vera-Garcia et al. (2015) considered therapies that may include a range of activities such as: aerobic exercise, strength exercise, body awareness training and relaxation techniques. Physical activity as therapy was defined as "planned, structured, repetitive and purposive in the sense that improvement or maintenance of physical performance or health is an objective" (p829). Diet and nutrition interventions aim to improve dietary choices to mitigate overweight, obesity and weight gain associated with some antipsychotic medication. Poor choices in dietary intake include the consumption of excess fats, instant meals and 'fast food' and less dietary variety and consumption of healthy food items (for example, wholegrains, fresh fruit and vegetables) (Verhaeghe et al. 2011). Tsoi et al. (2013) reported people with schizophrenia have five times the odds of being smokers than the general population, with lower rates of smoking cessation, which contributed to higher mortality and morbidity in people aged 35–54. Cigarette smoking may be used by people with schizophrenia to improve cognitive functioning, and their higher severity of nicotine dependence than the general smoking population's is a challenge to smoking cessation (Tsoi et al. 2013). Interventions to stop and reduce smoking involve pharmacological treatment, sometimes accompanied with psychosocial interventions or with psychosocial interventions alone.

5.9.2 Evidence

5.9.2.1 Meta-analysis and systematic reviews

Fifteen articles met the inclusion criteria for this section. Subjects covered included physical therapy and exercise (Vera-Garcia et al. 2015, Verhaeghe et al. 2011, Vancampfort et al. 2014, Stanton & Happell 2014, Pearsall et al. 2014, Danielsson et al. 2013, Cooney et al. 2013, Vancampfort et al. 2012, Gorczynski & Faulkner 2010, Rethorst et al. 2009), diet and nutrition (Lai et al. 2014, Verhaeghe et al. 2011, Porter & Evans 2008), smoking cessation and reduction (Tsoi et al. 2013) and weight loss (Bonfioli et al. 2012). One Cochrane review (Tosh et al. 2010) aimed to assess the effectiveness of physical health monitoring for people with serious mental ill-health versus standard care, however the authors could not find any trials that met their inclusion criteria, although one trial is ongoing.

Two articles originated from the Cochrane database that examined the role of exercise in the treatment of depression and schizophrenia. Cooney et al. (2013) reviewed data from 37 RCTs to examine its effects on depression and concluded that it is moderately more effective in reducing symptoms than a control intervention, with a smaller effect size in methodologically robust trials. Exercise was no more effective than antidepressants or psychological treatments, and the evidence for exercise improving quality of life in the meta-analysis was inconclusive. Gorczynski and Faulkner (2010) examined three RCTs that compared physical activity as the main intervention element versus standard or other care in persons with schizophrenia. Two trials compared standard care with exercise and found exercise to improve negative symptoms of schizophrenia and also to improve physical health in the exercise group. The results were encouraging but limited in terms of the variety of outcome measures used for physical and mental health, as well as the small number of RCTs and participants. The systematic review by Vera-Garcia et al. (2015) of 13 RCTs with 549 participants demonstrated that aerobic exercise "significantly reduces psychiatric symptoms, potentially improves mental and physical quality of life and reduces metabolic risk and weight" (p828). Vancampfort et al. (2012) found evidence in a systematic review of ten RCTs to suggest that aerobic and strength exercises, as well as yoga, alleviated psychiatric symptoms and improved health-related quality of life. Both systematic reviews commented on the heterogeneity of methods and outcome measures, along with small sample sizes that limit drawing conclusions.

Lai et al. (2014) conducted a meta-analysis and systematic review of studies looking at the association between depression and dietary patterns. Twenty-one studies were included in the overall review, however only 13 observational studies met criteria for meta-analysis. Results showed that a healthy dietary pattern (for example, high intake of fruit, vegetables, wholegrains, poultry, fish and reduced-fat dairy products) was associated with reduced odds of depression. Limitations of the review included heterogeneity of study designs and dietary interventions, with more RCTs and prospective cohort studies required to assess causality between diet and symptoms. Bonfioli et al. (2012), in their meta-analysis of 17 RCTs that aimed at weight loss or prevention of weight gain, showed interventions that included dietary and physical activity generally reduced weight. Heterogeneity of studies and poor methodology regarding randomisation, data reporting and blinding methods limit the results of this meta-analysis. Verhaeghe et al. (2011) also demonstrated that improvements, albeit small, could be found in body weight, BMI and quality of life through interventions that target dietary patterns or physical activity in those with serious mental ill-health in a systematic review of 14 studies. The review of Australian and New Zealand research on nutrition and mental health by Porter and Evans (2008) called for future research to occur in the Australian and New Zealand contexts, particularly around intersectoral partnerships with dieticians and other healthcare practitioners.

The Cochrane review by Tsoi et al. (2013) evaluated the benefits and harms of different treatments (pharmacological or non-pharmacological versus therapeutic control) for nicotine dependence in people with schizophrenia. Thirty-four RCTs were included and the drug buproprion was demonstrated to increase abstinence rates without deleterious effects on mental state. Varenicline may improve cessation rates but there were questions around psychiatric adverse effects. Contingent reinforcement may increase abstinence and reduce smoking rates in the short term. Tsoi et al. did not find evidence to suggest that other non-pharmacological interventions had an effect on smoking cessation or reduction.

5.9.2.2 Results of trials

Four articles (Mueser et al. 2012, Beebe et al. 2011, Van Citters et al. 2010, Druss et al. 2010) met the inclusion criteria for this section.

The pilot study of Mueser et al. (2012) studied the efficacy of a program which integrated self-management of physical and psychiatric illness in eight older persons with SMI and a comorbid medical condition (Illness Self-Management Training as an intervention is discussed elsewhere in this review). While the study was small and not an RCT, available data for four participants over a period of ten months showed that two demonstrated improvements in nutrition and exercise, with all four improving their self-management.

Beebe et al. (2011) randomly assigned 97 outpatients with schizophrenia spectrum disorders either to a motivational program designed to increase exercise participation or to a time and attention control group with no exercise or motivational content. Participants were then offered the chance to participate in a 16-week walking program. Exercise attendance, persistence and compliance were measured in both groups participating in the program. Recipients of the motivational program attended more walking groups for a longer duration and walked more minutes than the control group. The study was possibly limited by a non-representative sample of participants with low motivation who chose not to undertake the walking program, as well as an inherently small sample size.

Van Citters et al. (2010) undertook a pilot study of an individually tailored health promotion program (In SHAPE) to ascertain the effect participation had on physical activity, dietary behaviour health indicators and psychological functioning on 76 adult participants diagnosed with a range of serious mental illnesses. In SHAPE promotes "access to community-based health and fitness services, recognizes the potential for wellness, encourages active participation in health promotion activities and health education, and acknowledges the need for services that are tailored to the individual's personal health goals, needs, and readiness to change" (Van Citters 2010, p4). Over a nine-month period, participants demonstrated increased exercise and vigorous activity with a trend towards reduced caloric intake. Reduction in waist circumference and satisfaction with mental health functioning and fitness was also demonstrated. Although there was no significant change in BMI, negative symptoms of mental ill-health did decrease for participants. Further RCTs will need to be undertaken to explore these results.

The Health and Recovery Program (HARP) is a peer-led intervention designed to help participants manage their chronic illnesses. It is an adaptation of the Chronic Disease Self-Management Program, developed and modified in conjunction with a panel of mental health experts. Druss et al. (2010) randomised 80 consumers with one or more chronic illness to the program or treatment as usual in a pilot study. It consisted of six group sessions that covered a range of topics in a simplified manner which included disease-specific self-management, problem-solving skills, medications, mind-body connection and mental health advance directives. Specifically, the diet and exercise sections contained strategies that addressed the high rates of poverty and social disadvantage experienced by consumers, such as advice around food purchasing and safe exercise at home. At the six-month follow-up, the HARP group showed greater improvement in patient activation and advantages were shown for physical health-related quality of life, adherence to medication and physical activity. The study was limited by the small sample size and follow-up period, as well by relying on self-reported outcome measures.

Unützer et al. (2013) describe the collaborative care model, an approach that integrates primary and mental health care provision, as leading to both positive medical and mental health outcomes and cost effectiveness outcomes.

5.9.3 How the reported outcomes may relate to NDIS early intervention

There is no doubt that supports to enhance the physical health of people with psychosocial disability are important, and this is a need identified by many living with SMI (Morgan et al. 2011). Although the evidence is clear that the physical health of people with psychosocial disability is impaired (Galletly et al. 2012), the systematic evidence does not strongly support physical health interventions at this stage and is limited to a small number of program pilots. Supporting physical health and fitness would be an appropriate choice in the early intervention context since it can potentially reduce physical and psychosocial impairment and thus improve activity and participation. However, these supports may be better accessed through the health system and are unlikely to be provided through the NDIS.

5.10 Peer Support and other consumer networks

Consumer participation in mental health care has increased in recent years, with a rise in the development of Peer Support services for people with SMI (Repper & Carter 2011, Sledge et al. 2014, Van Vugt et al. 2012). Chinman et al. (2014) define peers as "individuals with histories of successfully living with serious mental illness who, in turn, support others with serious mental illness" (p1). Peers are believed to contribute to the recovery orientation of mental health services by helping others to become empowered, active and hopeful in their recovery process through a reciprocal relationship based on empathy, validation and mutual support (Chinman et al. 2014, Mead & Copeland 2000, Repper & Carter 2011).

5.10.1 Definition and Description

Peer support services can vary in scope and participation. Solomon (2004) outlined six categories:

1. Self-help groups – small groups that are usually formed by peers that physically come together to offer mutual support and overcome a common issue.
2. Online internet support groups – these are usually conducted through email or online forums and offer anonymity through lack of face-to-face interaction between members.
3. Peer-delivered services – services delivered by peers who identify with having mental ill-health, have received (or are currently receiving) treatment and are further along in their process of recovery.
4. Peer-operated services – these services are planned, administered, operated and evaluated by consumers and are based on the principles of peer control and freedom of choice. Services are usually found within larger organisations and can take the form of crisis services, drop-in centres, vocational and employment services and psycho-educational services.
5. Peer partnerships – services whose administration, governance and service delivery are shared between peers and non-peers.
6. Peer employees – individuals who identify as peers are employed within mainstream mental health services in an adjunctive capacity. Examples of roles are peer advocates, peer companions and peer specialists.

5.10.2 Evidence

5.10.2.1 Meta-analyses and Systematic Reviews

Four articles (Chinman et al. 2014, Pitt et al. 2013, Repper & Carter 2011, Davidson et al. 2006) met the inclusion criteria for the purposes of this section. In general, the evidence was encouraging with respect to Peer Support being at least as effective as conventional treatment. However, the authors noted the heterogeneity of models analysed, the “enormous international diversity in implementation and research” on Peer Support and methodological problems with study designs to be key issues in the assessment of the current evidence.

The Cochrane review undertaken by Pitt et al. (2013) assessed the effects of employing peer support workers providing mental health services to clients in 11 RCTs involving 2,769 participants. The overall evidence was judged as low to moderate, primarily due to most studies exhibiting an “unclear risk of bias in terms of random sequence generation and allocation concealment, and high risk of bias for blinded outcome assessment and selective outcome reporting” (p2). Pitt et al. concluded that outcomes for consumers were no better or worse than those achieved by professionals in similar roles, such as case management services. Low-quality evidence suggested that involving consumer-providers (that is, peers) in mental health services resulted in a small reduction in the use of emergency services by clients. No evidence of harm was found with involving consumer-providers in mental health teams. This echoed an earlier review by Davidson et al. (2006) that reviewed data from four RCTs and found few differences in outcomes between peer support services and conventional care. Pitt et al. recommend that future trials evaluate standardised measures of client mental health, benefits and harms to consumer-providers and financial costs regarding the intervention, as well as utilising consistent and validated measurement tools. Further evidence was called for from countries outside the United States as the reviewed evidence was strongly based there.

Chinman et al. (2014) systematically reviewed the evidence and effectiveness of peer support services from 20 studies between 1995 and 2012, looking at arrangements which included peers added to traditional services, peers in existing clinical roles and peers delivering structured curricula. The authors judged the methodological quality of the studies using three levels of evidence (low, moderate and high) and found a moderate level of evidence for each service type. The consistent finding was that peers were at least as effective as non-peers and clinicians. Their analysis showed positive results for the effectiveness of peers added to traditional services and peers delivering structured curricula, although peers in existing clinical roles showed mixed effectiveness. Chinman et al. noted the heterogeneity of models and outcome measures, along with small sample sizes, non-corroborated self-reported data and unreliable outcome measures of the reviewed studies to be limitations in their review. In their opinion, further research should consider what outcome measures best indicate impact and the most appropriate tools to use for this (see Pitt et al. 2013), with the example of self-management and other recovery oriented measures potentially being more useful than other traditional measures of functioning and symptoms.

Repper and Carter (2011) were driven by the "pragmatic intention" (p393) of employing peer support workers in a local mental health service and, in their review, aimed to clearly define and distinguish Peer Support and determine ways in which it could be most effectively implemented. They systematically reviewed multiple sources of evidence and types of data that included qualitative studies and grey literature. Thirty-eight articles met the inclusion criteria and were analysed and organised into a framework of key themes. The review showed that Peer Support led to: reductions in hospital admissions and stigma for clients; increases in client empowerment, social support and functioning; and increased empathy and acceptance. The review reiterates the findings of Pitt (2013) in that the seven trials included did not show any difference in mental health outcomes for clients. Repper and Carter argue that when a broader range of studies is analysed, the benefits of peer support workers emerge as what they "appear to be able to do more successfully than professionally qualified staff is promote hope and belief in the possibility of recovery; empowerment and increased self-esteem, self-efficacy and self-management of difficulties and social inclusion, engagement and increased social networks" (p400). Some challenges in the employment of peer support workers were noted, mostly centring on issues of: peer support worker accountability; boundaries between client and peer support worker; the stress of the role; and boundary issues between peer support workers, their clients and other professionals. According to Repper and Carter, the review was limited as an analytical framework was not utilised and the reported findings were somewhat generalised, even though a variety of themes were described.

5.10.2.2 Results of trials and single studies

Nine trials (Sledge et al. 2014, Cook et al. 2012b, Castelein et al. 2008, Rowe et al. 2007, Pitt et al. 2007, Kennedy et al. 2007a, Nelson & Lomotey 2006, Rummel et al. 2005, Klein et al. 1998) met the inclusion criteria for the purposes of this section. They reported positive effects on a range of areas such as: reducing rates of re-hospitalisations and length of hospital stay (Sledge et al. 2014); improvements in consumer self-perception of recovery, self-efficacy, feelings of hope and control of depressive symptoms (Cook et al. 2012b, Kennedy et al. 2007b, Pitt et al. 2007); consumer knowledge of illness and treatment (Rummel et al. 2005); and social support and community integration (Castelein et al. 2008, Nelson & Lomotey 2006).

Sledge et al. (2014) used an RCT design to determine the feasibility and effectiveness of Peer Support on reducing psychiatric hospitalisations in patients aged 18 years or older who had been hospitalised three or more times in the last 18 months in New Haven, Connecticut. Seventy-four participants were randomly assigned to two groups, Peer Support with usual care (n=38) and usual care (n=36), and were assessed at a nine-month follow-up. Participants who were assigned to the peer support group had significantly fewer re-hospitalisations than the control group, with fewer hospital days at nine months. No substantial differences were found between participant groups before random assignment. While the study was limited in terms of participant numbers, use of a single setting and a comparison group to control for factors not exclusive to the peer support staff, it does warrant attention. Fewer future re-hospitalisations and hospital days due to Peer Support meets the NDIS requirement for an early intervention to be likely to reduce a person's future support needs (Commonwealth Government of Australia 2013).

The RCT by Kennedy et al. (2007) of 629 patients in England reported on the primary outcomes of self-efficacy, participant-reported energy levels and health service utilisation at six months between a peer-led, self-care support group and a waiting list control. While there was no significant reduction in health service utilisation (in contrast to the Sledge et al. trial), the analysis showed "considerably greater self-efficacy and energy at 6-month follow up" (p254). 'Self-efficacy' refers to patient confidence in managing their condition and is "hypothesised to lead directly to changes in health status [and] healthcare utilisation" (p255). Secondary outcomes relating to measures of health and self-care behaviour were also measured and intervention participants demonstrated "considerably fewer social role limitations, better psychological wellbeing, lower health distress, more exercise and relaxation, and greater partnership with clinicians" (p257). This result indicates the potential of Peer Support to prevent deterioration and improve capacity as per the NDIS requirements for early intervention. Sledge (2014) was unable to measure the cost effectiveness of Peer Support due to the study design, however Kennedy et al. (2007) did analyse the cost effectiveness of the intervention and concluded that there was a 70% probability that it was cost effective. This finding, along with improvements in the health-related quality of life of intervention participants, further indicates the potential of Peer Support in an early intervention context. Limitations of the Kennedy et al. RCT to consider include the short nature of the follow-up, which meant drawing limited conclusions regarding health service utilisation as the study "may not have provided enough time for patterns of usage to change, or the fact that the intervention was not linked explicitly with wider care provision" (p260). Also, the researchers were unable to comment on the exact mechanism by which the intervention worked and called for a comparative approach in future research to include other intervention forms.

Castelein et al. (2008), in a multi-centre RCT of 56 patients (peer support group) and 50 patients (control group) with psychosis, demonstrated a positive effect on social network and social support measures compared with the control group. Specifically, high attenders in the group intervention significantly improved on self-efficacy, quality of life and social support. Castelein et al. comment on the importance of this finding in people with psychosis as "most people with psychotic disorders have small social networks with few opportunities to share their experiences with other people" (p70) and that "peers can therefore play an important role in compensating for this deficiency in their social network, preventing both social and emotional isolation of other members in this group as they report feeling more appreciated" (p70). The study was limited to a population of clinically stable outpatients with no concurrent substance abuse, which limited generalisability. Also, outcomes were self-reported and other intervention designs were not included. Nelson and Lomotey (2006) prospectively studied 79 participants (new members) of four consumer-run organisations over a period of nine-to-18 months in Ontario to determine the nature of participation in the organisations and how participation (quality and quantity) related to the organisational outcomes. Their findings showed that quality of participation at the nine-month follow-up mark positively influenced social support, quality of life and community integration, and at the 18-month follow-up social support was also significantly related. There was no correlation between outcomes and frequency of participation, which suggested meaningful involvement in a program was more important than simply being present at activities. Limitations in the Nelson and Lomotey study included: consumer self-reported data; generalisability limitations as organisations were based only in Ontario; and causality being unable to be determined between program participation and outcomes.

5.10.3 How the reported outcomes may relate to NDIS early intervention

The evidence for Peer Support is growing substantially and shows great promise. The outcomes of peer support programs vary greatly as they are related to the type of program as much as to differences between professional or peer provision. However, it appears that Peer Support is particularly effective in encouraging recovery and restoring hope and provides a very important sense of rapport that can be uniquely satisfying for participants. Thus, it is not clear how Peer Support has any particular application in early intervention. Instead, it has a general role in supporting recovery and enhancing the recovery outcomes of programs with specific aims.

In terms of generally supporting the aims of the NDIS, Peer Support can be very effective in encouraging participation and social inclusion through the message of hope and positive role modelling. In this general sense, Peer Support will be a vital aspect of an NDIS that truly enhances recovery and independence for people with psychosocial disability.

6.0 Conclusion

The ten evidence-based interventions established in Section 4.1 are summarised in this chapter and their outcomes are mapped to the NDIS general criteria and early intervention criteria.

6.1 Mapping evidence-based intervention outcomes to the NDIS criteria

All the results are summarised in Table 8. Interventions in the areas of employment and education, social skills, supported housing and supporting physical health can help participants to achieve commonly reported goals such as work or study, increase social participation and improve their physical health. Family Psycho-education can help families to understand the goals of their family member and constructively support the achievement of those goals. Interventions such as Illness Self-Management Training and Cognitive Remediation may align with participants' direct goals or may be selected by them to manage impairments and therefore enhance chosen activities or participation goals.

Clearly, Supported Employment and Supported Housing lead to increased independence and social participation, as does Social Skills Training. Outreach and Personal Assistance can minimise impairment and provide support for community living for a participant (although it is not expected that it will be a support provided in the NDIS).

Table 8: Evidence-based psychosocial interventions and NDIS outcome criteria

	Achieve personal goals	**Support and enhance independence**	**Social & economic participation**
Social Skills Training and Cognition Training	X	X	X
Supported Employment & Education	X	X	X
Family Psycho-education and Support	X	X	X
Cognitive Remediation	Indirectly	X	X
ACT/Outreach and Personal Assistance	X	X	X
CBT for psychosis	Indirectly	X	X
Illness Self-Management Training	X	X	
Supported Housing	X	X	X
Physical Health Management (including Weight Management)	X	X	X
Peer Support/consumer networks	X	X	X

6.2 Interventions and early intervention in the NDIS

The evidence-based interventions established in Section 4.1 that were reviewed in Chapter 5 to present the evidence for their outcomes were finally assessed for their possible relevance to the NDIS early intervention criteria as well.

The results are summarised in Table 9. All the interventions for psychosocial disability have good evidence of their suitability for early intervention in that they reduce impairment, reduce activity limitations and enhance participation in the context of psychosocial disability related to SMI. The most challenging criterion for early intervention is that it reduces support needs in the future. To do this, there needs to be evidence that, generally, its benefits are rehabilitative and sustained. That is, to impact future needs, there needs to be a reduction in support needs (rehabilitation) that is maintained in the future (sustained).

To examine the impact of each intervention:

- Social Skills Training can improve social cognition skills (impairment level) as well as social functioning (activity and participation). Social skills enhancement also underpins many aspects of life (including employment, education, family and social connections and recreational activities), so the improvement of them would be an important choice for early intervention. Social Skills Training can be personalised so that a participant's particular needs and goals are a focus of the intervention. Improving social skills also assists in recovery by enhancing meaningful relationships and opportunities for friendship, partnership and love.

- Supported Employment and Education support activity while participants take on new participation roles in work or study. Supported Employment leads to sustained improvement in employment outcomes, although tenure in any particular job is not always lengthy. Employment improves quality of life, symptoms, self-esteem and social functioning, which suggests a reduction in future support needs. It also provides meaningful activity, enhances social networks and supports economic independence, so is a vital part of recovery. Family Psycho-education reduces stress in the family, contributing to reductions in symptoms, relapse and hospitalisation for consumers. It also improves functioning through learning communication skills and improves the sustainability of family supports. Family Psycho-education reduces the likelihood of unhelpful family reactions developing as a response to the participants' psychosocial disability and encourages the family to support the goals and aspirations of the participant. Enhancing family relationships and understanding can be an unmet need for both participants and family members, suggesting that Family Psycho-education could align with personal goals for some participants. In addition, it provides a forum for families and participants to work together to maintain meaningful social and economic participation for both family members and the person with psychosocial disability. Adaptations of Family Psycho-education can be used to support participant employment, housing or physical activity goals. Although, logically, many interventions that improve the daily life of participants can lead to improvements in the sustainability of carer support, the only intervention that provides definite evidence of its positive impact on family carers is Family Psycho-education.

- Illness Self-Management Training aims to reduce impairment through education and life skills training and support for medication adherence. It supports activity and participation even if impairment is persistent. By reducing relapse and symptoms and improving self-efficacy around illness management, it has potential to reduce future support needs and provide the skills necessary for engagement with employment and other activities. Illness Self-Management Training is potentially empowering for participants as they take ownership of their treatment, thus enhancing recovery (although the evidence base is modest at this stage).

- Cognitive Remediation aims to reduce cognitive impairment, and this may consequently affect functioning. It also has a role in underpinning other initiatives such as Supported Employment or Supported Housing. Evidence suggests that the benefits of CR are sustained. Given the central role of cognitive impairment in limiting activity and participation for people with psychosocial disability, CR may have a particularly important part to play in early intervention.

- Outreach and Personal Assistance aims to support activity and participation in the community and achieve coordination of supports, particularly where needs are complex. It may be useful in the early intervention situation to assist a person in understanding their personal choices and developing their goals, although it is not a fundable support in the NDIS. Outreach and Personal Assistance may have useful application in an adapted form for supporting the participation of hard-to-engage persons.

- CBT for psychosis aims at managing impairment and promoting activity and participation, even if impairment is persistent. In Australia it is often available through clinical services and thus may not be accessed via the NDIS, in spite of its usefulness in the area of rehabilitation.

- Supported Housing, like Supported Education, fosters community participation and community living by assisting the activities that contribute to independent living. Sustainable and stable housing may be very important in enhancing physical and mental health and supporting a person's activity and participation goals. Like Supported Employment, it has the potential to address substantial unmet need and support the process of recovery through enhanced independence, autonomy and choice. Although the evidence base for this intervention is only modest at this time, independent living is a priority need for many people living with SMI.

- Physical health programs seek to lessen the impact of impairments in health related to poor diet, weight gain and inactivity that are frequently experienced by people with mental ill-health. This could play an important role in reducing future support needs through maintenance of activity and participation. Although the evidence is clear that the physical health of people with psychosocial disability is impaired, the systematic evidence is only just developing – but it is promising. Supporting physical health is part of recovery, as participants make health choices that support their wellbeing. Improved physical health is a priority need for people living with SMI, but the evidence is not substantive at this stage.

- Peer Support can be part of any intervention aimed at reducing impairment, activity and participation. Since it can be included in any intervention, it potentially has a wide role to play in supporting recovery and enhancing the recovery outcomes of all programs. Peer Support does this through positive role modelling and positive relationships with participants.

Table 9: Early intervention criteria and evidence-based psychosocial interventions

	Individual Capacity Building	**Individual Funded Packages**					
	Time-limited, support independence	Reduce person's future support needs	Mitigate or alleviate impairment	Prevent deterioration/ improve capacity	Participation focus	Sustainability of informal supports	Not better provided elsewhere*
Supported Employment and Education	Can offer time-limited version	X		X	X		Under current system is provided by Dept. of Education and Employment
Family Psycho-education and Support	X	X	X	X	X	X	X
Social Skills and Cognition Training	X	X	X	X		Can reduce demands on carer	X
Illness Self-Management Training	X	X		X		Can reduce demands on carer	X
Cognitive Remediation	X	X	X				Clinical treatment but very relevant to alleviating impairment
Mobile Support and Treatment (MST)/ Outreach and Personal Assistance				X		Can reduce demands on carer	MST is a clinical service but Outreach is provided in the rehabilitation sector
CBT for psychosis	X	X	X				Clinical treatment but very relevant to alleviating impairment
Supported Housing	Can offer time-limited version	X		X	X	Can reduce demands on carer	X
Physical Health Management (including Weight Management)	X	X	X	X			Mixed
Peer Support/ consumer networks	X	X		X	X	X	X
* interpreted as 'not generally a clinical service in Australia'							

All of the interventions have good evidence to support their efficacy, with some evidence bases being stronger than others. For sustained improvement to occur, the evidence-based intervention must be related to a participant's personal goals and choices in order for them to fully utilise and engage with the support. This is apart from considerations of citizenship and partnership that stress the importance of personhood and personal choice in all arenas of life. In addition, personal recovery, including hope and empowerment, must be supported by the evidence-based intervention in the early intervention situation. Unless a support in the NDIS contributes to recovery goals and leads to greater skill development and independence, any positive outcomes are not integrated into meaningful engagement with the daily activity, community and relationships that are at the heart of any 'ordinary life'.

Figure 8: Three essential aspects of NDIS early intervention

Three interventions 'tick all the boxes' in terms of evidence base, personal choice and recovery. Supported Employment, Supported Housing and Social Skills Training promote recovery, are likely to reduce future support needs and, in addition, meet commonly expressed needs and goals for participants. Social Skills Training and Supported Employment have a strong evidence base. There is less evidence for Supported Housing, although it is strong on functional outcomes where relevant evidence exists.

Outcomes evidence for another three interventions indicates that they can assist people with psychosocial disability. They are Cognitive Remediation, CBT for psychosis and Illness Self-Management Training. The outcomes of these interventions may not be the immediate personal choice or goal of NDIS participants. However, they can assist recovery and the achievement of personal goals through enhancing capacity for chosen activities and participation roles. Support for improving physical health is potentially a priority need for people living with psychosocial disability, but the evidence about its contribution as an early intervention is not substantive at this stage.

Family Psycho-education potentially has a unique role to play in early intervention. Family intervention has been found to provide positive outcomes for people with SMI and has the potential to assist in the sustainability of informal supports. It is the only intervention that provides definite evidence of its positive impact on family and carers, although the evidence suggests that the main beneficiary is the consumer involved. The evidence for Family Psycho-education is very strong. However, there may be a limited number of participants who see a family intervention as meeting their individual needs, raising a question as to whether the value of family intervention for the individual's personal recovery goals is well understood and communicated. Family focused interventions can be adapted for directly enhancing the goals and recovery of the participant. For instance, Family Psycho-education could be used as part of a package to assist a participant and their family to plan and transition to the participant's independent living situation. Family Psycho-education can be a useful tool for engaging the participant and family supporters to work together on any of the former's chosen goals.

Peer Support is likely to improve the recovery aspects of all interventions, and ACT/Outreach or Mobile Support and Treatment (MST), while not a directly funded support of the NDIS, could be adapted to assist in engagement and coordination for people who are reluctant to engage.

The conclusions here suggest that some interventions with a lesser evidence base may be more relevant for participants and, conversely, that those with strong evidence may be in less demand. For instance, Supported Housing may be more attractive and reflect the choices of participants more readily than Family Psycho-education, which has an extensive evidence base and can enhance a broad range of outcomes. Cognitive Remediation has a strong evidence base but is currently underutilised within clinical services and its potential as an intervention in non-clinical services is under-developed. However, CR has great potential to assist people to enhance their skills for community living, and these outcomes are well suited to the focus of psychosocial disability support services.

This suggests that future research programs might be more cognisant of interventions that meet participant needs and also take into account their preferences for support. There are currently gaps between what people with psychosocial disability often say they need and what evidence-based interventions are available to assist. For instance, there is only a small number of interventions that deal directly with the challenge of loneliness and isolation and strengthening informal supports, even though this is one of the areas of greatest need and may be crucially important in early intervention. Building on the evidence regarding the value of work involving families may be an important first step in unlocking the best options for increasing people's access to informal support. Peer Support is also highly valued by consumers and, although it is still building an evidence base, it can be anticipated that it will be, in future, an essential feature of effective interventions that are cognisant of consumer preferences. A greater emphasis on recovery, participant choice, personal goals and individualised service provision may lead to a re-evaluation of the utility of the current evidence base and highlight new opportunities for the design or renewal of a fresh range of supports in the future.

The NDIS operates within the framework of the National Disability Strategy (Commonwealth of Australia 2011) and the Fourth National Mental Health Plan (Commonwealth of Australia 2009). These plans set the broader policy context for the respective responsibilities of the levels of government in regard to the range of supports required. The particular obligations of the NDIS are further refined in the Commonwealth State Divisions of Responsibility (COAG 2015). This agreement defines the responsibilities of the NDIA as being (of relevance to this review):

> Health: The NDIS will be responsible for supports required due to the impact of a person's impairment/s on their functional capacity and their ability to undertake activities of daily living. (p3)

> Mental Health: The NDIS will be responsible for ongoing psychosocial recovery supports that focus on a person's functional ability, including those that enable people with mental illness or a psychiatric condition to undertake activities of daily living and participate in the community and in social and economic life. This may also include provision of family and carer supports to support them in their carer role, and family therapy, as they may facilitate the person's ability to participate in the community and in social and economic life. (p6)
>
> Higher Education and Vocational Education and Training (VET): The NDIS will fund supports that the student would require due to the impact of the student's impairment/s on their functional capacity and which are additional to reasonable adjustment (i.e. those not primarily relating to education or training attainment), including personal care and support, transport from home to and from the education or training facility and specialist transition supports required as a result of the person's disability, consistent with the NDIS individualised approach to funding. (p14)
>
> Employment: The NDIS will be responsible for reasonable and necessary supports additional to those required by reasonable adjustment, that assist people with disability to take part in work where the person's impairment has an impact on their functional capacity and/or productivity and the person is unlikely to be able to find or retain work in the open market, including with the assistance of employment services.

And:

> The NDIS will be responsible for funding individualised assistance to support a person with disability to take part in work where the person's impairment has an impact on their functional capacity and/or productivity and where these supports are additional to the needs of all Australians and additional to what is required by reasonable adjustment, such as training on dress, workplace relationships, communication skills, punctuality and attendance, and travelling to and from work. (p16)
>
> Housing: The NDIS will be responsible for support to assist individuals with disability to live independently in the community, including by building individual capacity to maintain tenancy and support for appropriate behaviour management where this support need is related to the impact of their impairment/s on their functional capacity.

And:

> The NDIS will be responsible for home modifications required due to the impact of a participant's impairment/s on their functional capacity in private dwellings, in social housing dwellings on a case-by-case basis and not to the extent that it would compromise the responsibility of housing authorities to make reasonable adjustments.

And:

> The NDIS is also responsible for user costs of capital in some situations where a person requires an integrated housing and support model and the cost of the accommodation component exceeds a reasonable contribution from individuals. (p18)
>
> Transport: The NDIS will be responsible for funding supports for individuals that enable independent travel, including through personal transport-related aids and equipment, training to use public transport and modifications to private vehicles (i.e. not modifications to public transport or taxis).

And:

> The NDIS will be responsible for reasonable and necessary costs associated with the use of taxis or other private transport options for those not able to travel independently. (p20)
>
> Justice: The NDIS will fund specialised supports to assist people with disability to live independently in the community, including supports delivered in custodial settings (including remand) aimed at

improving transitions from custodial settings to the community, where these supports are required due to the impact of the person's impairment/s on their functional capacity and are additional to reasonable adjustment.

In summary, the NDIS will fund personalised supports related to people's disability support needs, unless those supports are part of another service system's universal service obligation (for example, meeting the health, education, housing or safety needs of all Australians) or covered by reasonable adjustment (as required under the *Commonwealth Disability Discrimination Act 1992* or similar legislation in jurisdictions).

Commonwealth, state and territory governments are respectively responsible for a range of functions including employment, housing, income support, mental health, health, education and transport. This review takes a whole-of-issue approach to early intervention. Some of the effective strategies identified fit within the remit of the NDIA; others are the responsibilities of the Commonwealth, state and territory governments. These divisions of governmental responsibility need to be considered in the implementation of the findings of this literature review.

This review suggests that the NDIA should examine Family Psycho-education and Support, Social Skills and Cognition Training, Illness Self-Management, Peer Support and consumer networks as potentially valuable and effective early interventions. It also recommends that support plans should facilitate access to Supported Employment and Education services, Cognitive Remediation, Mobile Support and Treatment Teams or Assertive Community Treatment, Cognitive Behavioural Therapy, Supported Housing and physical health management programs. While many of these interventions won't be funded by the NDIS directly, facilitating access to these mainstream services is likely to have a positive effect on reducing demand within the system and improving financial sustainability for the Scheme in regard to people living with SMI.

Finally, a focus on early intervention may have important implications for the NDIS overall that will be important to consider in relation to issues of capacity, capital and economic efficiency. While the use of early intervention requires careful investigation, the findings of this review do suggest that, in the NDIS context, it may enable people to reduce their reliance on the Scheme into the future, hence reducing its costs over time. It may also reduce pressure on other health and welfare services. Furthermore, early intervention is aligned with the underlying principle of the NDIS: that of being prepared to offer lifetime support while also supporting people to achieve their individual recovery goals and gain a better life.

7.0 References

Aaron J Levitt, M S, Kim T Mueser, P D, Joe DeGenova, M S W, MPA, Julie Lorenzo, M S W, Dawn Bradford-Watt, M S W, Adina Barbosa, M S W, Marlene Karlin, M S W & Michael Chernick, P D 2009, 'Randomized controlled trial of illness management and recovery in multiple-unit supportive housing psychiatric services', vol. 60, p1629–36.

Addington J, McCleery A & Addington D 2005, 'Three-year outcome of family work in an early psychosis program', Schizophr Res, vol. 79, p107–16.

Addington J, Piskulic D & Marshall C 2010, 'Psychosocial treatments for schizophrenia', Current Directions in Psychological Science, vol. 19, p260–63.

Almerie M Q, Okba Al Marhi M, Jawoosh M, Alsabbagh M, Matar H E, Maayan N & Bergman H 2015, 'Social skills programmes for schizophrenia', Cochrane Database of Systematic Reviews, N.PAG.

American Psychiatric Association 1994, *Diagnostic and statistical manual of mental health disorders* (DSM-IV), Washington DC.

Anaya C, Martinez Aran A, Ayuso-Mateos J L, Wykes T, Vieta E & Scott J 2012, 'A systematic review of cognitive remediation for schizo-affective and affective disorders', Journal of Affective Disorders, vol. 142, p13–21.

Andresen R, Caputi P & Oades L 2006, 'Stages of recovery instrument: development of a measure of recovery from serious mental illness', Australian and New Zealand Journal of Psychiatry, vol. 40, p972–80.

Andresen R, Caputi P & Oades LG 2010, 'Do clinical outcome measures assess consumer-defined recovery?' Psychiatry Research, vol. 177, p309–17.

Andresen R, Oades L & Caputi P 2003, 'The experience of recovery from schizophrenia: towards an empirically validated stage model', Australasian Psychiatry, vol. 37, p586–94.

Anthony W 1993, 'Recovery from mental illness: the guiding vision of the mental health service system in the 1990s', Psychosocial Rehabilitation Journal, vol. 16, p11–23.

Australian Health Ministers' Advisory Council 2013, *A national framework for recovery-oriented mental health services: guide for practitioners and providers*. Commonwealth Government.

Australian Human Rights Commission 2015, Housing, homelessness and human rights, viewed October 2015, <https://www.humanrights.gov.au/our-work/rights-and-freedoms/projects/housing-homelessness-and-human-rights#housing>.

Backer T E & Howard E A 2007, 'Cognitive impairments and the prevention of homelessness: research and practice review', The Journal Of Primary Prevention, vol. 28, p375–88.

Barlati S, Deste G, De Peri L, Ariu C & Vita A 2013, 'Cognitive remediation in schizophrenia: current status and future perspectives', Schizophrenia Research & Treatment, p1–12.

Barnes C W, Hadzi-Pavlovic D, Wilhelm K & Mitchell P B 2015, 'A web-based preventive intervention program for bipolar disorder: outcome of a 12-months randomized controlled trial', Journal Of Affective Disorders, vol. 174, p485–92.

Becker D, Whitley R, Bailey E L & Drake R E 2007, 'Long-term employment trajectories among participants with severe mental illness in supported employment', Psychiatric Services, vol. 58, p922–8.

Beebe L H, Smith K, Burk R, McIntyre K, Dessieux O, Tavakoli A, Tennison C & Velligan D 2011, 'Effect of a motivational intervention on exercise behavior in persons with schizophrenia spectrum disorders', Community Mental Health Journal, vol. 47, p628–36.

Bellack A S 2006, ‘Scientific and consumer models of recovery in schizophrenia: concordance, contrasts, and implications’, Schizophrenia Bulletin, vol. 32, p432–42.

Benston E A 2015, ‘Housing programs for homeless individuals with mental illness: effects on housing and mental health outcomes’, Psychiatric Services, vol. 66, p806–16.

Bertelsen M, Jeppesen P, Petersen L, Thorup A, Øhlenschlaeger J, le Quach P, Christensen T Ø, Krarup G, Jørgensen P & Nordentoft M 2008, ‘Five-year follow-up of a randomized multicenter trial of intensive early intervention vs standard treatment for patients with a first episode of psychotic illness: the OPUS trial’, Archives Of General Psychiatry, vol. 65, p762–71.

Bertolote J & McGorry P 2005, ‘Early intervention and recovery for young people with early psychosis: consensus statement’, The British Journal of Psychiatry, vol. 187, s116–s119.

Beynon S, Soares-Weiser K, Woolacott N, Duffy S & Geddes J R 2008, ‘Psychosocial interventions for the prevention of relapse in bipolar disorder: systematic review of controlled trials’, The British Journal of Psychiatry, vol. 192, p5–11.

Birchwood M, McGorry P & Jackson H 1997, ‘Early intervention in schizophrenia’, British Journal of Psychiatry, 170, p2–11.

Bohman T M, Wallisch L, Christensen K, Stoner D, Pittman A, Reed B & Ostermeyer B 2011, ‘Working well - the Texas demonstration to maintain independence and employment: 18-month outcomes’, Journal of Vocational Rehabilitation, vol. 34, p97–106.

Bond G R 2004, ‘Supported employment: evidence for an evidence-based practice’, Psychiatric Rehabilitation Journal, vol. 27, no. 4, p345.

Bond G R & Campbell K 2008, ‘Evidence-based practices for individuals with severe mental illness’, The Journal of Rehabilitation, vol. 33.

Bond G R, Drake R E & Becker D R 2008, ‘An update on randomized controlled trials of evidence-based supported employment’, Psychiatric Rehabilitation Journal, vol. 31, p280–290.

Bonfioli E, Berti L, Goss C, Murano F & Burti L 2012, ‘Health promotion lifestyle interventions for weight management in psychosis: a systematic review and meta-analysis of randomised controlled trials’, BMC Psychiatry, vol. 12, p78–89.

Bonney S & Stickley T 2008, ‘Recovery and mental health: a review of the British literature’, Journal of Psychiatric and Mental Health Nursing, vol. 15, p140–53.

Bradshaw T & Haddock G 1998, ‘Is befriending by trained volunteers of value to people suffering from long-term mental illness?’, Journal of Advanced Nursing, vol. 27, p713–20.

Brodaty H, Draper B M & Low L-F 2003, ‘Behavioural and psychological symptoms of dementia: a seven-tiered model of service delivery’, Medical Journal of Australia, vol. 178, p231–5.

Brophy L, Bruxner A & Wilson E 2014, ‘Consumer choices about mental health support services’, New Paradigm, p27–9.

Brophy L, Bruxner A, Wilson E, Cocks N, Stylianou M & Mitchell P 2015, ‘People making choices: the support needs and preferences of people with psychosocial disability-Project Summary’, New Paradigm.

Brophy L & Grigg M 2015, ‘Trends in research and the mental health sector’, New Paradigm, p7–8.

Brown C, Rempfer M & Hamera E 2008, ‘Correlates of insider and outsider conceptualizations of recovery’, Psychiatric Rehabilitation Journal, vol. 32, p23–31.

Brown S, Kim M, Mitchell C & Inskip H 2010, ‘Twenty five year mortality of a community cohort with schizophrenia’, The British Journal of Psychiatry: the Journal of Mental Science, vol. 196, p116–21.

Buchanan R W, Kreyenbuhl J, Kelly D L, Noel J M, Boggs D L, Fischer B A, Himelhoch S, Fang B, Peterson E & Aquino P R 2010, 'The 2009 schizophrenia PORT psychopharmacological treatment recommendations and summary statements', Schizophrenia Bulletin, vol. 36, p71–93.

Burns T, Catty J, Dash M, Roberts C, Lockwood A & Marshall M 2007, 'Use of intensive case management to reduce time in hospital in people with severe mental illness: systematic review and meta-regression', BMJ, 335, 336.

Campbell, D T & Stanley, J C 1966, 'Experimental and quasi-experimental designs for research', Chicago R McNally.

Canadian Psychiatric Association 2005, 'Clinical practice guidelines: treatment of schizophrenia', Canadian Journal of Psychiatry, vol. 50, 7S.

Cashin A 2014, 'Shortage of supported housing for people with mental illness: Australia as an exemplar of an international problem', Issues in Mental Health Nursing, vol. 35, no. 2, p148–151.

Castelein S, Bruggeman R, Van Busschbach J T, Van Der Gaag M, Stant A, Knegtering H & Wiersma D 2008, 'The effectiveness of peer support groups in psychosis: a randomized controlled trial', Acta Psychiatrica Scandinavica, vol. 118, p64–72.

Chan J Y C, Hirai H W & Tsoi K K F 2015, 'Can computer-assisted cognitive remediation improve employment and productivity outcomes of patients with severe mental illness? A meta-analysis of prospective controlled trials', Journal of Psychiatric Research, vol. 68, p293–300.

Chilvers R, Macdonald G M & Hayes A A 2006, 'Supported housing for people with severe mental disorders', The Cochrane Database Of Systematic Reviews, CD000453

Chinman M, George P, Dougherty R H, Daniels A S, Ghose S S, Swift A & Delphin-Rittmon M E 2014, 'Peer support services for individuals with serious mental illnesses: assessing the evidence', Psychiatric Services.

Chopra P, Harvey C & Herrman H 2011, 'Continuing accommodation and support needs of long-term patients with severe mental illness in the era of community care,' Current Psychiatry Reviews, vol. 7, p67–83.

Council of Australian Governments 2015, Principles to determine the responsibilities of the NDIS and other service systems, viewed 23 July 2016, <http://www.coag.gov.au/sites/default/files/sched-i-att-a-principles-responsibilities-ndis-other.pdf>.

Cohen R J, Swerdik M E & Smith D K 1992, *Psychological testing and assessment*, Mayfield Publishing Company, California.

Collister L 2015, *Rehabilitation and disability support: are they the same or different?*, New Paradigm.

Colom F, Vieta E, Martinez-Aran A, Reinares M, Goikolea J M, Benabarre A, Torrent C, Comes M, Corbella B, Parramon G & Corominas, J 2003, 'A randomized trial on the efficacy of group psychoeducation in the prophylaxis of recurrences in bipolar patients whose disease is in remission', Arch Gen Psychiatry, vol. 60, p402–7.

Combs D R, Adams S D, Penn D L, Roberts D, Tiegreen J & Stem P 2007, 'Social cognition and interaction training (scit) for inpatients with schizophrenia spectrum disorders: preliminary findings', Schizophr Res, vol. 91, p112–16.

Commonwealth of Australia 2011, *2010–2020 National Disability Strategy: An initiative of the Council of Australian Governments,* Attorney-General's Department, Australia.

Commonwealth of Australia 2009, *Fourth National Mental Health Plan: An agenda for collaborative government action in mental health 2009–2014,* Attorney-General's Department, Australia.

Commonwealth Government of Australia 2013, *National Disability Insurance Scheme (Becoming a participant) Rules 2013*, Australia.

Cooney G M, Dwan K, Greig C A, Lawlor D A, Rimer J, Waugh F R, McMurdo M & Mead G E 2013, 'Exercise for depression', Cochrane Database Syst, Rev, 9, Cd004366.

Corrigan P W 2006, 'Recovery from schizophrenia and the role of evidence-based psychosocial interventions', Expert Review of Neurotherapeutics, vol. 6, p993–1004.

Corrigan P W & Ralph R O 2007, *Recovery in mental illness: broadening our understanding of wellness,* American Psychological Association, Washington DC.

Craig M, Coldwell M D & William S Bender 2007, 'The effectiveness of assertive community treatment for homeless populations with severe mental illness: a meta-analysis', American Journal of Psychiatry, vol. 164, p393–9.

Crowther R, Marshall M, Bond G R & Huxley P 2001, 'Vocational rehabilitation for people with severe mental illness', The Cochrane Library.

Cuijpers P, Muñoz R F, Clarke G N & Lewinsohn P M 2009, 'Psychoeducational treatment and prevention of depression: The "coping with depression" course thirty years later', Clinical Psychology Review, vol. 29, p449–58.

Danielsson L, Noras, A M, Waern, M & Carlsson, J 2013, 'Exercise in the treatment of major depression: a systematic review grading the quality of evidence', Physiotherapy Theory & Practice, vol. 29, no. 8, p573–85.

Davidson L, Chinman M, Sells D & Rowe M 2006, 'Peer support among adults with serious mental illness: a report from the field', Schizophrenia Bulletin, vol. 32, p443-450.

Davidson L, Schmutte T, Dinzeo T & Andres-Hyman R 2008, 'Remission and recovery in schizophrenia: practitioner and patient perspectives', Schizophrenia Bulletin, vol. 34, p5–8.

Deegan P E 1988, 'Recovery: the lived experience of rehabilitation', Psychosocial Rehabilitation Journal, vol. 11, p11–19.

Department of Health 2011, *Framework for recovery-oriented practice*, State Government of Victoria, Melbourne.

Dieterich M, Irving C B, Park B & Marshall M 2010, 'Intensive case management for severe mental illness', The Cochrane Library.

Drake R E & Bond G R 2008, 'The future of supported employment for people with severe mental illness', Psychiatric Rehabilitation Journal, vol. 31, p367–76.

Drake R E, Bond G R & Becker D R 2012, *Individual placement and support: an evidence-based approach to supported employment*, Oxford University Press.

Druss B G, Zhao L, von Esenwein S A, Bona J R, Fricks L, Jenkins-Tucker S, Sterling E, Diclemente R & Lorig K 2010, 'The Health and Recovery Peer (HARP) Program: a peer-led intervention to improve medical self-management for persons with serious mental illness,' Schizophr Res, vol. 118, p264–70.

Duckworth K & Halpern L 2014, 'Peer support and peer-led family support for persons living with schizophrenia', Current Opinion in Psychiatry, vol. 27, p216–21.

Fadden G 1998, 'Research update: psychoeducational family interventions', Journal of Family Therapy, vol. 20, p293–309.

Fakhoury W K H, Murray A, Shepherd G & Priebe S 2002, 'Research in supported housing', Social Psychiatry and Psychiatric Epidemiology, vol. 37, p301–15.

Falloon I R 2003, 'Family interventions for mental disorders: efficacy and effectiveness', World Psychiatry, vol. 2, p20–8.

Falloon I R, Boyd J L, McGill C W, Razani J, Moss H B & Gilderman A M 1982, 'Family management in the prevention of exacerbations of schizophrenia: a controlled study', New England Journal of Medicine, vol. 306, p1437–40.

Falloon I R, Boyd J L, McGill C W, Williamson M, Razani J, Moss H B, Gilderman A M & Simpson G M 1985, 'Family management in the prevention of morbidity of schizophrenia: clinical outcome of a two-year longitudinal study', Archives of General Psychiatry, vol. 42, p887–96.

Falloon I R H, Boyd J L & McGill C W 1984, *Family care of schizophrenia: a problem solving approach to the treatment of mental illness*, The Guilford Press, New York.

Falloon I R H & Lillie F J 2015, *Handbook of behavioural family therapy*, Routledge.

Falloon I R H & Pederson J 1985, 'Family management in the prevention of morbidity of schizophrenia: the adjustment of the family unit', British Journal of Psychiatry, vol. 147, p156–63.

Farhall J, Greenwood K M & Jackson H J 2007, 'Coping with hallucinated voices in schizophrenia: a review of self-initiated strategies and therapeutic interventions', Clinical Psychology Review, vol. 27, p476–93.

Fett A-K J, Viechtbauer W, Dominguez M-d-G, Penn D L, van Os J & Krabbendam L 2011, 'The relationship between neurocognition and social cognition with functional outcomes in schizophrenia: a meta-analysis', Neuroscience & Biobehavioral Reviews, vol. 35, p573–588.

Fioravanti M, Carlone O, Vitale B, Cinti M E & Clare L 2005, 'A meta-analysis of cognitive deficits in adults with a diagnosis of schizophrenia', Neuropsychology Review, vol. 15, p73–95.

Fisher D B & Ahern L 2000, 'Personal Assistance in Community Existence (PACE): An Alternative to PACT', Ethical Human Sciences and Services, vol. 2, p87–92.

Fossey E M & Harvey C A 2010, 'Finding and sustaining employment: A qualitative meta-synthesis of mental health consumer views', Canadian Journal of Occupational Therapy, vol. 77, p303–14.

Gafoor R, Nitsch D, McCrone P, Craig T K, Garety P A, Power P & McGuire P 2010, 'Effect of early intervention on 5-year outcome in non-affective psychosis', The British Journal of Psychiatry, vol. 196, p372–6.

Galletly C A, Foley D L, Waterreus A, Watts G F, Castle D J, McGrath J J, Mackinnon A & Morgan V A 2012, 'Cardiometabolic risk factors in people with psychotic disorders: The second Australian national survey of psychosis', Australian and New Zealand Journal of Psychiatry, vol. 46, p753–61.

Gibson R W, D'Amico M, Jaffe L & Arbesman M 2011, 'Occupational therapy interventions for recovery in the areas of community integration and normative life roles for adults with serious mental illness: a systematic review', American Journal of Occupational Therapy, vol. 65, p247–56.

Girden E 2001, *Evaluating Research Articles*, Sage Publications, California.

Glynn S M, Randolph E T, Garrick T & Lui A 2010, 'A proof of concept trial of an online psychoeducational program for relatives of both veterans and civilians living with schizophrenia', Psychiatric Rehabilitation Journal, vol. 33, p278–87.

Goldberg D P & Williams P 1988, *A user's guide to the General Health Questionnaire*, GHQ, Windsor, NFER-Nelson.

Gorczynski P & Faulkner G 2010, 'Exercise therapy for schizophrenia', Cochrane Database Syst Rev, Cd004412.

Grynszpan O, Perbal S, Pelissolo A, Fossati P, Jouvent R, Dubal S & Perez-Diaz F 2011, Efficacy and specificity of computer-assisted cognitive remediation in schizophrenia: a meta-analytical study', Psychological Medicine, vol. 41, p163.

Haddock G, Eisner E, Boone C, Davies G, Coogan C & Barrowclough C 2014, 'An investigation of the implementation of NICE-recommended CBT interventions for people with schizophrenia', Journal of Mental Health, vol. 23, p162–15.

Harvey C, Killackey E, Groves A & Herrman H 2012, 'A place to live: housing needs for people with psychotic disorders identified in the second Australian national survey of psychosis', Australian and New Zealand Journal of Psychiatry, vol. 46, p840–50.

Harvey C & O'Hanlon B 2013, 'Family psycho-education for people with schizophrenia and other psychotic disorders and their families', Aust N Z J Psychiatry, vol. 47, p516–20.

Harvey P D, Wingo A P, Burdick K E & Baldessarini R J 2010, 'Cognition and disability in bipolar disorder: lessons from schizophrenia research', Bipolar Disorders, vol. 12, p364–75.

Hasson-Ohayon I, Roe D & Kravetz S 2007, 'A randomized controlled trial of the effectiveness of the illness management and recovery program', Psychiatr Serv, vol. 58, p1461–6.

Hatfield A B & Lefley H P 1993a, *Events leading to recovery: surviving mental illness*, Guilford Press, New York.

Hatfield A B & Lefley H P 1993b, *Surviving mental illness*, Guilford Press, New York.

Hatfield B, Huxley P & Mohamad H 1992, 'Accommodation and employment: a survey into the circumstances and expressed needs of users of mental health services in a northern town', British Journal of Social Work, vol. 22, p61–73.

Hayes L, Harvey C & Farhall J 2013, 'Family psycho-education for the treatment of psychosis', InPsych, vol. 35, p16–17.

Hayes L, Hawthorne G, Farhall J, O'Hanlon B & Harvey C 2015, 'Quality of life and social isolation among caregivers of adults with schizophrenia: policy and outcomes', Community Mental Health Journal, vol. 51, p591–7.

Heinssen R K, Liberman R P & Kopelowicz A 2000, 'Psychosocial skills training for schizophrenia: lessons from the laboratory', Schizophrenia Bulletin PsycArticles, vol. 26, p21–46.

Holt L & Tickle A 2014, Exploring the experience of hearing voices from a first person perspective: a meta-ethnographic synthesis', Psychology & Psychotherapy: Theory, Research & Practice, vol. 87, p278–97.

Hooley J M & Parker H A 2006, 'Measuring expressed emotion: An evaluation of the shortcuts', Journal of Family Psychology, vol. 20, p386–96.

Horan W P, Green M F, DeGroot M, Fiske A, Hellemann G, Kee K, Kern R S, Lee J, Sergi M J, Subotnik K L, Sugar C A, Ventura J & Nuechterlein K H 2012, 'Social cognition in schizophrenia, part 2: 12-month stability and prediction of functional outcome in first-episode patients', Schizophrenia Bulletin, vol. 38, p865–72.

Horan W P, Kern R S, Green M F & Penn D L 2008, 'Social cognition training for individuals with schizophrenia: emerging evidence', American Journal of Psychiatric Rehabilitation, vol. 11, p205–52.

Howitt D & Cramer D 2008a, *Introduction to research methods in psychology*, Pearson, UK.

Howitt D & Cramer D 2008b, Introduction to statistics in psychology, Pearson, UK.

Hui C L M, Chang W C, Chan S K W, Lee E H M, Tam W W Y, Lai D C, Wong G H Y, Tang J Y M, Li F W S, Leung K F, McGhee S M, Sham P C & Chen E Y H 2014, 'Early intervention and evaluation for adult-onset psychosis: the JCEP study rationale and design', Early intervention in Psychiatry, vol. 8, p261.

Joint Standing Committee on the National Disability Insurance Scheme 2015, *Progress report on the implementation and administration of the National Disability Insurance Scheme*, Commonwealth of Australia.

Kane J M, Robinson D G, Schooler N R, Mueser K T, Penn D L, Rosenheck R A, Addington J, Brunette M F, Correll C U, Estroff S E, Marcy P, Robinson J, Meyer-Kalos P S, Gottlieb J D, Glynn S M, Lynde D W, Ronny P T, Miller A L, Azrin S T, Goldstein A, Haiqun L, Sin K J, John M & Heinssen R K 2015, 'Comprehensive versus usual community care for first-episode psychosis: 2-year outcomes from the nimh raise early treatment program', American Journal of Psychiatry.

Kelly G R, Scott J E & Mamon J 1990, ‘Medication compliance and health education among outpatients with chronic mental disorders’, Med Care, vol. 28, p1181–97.

Kennedy A, Reeves D, Bower P, Lee V, Middleton E, Richardson G, Gardner C, Gately C & Rogers A 2007, ‘The effectiveness and cost effectiveness of a national lay-led self care support programme for patients with long-term conditions: a pragmatic randomised controlled trial’, Journal of Epidemiology and Community Health, vol. 61, p254–61.

Killackey E, Harvey C, Amering M & Herrman H 2015, *Partnerships for meaningful community living: rehabilitation and recovery-informed practices psychiatry, fourth edition*, 1959–82.

Killackey E, Jackson H & McGorry P 2008, ‘Treatment: results of a randomized controlled trial of individual placement and support for vocational rehabilitation in first episode psychosis’, Schizophrenia Research, vol. 102, p256.

Kinoshita Y, Furukawa T A, Kinoshita K, Honyashiki M, Omori I M, Marshall M, Bond G R, Huxley P, Amano N & Kingdon D 2013, ‘Supported Employment for adults with severe mental illness’, Cochrane Database Syst Rev, 9.

Kopelowicz A, Liberman R P, Ventura J, Zarate R & Mintz J 2005, ‘Neurocognitive correlates of recovery from schizophrenia’, Psychological Medicine, vol. 35, p1165–73.

Kopelowicz A, Liberman R P & Zarate R 2006, ‘Recent advances in social skills training for schizophrenia’, Schizophrenia Bulletin, vol. 32, pS12–S23.

Kopelowicz A, Zarate R, Wallace C J, Liberman R P, Lopez S R & Mintz J 2012, ‘The ability of multifamily groups to improve treatment adherence in Mexican Americans with schizophrenia’, Archives of General Psychiatry, vol. 69, p265–73.

Kreyenbuhl J, Buchanan R W, Dickerson F B & Dixon L B 2010, ‘The schizophrenia patient outcomes research team (PORT): updated treatment recommendations 2009’, Schizophrenia Bulletin, vol. 36, p94–103.

Kurtz M & Mueser K 2008, ‘A meta-analysis of controlled research on social skills training for schizophrenia’, Journal of Consulting and Clinical Psychology, vol. 76, p491–504.

Kurtz M 2012, ‘Cognitive remediation for schizophrenia: current status, biological correlates and predictors of response’, Expert Review of Neurotherapeutics, vol. 12, p813–21.

Lai J S, Hiles S, Bisquera A, Hure A J, McEvoy M & Attia J 2014, ‘A systematic review and meta-analysis of dietary patterns and depression in community-dwelling adults’, American Journal of Clinical Nutrition, vol. 99, p181–97.

Lakeman R 2014, ‘The Finnish open dialogue approach to crisis intervention in psychosis: a review’, Psychotherapy in Australia, vol. 20, no. 3, p28.

Leamy M, Bird V, Le Boutillier C, Williams J & Slade M 2011, ‘Conceptual framework for personal recovery in mental health: systematic review and narrative synthesis’, British Journal of Psychiatry, vol. 199, p445–52.

Leff H S, Chow C M, Pepin R, Conley J, Allen I E & Seaman C A 2009, ‘Does one size fit all? What we can and can’t learn from a meta-analysis of housing models for persons with mental illness’, Psychiatric Services (Washington, DC), vol. 60, p473–82.

Lefley H P 1997, ‘The consumer recovery vision: will it alleviate family burden?’ American Journal of Orthopsychiatry, vol. 67, p210–9.

Lehman A F 1995, ‘Vocational rehabilitation in schizophrenia’, Schizophrenia Bulletin, vol. 21, p645.

Liberman R P 2002, ‘Future directions for research studies and clinical work on recovery from schizophrenia: questions with some answers’, International Review of Psychiatry, vol. 14, p337–42.

Liberman R P & Kopelowicz A 2005, ‘Recovery from schizophrenia: a concept in search of research’, Psychiatric Services, vol. 56, p735–42.

Liberman R P, Kopelowicz A, Ventura J & Gutkind D 2002, ‘Operational criteria and factors related to recovery from schizophrenia’, International Review of Psychiatry, vol. 14, p256–72.

Lincoln T M, Wilhelm, K & Nestoriuc Y 2007, ‘Effectiveness of psychoeducation for relapse, symptoms, knowledge, adherence and functioning in psychotic disorders: a meta-analysis’, Schizophr Res, vol. 96, p232–45.

Lloyd C, King R, Bassett H, Sandland S & Savige G 2001, ‘Patient, client or consumer? A survey of preferred terms’, Australasian Psychiatry, vol. 9, p321–24.

Lobban F, Postlethwaite A, Glentworth D, Pinfold V, Wainwright L, Dunn G, Clancy A & Haddock G 2013, ‘A systematic review of randomised controlled trials of interventions reporting outcomes for relatives of people with psychosis’, Clinical Psychology Review, vol. 33, p372–82.

Loveland D, Driscoll H & Boyle M 2007, ‘Enhancing supported employment services for individuals with a serious mental illness: a review of the literature’, Journal of Vocational Rehabilitation, vol. 27, p177–89.

Lucksted A, McFarlane W, Downing D & Dixon, L 2012, ‘Recent developments in family psycho-education as an evidence-based practice’, Journal Of Marital And Family Therapy, vol. 38, p101–21.

Lyman D R, Braude L, George P, Dougherty R H, Daniels A S, Ghose S S & Delphin-Rittmon M E 2014, ‘A consumer and family psycho-education: assessing the evidence’, Psychiatric Services, vol. 65, p416–28.

Lyman D R, Braude L, George P, Dougherty R H, Daniels A S, Ghose S S & Delphin-Rittmon M E 2014, ‘Consumer and family psycho-education: assessing the evidence’, Psychiatric Services, vol. 65, p416–28.

Lyman D R, Kurtz M M, Farkas M, George P, Dougherty R H, Daniels A S, Ghose S S & Delphin-Rittmon M E 2014, ‘Skill building: assessing the evidence’, Psychiatric Services, vol. 65, p727–738.

Marlowe, K 2014, *Adults of working age early intervention in psychiatry*: *EI of nearly everything for better mental health*, p92–102, Wiley.

Marshall M & Lockwood A 1998, ‘Assertive community treatment for people with severe mental disorders’, Cochrane Database Syst Rev, Cd001089.

Marshall T, Goldberg R W, Braude L, Dougherty R H, Daniels A S, Ghose S S, George P & Delphin-Rittmon M E 2014, ‘Supported Employment: assessing the evidence’, Psychiatric Services, vol. 65, p16–23.

Marwaha S & Johnson S 2004, ‘Schizophrenia and employment – a review’, Social Psychiatry and Psychiatric Epidemiology, vol. 39, p337–49.

Mayo-Wilson E, Montgomery P & Dennis J 2008, ‘Personal assistance for adults (19–64) with both physical and intellectual impairments’, The Cochrane Database Of Systematic Reviews, CD006860

McFarlane W, Lynch S & Melton R 2012, ‘Family psycho-education in clinical high risk and first-episode psychosis’, Adolescent Psychiatry, vol. 2, p1–13.

McFarlane W R, Dixon L, Lukens E & Lucksted, A 2003, ‘Family psycho-education and schizophrenia: a review of the literature’, Journal of Marital and Family Therepy, vol. 29, p223–45.

McGorry P 2005, ‘Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of schizophrenia and related disorders Australian and New Zealand Journal of Psychiatry’, vol. 39, p1–30.

McGorry P D, Nelson B, Goldstone S & Yung A R 2010, 'Clinical staging: a heuristic and practical strategy for new research and better health and social outcomes for psychotic and related mood disorders', Canadian Journal of Psychiatry, vol. 55, p486–97.

McGurk S R & Mueser K T 2004, 'Cognitive functioning, symptoms, and work in Supported Employment: a review and heuristic model schizophrenia research', vol. 70, p147–73.

McGurk S R, Mueser K T, Feldman K, Wolfe R & Pascaris A 2007, 'A cognitive training for supported employment: 2–3 year outcomes of a randomized controlled trial', The American Journal Of Psychiatry, vol. 164, p437–41.

McGurk S R, Mueser K T & Pascaris A 2005, 'Cognitive training and supported employment for persons with severe mental illness: one-year results from a randomized controlled trial', Schizophrenia Bulletin, vol. 31, p898–909.

McGurk S R, Twamley E W, Sitzer D I, McHugo G J & Mueser K T 2007, 'A meta-analysis of cognitive remediation', Schizophrenia American Journal of Psychiatry, vol. 164, p17-91.

McLaughlin H 2008, 'What's in a name: 'client', 'patient', 'customer', 'consumer', 'expert by experience', 'service user'- what's next?' British Journal of Social Work Advance Access, p1–17.

Mead S & Copeland M E 2000, 'What recovery means to us: consumers' perspectives', Community Mental Health Journal, vol. 36, p315–28.

Meadows, G, Burgess, P, Fossey, E & Harvey, C 2000, 'Perceived need for mental health care, findings from the Australian National Survey of Mental Health and Well-being Psychological medicine, vol. 30, p645–56.

Meadows G N & Burgess P M 2009, 'Perceived need for mental health care: findings from the 2007 Australian Survey of Mental Health and Wellbeing', Australian and New Zealand Journal of Psychiatry, vol. 43, p624–34.

Meadows G N & Singh B 2003, 'Victoria on the move: mental health services in a decade of transition 1992–2002', Australasian Psychiatry, vol. 11, p62–7.

Medalia A & Saperstein A M 2013, 'Does cognitive remediation for schizophrenia improve functional outcomes?' Current Opinion in Psychiatry, vol. 26, p151–7.

Meehan T, Stedman T, Robertson S, Drake S & King R 2011, 'Does supported accommodation improve the clinical and social outcomes for people with severe psychiatric disability? The Project 300 experience', Australian and New Zealand Journal of Psychiatry, vol. 45, p586–592.

Menear M & Briand C 2014, 'Implementing a continuum of evidence-based psychosocial interventions for people with severe mental illness: part 1–review of major initiatives and implementation strategies', Canadian Journal of Psychiatry Revue Canadienne de Psychiatrie, vol. 59, p178.

Mental Health Commission of New South Wales 2015, *The NSW NDIS and Mental Health Analysis Partnership Project: Insights from the first two years of the NDIS rollout in the Hunter region*, NSW.

Mental Health Council of Australia 2013, *Mental Health and the National Disability Insurance Scheme, position paper*.

Michon H, Weeghel J, Kroon H & Schene A 2005, 'Person-related predictors of employment outcomes after participation in psychiatric vocational rehabilitation programmes', Social Psychiatry & Psychiatric Epidemiology, vol. 40, p408–16.

Monroe-Devita M, Morse G & Bond G R 2012, 'Program fidelity and beyond: multiple strategies and criteria for ensuring quality of assertive community treatment', Psychiatric Services, vol. 63, p743–50.

Morgan V, Waterreus A, Jablensky A, Mackinnon A, McGrath J, Carr V, Bush R, Castle D, Cohen M, Harvey C, Galletly C, Stain H, Neil A, McGorry P, Hocking B, Shah S & Saw S 2011, *People Living with Psychotic Illness*, Commonwealth of Australia: Australian Government.

Morgan V, Waterreus A, Jablensky A, Mackinnon A, McGrath J, Carr V, Bush R, Castle D, Cohen M, Harvey C, Galletly C, Stain H, Neil A, McGorry P, Hocking B, Shah S & Saw S 2012, 'People living with psychotic illness in 2010, An overview of findings from the second Australian national survey of psychosis', Australian and New Zealand Journal of Psychiatry, vol. 46, p735–52.

Morokuma I, Shimodera S, Fujita H, Hashizume H, Kamimura N, Kawamura A, Nishida A, Furukawa T A & Inoue S 2013, 'Psychoeducation for major depressive disorders: a randomised controlled trial, Psychiatry Research, vol. 210, p134–9.

Motter J N, Pimontel M A, Rindskopf D, Devanand D P, Doraiswamy P M & Sneed J R 2016, 'Computerized cognitive training and functional recovery in major depressive disorder: a meta-analysis,' Journal Of Affective Disorders, vol. 189, p184–91.

Mueser K T 2012, Evidence-based practices and recovery-oriented services: is there a relationship? Should there be one?' Psychiatric Rehabilitation Journal, vol. 35, p287–8.

Mueser K T, Bartels S J, Santos M, Pratt S I & Riera E G 2012, Integrated illness management and recovery: a program for integrating physical and psychiatric illness self-management in older persons with severe mental illness', American Journal of Psychiatric Rehabilitation, vol. 15, p131–56.

Mueser K T, Campbell K & Drake R E 2011, 'The effectiveness of Supported Employment in people with dual disorders', Journal of Dual Diagnosis, vol. 7, p90–102.

Mueser K T, Deavers F, Penn D L & Cassisi J E 2013, 'Psychosocial treatments for schizophrenia', Annual Review of Clinical Psychology, vol. 9, p465–97.

Mueser K T & McGurk S R 2004, Schizophrenia Lancet, vol. 363, p2063–72.

Mueser K T, Salyers M P & Mueser P R 2001, 'A prospective analysis of work in schizophrenia', Schizophrenia Bulletin, vol. 27, p281–96.

Muir K, Fisher K R, Abello D & Dadich A 2010, 'I didn't like just sittin'around all day: facilitating social and community participation among people with mental illness and high levels of psychiatric disability', Journal of Social Policy, vol 39, p375–91.

National Collaborating Centre for Mental Health 2002, S*chizophrenia: core interventions in the treatement and management of schizophrenia in primary and secondary care,* Clinical Guideline 1 London: National Institute for Clinical Excellence.

National Disability Insurance Agency 2013, *2013–2016 Strategic Plan*, viewed October 2015, <http://www.ndis.gov.au/sites/default/files/documents/strategic_plan_2.pdf>.

National Disability Insurance Agency 2014a, *IAC advice on reasonable and necessary support across the lifespan: An ordinary life for people with disability*, viewed October 2015 <http://www.ndis.gov.au/about-us/governance/IAC/iac-reasonable-necessary-lifespan#recommendations>.

National Disability Insurance Agency 2014b, *Mainstream interface: Mental health services,* viewed

October 2015 <http://www.ndis.gov.au/sites/default/files/documents/og_plan_assess_supp_plan_interface_health.pdf>.

National Disability Insurance Agency 2014c, *National Disability Insurance Scheme: A framework for information, linkages and capacity building*, viewed October 2015 <http://www.ndis.gov.au/sites/default/files/documents/ILC%20Policy%20Framework_0.pdf>.

National Disability Insurance Agency 2014d, *Operational Guideline - Planning and Assessment - Supports in the Plan - Interface with Health (v 1.0)*, viewed October 2015 <http://www.ndis.gov.au/sites/default/files/documents/og_plan_assess_supp_plan_interface_health.pdf>.

National Disability Insurance Agency 2014e, *Operational Guideline – Access – Early intervention Requirements,* viewed October 2015 <http://www.ndis.gov.au/sites/default/files/documents/og_access_early_intervention_requirements3.pdf>.

National Disability Insurance Agency 2014f, *Operational Guideline – Planning and Assessment – Supports in the Plan*, viewed October 2015 <http://www.ndis.gov.au/sites/default/files/documents/og_planning_assessment_supports_in_the_plan_0.pdf>.

National Disability Insurance Agency 2015, *Ninth Quarterly Report to COAG Disability Reform Council National Disability Insurance Agency*.

The National Mental Health Consumer and Carer Forum 2014, 'Understanding psychosocial disability', Health Issues, vol. 11, p12.

Nelson G, Aubry T & Lafrance A 2007, 'A review of the literature on the effectiveness of housing and support, assertive community treatment, and intensive case management interventions for persons with mental illness who have been homeless', American Journal of Orthopsychiatry, vol. 77, p350–61.

Nelson G & Lomotey J 2006, 'Quantity and quality of participation and outcomes of participation in mental health consumer-run organizations', Journal of Mental Health, vol. 15, p63–74.

Nelson G, Sylvestre J, Aubry T, George L & Trainor J 2007, 'Housing choice and control, housing quality and control over professional support as contributors to the subjective quality of life and community adaptation of people with severe mental illness', Administration and Policy in Mental Health and Mental Health Service Research, vol. 34, p89–100.

Noordsy D, Torrey W, Mueser K, Mead S, O'Keefe C & Fox L 2002, 'Recovery from severe mental illness: an intrapersonal and functional outcome definition', International Review of Psychiatry, vol. 14, p318–26.

Nordén T, Malm U & Norlander T 2012, 'Resource Group Assertive Community Treatment (RACT) as a tool of empowerment for clients with severe mental illness: a meta-analysis' Clinical Practice and Epidemiology in Mental Health vol. 8, p144–51.

O'Halloran P 2015, *Psychosocial disability and the NDIS: An Introduction to the Concept of Holistic Psychosocial Disability Support Mental Health International Network for Developing Services*.

Pearsall R, Smith D, Pelosi A & Geddes J 2014, 'Exercise therapy in adults with serious mental illness: a systematic review and meta-analysis', BMC Psychiatry, vol. 14, p117.

Peterson, D B 2005, 'International Classification of Functioning, Disability and Health: An Introduction for Rehabilitation Psychologists Rehabilitation Psychology', vol. 50, p105.

Pfammatter M, Junghan U M & Brenner H D 2006, 'Efficacy of psychological therapy in schizophrenia: conclusions from meta-analyses', Schizophr Bull, vol. 32 Suppl 1, p64–80.

Pharoah F, Mari, J, Rathbone J & Wong W 2010, 'Family intervention for schizophrenia: 2010 update' Cochrane Database of Systematic Reviews 2006.

Pilling S, Bebbington P, Kuipers E, Garety P, Geddes J, Orbach G & Morgan C 2002, 'Psychological treatments in schizophrenia: I Meta-analysis of family intervention and cognitive behaviour therapy', Psychological Medicine, vol. 32, p763–82.

Pita D D, Ellison M L & Farkas M 2001, 'Exploring personal assistance services for people with psychiatric disabilities need, policy, and practice', Journal of Disability Policy Studies, vol. 12, p2–9.

Pitschel-Walz, G, Leucht, S, Bauml, J, Kissling, W & Engel, R R 2001 The effect of family interventions on relapse and rehospitalization in schizophrenia – A meta-analysis Schizophrenia Bulletin, 27, 73–92.

Pitt V, Lowe D, Hill S, Prictor M, Hetrick S E, Ryan R & Berends L 2013, 'Consumer-providers of care for adult clients of statutory mental health services', Cochrane Database Syst Rev, 3.

Porter J & Evans S 2008, 'Nutrition and mental health research in Australia and New Zealand: a review of progress and directions for the future', Nutrition & Dietetics, vol. 65, p6–94.

Prochaska, J O & DiClemente, C 1982, 'Transtheoretical therapy: toward a more integrative model of change', Psychotherapy: Theory, Research and Practice, vol. 19, p276–8.

Ramon S, Healy B & Renouf N 2007, 'Recovery from mental illness as an emergent concept and practice in Australia and the UK', International Journal of Social Psychiatry, vol. 53, p108–22.

Ramsay C E, Broussard B, Goulding S M, Cristofaro S, Hall D, Kaslow N J, Killackey E, Penn,D & Compton M T 2011, 'Life and treatment goals of individuals hospitalized for first-episode nonaffective psychosis', Psychiatry research, vol. 189, p344–8.

Reif S, George P, Braude L, Dougherty R, Daniels A S, Ghose S S & Delphin-Rittmon M E 2014, 'Recovery housing: assessing the evidence', Psychiatric Services, vol. 65, p295–300.

Repper J & Carter T 2011, 'A review of the literature on peer support in mental health services', Journal of Mental Health, vol. 20, p392–411.

Rethorst C D, Wipfli B M & Landers D M 2009, 'The antidepressive effects of exercise: a meta-analysis of randomized trials', Sports Medicine, vol.39, p491–511 21.

Rinaldi M, Killackey E, Smith J, Shepherd G, Singh S P & Craig T 2010, 'First episode psychosis and employment a review', International Review of Psychiatry, vol. 22, p148–62.

Ritsher J B, Lucksted A, Otilingam P G & Grajales M 2004, 'Hearing voices: explanations and implications', Psychiatr Rehabil J, vol. 27, p219–27.

Rog D J 2004, 'The evidence on supported housing', Psychiatric Rehabilitation Journal, vol. 27, p334–44.

Rosen A, Mueser K T & Teesson M 2007, 'Assertive community treatment – issues from scientific and clinical literature with implications for practice', Journal of Rehabilitation Research & Development, vol. 44, p813–25.

Rosenheck R, Leslie D, Keefe R, McEvoy J, Swartz M, Perkins D, Stroup S, Hsiao J K, Lieberman J & Group C S I 2006, 'Barriers to employment for people with schizophrenia', American Journal of Psychiatry, vol. 163, p411–17.

Ruddle A, Livingstone S, Huddy V, Johns L, Stahl D & Wykes T 2014, A case series exploring possible predictors and mechanisms of change in hearing voices groups', Psychology & Psychotherapy: Theory, Research & Practice, vol. 87, p60–79.

Rudnick A 2008, 'Recovery from Schizophrenia: A Philosophical Framework', American Journal of Psychiatric Rehabilitation, vol. 11, p267–78.

Rummel C B, Hansen W P, Helbig A, Pitschel-Walz G & Kissling W 2005, 'Peer-to-peer psychoeducation in schizophrenia: a new approach', J Clin Psychiatry, vol. 66, p1580–5.

Schrank B & Slade M 2007, 'Recovery in psychiatry', Psychiatric Bulletin, vol. 31, p321–5.

Scott D & Happell B 2011, 'The high prevalence of poor physical health and unhealthy lifestyle behaviours in individuals with severe mental illness issues', Mental Health Nursing, vol. 32, p589–97.

Scott J & Gutierrez M J 2004, ‘The current status of psychological treatments in bipolar disorders: a systematic review of relapse prevention’, Bipolar Disorders, vol. 6, p498–503.

Secker J, Membrey H, Grove B & Seebohm P 2002, ‘Recovering from illness or recovering your life? Implications of clinical versus social models of recovery from mental health problems for employment support services’, Disability & Society, vol. 17, p403–18.

Seikkula J, Alakare B & Aaltonen J 2011, ‘The comprehensive open-dialogue approach in Western Lapland: (II) Long-term stability of acute psychosis outcomes in advanced community care’, Psychosis, vol. 3, p192–204.

Sainsbury Centre for Mental Health London 1994, *Relative values: The differing views of users, family carers and professionals on services for people with schizophrenia in the community*.

Sherman M D, Fischer E, Bowling U B, Dixon L, Ridener L & Harrison D 2009,’A new engagement strategy in a VA-based family psycho-education program’, Psychiatric Services, vol. 60, p254–7.

Australian Institute for Primary Care & Ageing 2015, *Recommissioning community mental health support services and alcohol and other drugs treatment services in Victoria: Report on findings from interviews with senior personnel from both sectors*.

Silverstein S M & Bellack A S 2008, ‘A scientific agenda for the concept of recovery as it applies to schizophrenia’, Clinical Psychology Review, vol. 28, p1108–24.

Sin J & Norman I 2013, ‘Psychoeducational interventions for family members of people with schizophrenia: a mixed-method systematic review’, The Journal of Clinical Psychiatry, vol. 74, p1145–62.

Siskind D, Harris M, Pirkis J & Whiteford H 2012, ‘Personalised support delivered by support workers for people with severe and persistent mental illness: a systematic review of patient outcomes’, Epidemiology and Psychiatric Sciences, vol. 21, p97–110.

Siskind D, Harris M, Pirkis J & Whiteford H 2013, ‘A domains-based taxonomy of supported accommodation for people with severe and persistent mental illness’, Social Psychiatry and Psychiatric Epidemiology, vol. 48, p875–94.

Slade M 2009, ‘100 ways to support recovery: a guide for mental health professionals’, Rethink Recovery Series.

Slade M 2012, ‘Recovery: past progress and future challenges’, International Review of Psychiatry, vol. 24, p1–4.

Slade M, Leamy M, Bacon F, Janosik M, Le Boutillier C, Williams J & Bird V 2012, ‘International differences in understanding recovery: systematic review’, Epidemiol Psychiatr Sci, p1–12.

Sledge W H, Lawless M, Sells D, Wieland M, O’Connell M J & Davidson L 2014, ‘Effectiveness of peer support in reducing readmissions of persons with multiple psychiatric hospitalizations’, Psychiatric Services.

Solomon P 2004, ‘Peer Support/peer provided services underlying processes, benefits, and critical ingredients’, Psychiatr Rehabil J, vol. 27, p392–401.

Solomon P & Cullen S 2008, ‘Psychiatric rehabilitiation for achieving successful community living for adults with psychiatric disabilities’ In: Tasman A, Kay J, Lieberman J A, First, M & Maj M, *Psychiatry* third ed, John Wiley and Sons, USA.

South London and Maudsley NHS Foundation Trust 2010, *Social Inclusion and Recovery (SIR) Strategy 2010–2015*, London.

Stanton R & Happell B 2014, ‘Exercise for mental illness: a systematic review of inpatient studies’, International Journal of Mental Health Nursing, vol. 23, p232–42.

Stein D J, Phillips K A, Bolton D, Fulford K, Sadler J Z & Kendler K S 2010, ‘What is a mental/psychiatric disorder?’ Psychological Medicine, vol. 40, p1759–65.

Stergiopoulos V, Gozdzik A, O'Campo P, Holtby A R, Jeyaratnam J & Tsemberis S 2014, 'Housing First: exploring participants' early support needs', BMC Health Services Research, vol. 14, p1–31.

Substance Abuse and Mental Health Services Administration 2005, *National Consensus Conference on Mental Health Recovery and Systems Transformation*, Department of Health and Human Services, Rockville.

witaj P, Anczewska M, Chrostek A, Sabariego C, Cieza A, Bickenbach J & Chatterji S 2012, 'Disability and schizophrenia: a systematic review of experienced psychosocial difficulties', BMC Psychiatry, vol. 12, p193.

Tabol C, Drebing C & Rosenheck R 2010,'Studies of "supported" and "supportive" housing: a comprehensive review of model descriptions and measurement', Evaluation And Program Planning, vol. 33, p446–56.

Tan B-L 2009, 'Profile of cognitive problems in schizophrenia and implications for vocational functioning', Australian Occupational Therapy Journal, vol. 56, p220–228.

Tauber R, Wallace C J & Lecomte T 2014, 'Enlisting indigenous community supporters in skills training programs for persons with severe mental illness', Psychiatric Services.

Tchanturia K, Lounes N & Holttum S 2014, 'Cognitive remediation in anorexia nervosa and related conditions: a systematic review european eating disorders review, vol. 22, p454–62.

Tenhula W N, Strong Kinnaman J E & Bellack A S 2007, 'Is learning potential associated with social skills in schizophrenia?' Journal of Rehabilitation Research & Development, vol. 44, p827–35.

Thornicroft G, Tansella M, Becker T, Knapp M, Leese M, Schene A & Vazquez-Barquero J L 2004, 'The personal impact of schizophrenia in Europe', Schizophr Res, vol. 69, p125–32.

Tosh G, Clifton A, Mala S & Bachner M 2010, 'Physical health care monitoring for people with serious mental illness', Cochrane Database Syst Rev, Cd008298.

Tsai J, Mares A S & Rosenheck R A 2010, 'A multisite comparison of supported housing for chronically homeless adults:"housing first" versus "residential treatment first"', Psychological Services, vol. 7, p219.

Tsang H W H, Leung A Y, Chung R C K, Bell M & Cheung W 2010, 'Review on vocational predictors: a systematic review of predictors of vocational outcomes among individuals with schizophrenia: an update since 1998', Australian & New Zealand Journal of Psychiatry, vol. 44, p495–504.

Tse S, Chan S, Ng K L & Yatham L N 2014, 'Meta-analysis of predictors of favorable employment outcomes among individuals with bipolar disorder', Bipolar Disorders, vol. 16, p217–29.

Tsoi D T, Porwal M & Webster A C 2013, 'Interventions for smoking cessation and reduction in individuals with schizophrenia', Cochrane Database Syst Rev, 2, Cd007253.

Tungpunkom P, Maayan N & Soares-Weiser K 2012, 'Life skills programmes for chronic mental illnesses', Cochrane Database Syst Rev, 1, Cd000381.

Turner D T, van der Gaag M, Karyotaki E & Cuijpers P 2014, 'Psychological interventions for psychosis: a meta-analysis of comparative outcome studies', American Journal of Psychiatry, vol. 171, p523.

Tursi M F D S, Baes C v W, Camacho F R d B, Tofoli S M d C & Juruena M F 2013, 'Effectiveness of psychoeducation for depression: a systematic review Australian and New Zealand', Journal of Psychiatry, vol. 47, p1019–31.

Twamley E W, Jeste D V & Lehman A F 2003, 'Vocational rehabilitation in schizophrenia and other psychotic disorders: a literature review and meta-analysis of randomized controlled trials', Journal of Nervous & Mental Disease, vol. 191, p515–23.

Center for Health Care Strategies and Mathematica Policy Research 2014,The collaborative care model: An approach for integrating physical and mental health care in

Medicaid health homes,viewed 23 July 2016 <http://www.mdcbh.org/images/HH_IRC_Collaborative_Care_Model_052113pdf>.

Van Citters A D, Pratt S I, Jue K, Williams G, Miller P T, Xie H & Bartels S J 2010, 'A pilot evaluation of the In SHAPE individualized health promotion intervention for adults with mental illness', Community Ment Health J, vol. 46, p540–52.

Van Vugt M D, Kroon H, Delespaul P A & Mulder C L 2012, 'Consumer-providers in assertive community treatment programs: associations with client outcomes', Psychiatr Serv, vol. 63, p477–81.

Vancampfort D, Probst M, De Hert M, Soundy A, Stubbs B, Stroobants M & De Herdt A 2014, 'Neurobiological effects of physical exercise in schizophrenia: a systematic review', Disability and Rehabilitation, vol. 36, p1749–54.

Vancampfort D, Probst M, Helvik Skjaerven L, Catalan-Matamoros D, Lundvik-Gyllensten A, Gomez-Conesa A, Ijntema R & De Hert M 2012, 'Systematic review of the benefits of physical therapy within a multidisciplinary care approach for people with schizophrenia', Phys Ther, vol. 92, p11–23.

Vancampfort D, Sweers K, Probst M, Mitchell A, Knapen J & De Hert M 2011, 'Quality assessment of physical activity recommendations within clinical practice guidelines for the prevention and treatment of cardio-metabolic risk factors in people with schizophrenia community', Mental Health Journal, vol. 47, p703–10.

Vera-Garcia E, Mayoral-Cleries F, Vancampfort D, Stubbs B & Cuesta-Vargas A I 2015, 'A systematic review of the benefits of physical therapy within a multidisciplinary care approach for people with schizophrenia: an update', Psychiatry Research, vol. 229, p828–39.

Verhaeghe N, De Maeseneer J, Maes L, Van Heeringen C & Annemans L 2011, 'Effectiveness and cost-effectiveness of lifestyle interventions on physical activity and eating habits in persons with severe mental disorders: a systematic review', Int J Behav Nutr Phys Act, vol. 8, p28.

Waghorn G, Dias S, Gladman B, Harris M & Saha S 2014, 'A multi-site randomised controlled trial of evidence-based supported employment for adults with severe and persistent mental illness', Australian Occupational Therapy Journal, p424.

Waghorn G & Hielscher E 2015, 'The availability of evidence-based practices in supported employment for Australians with severe and persistent mental illness', Australian Occupational Therapy Journal, vol. 62, p141–4.

Waghorn G, Saha S, Harvey C, Morgan V A, Waterreus A, Bush R, Castle D, Galletly C, Stain H J & Neil, A L 2012, 'Earning and learning in those with psychotic disorders: The second Australian national survey of psychosis', Australian and New Zealand Journal of Psychiatry, vol. 46, p774–85.

Watzke S, Galvao A & Brieger P 2009, 'Vocational rehabilitation for subjects with severe mental illnesses in Germany : a controlled study', Social Psychiatry and Psychiatric Epidemiology, vol. 44, p523–31.

Wiesel I, Laragy C, Gendera S, Fisher K, Jenkinson S, Hill T, Finch K, Shaw W & Bridge C 2015, *Moving to my home: housing aspirations, transitions and outcomes of people with disability*, Australian Housing and Urban Research Institute, Melbourne.

Wiley-Exley E, Domino M E, Ricketts T C, Cuddeback G, Burns B J & Morrissey J 2013, 'The impact of assertive community treatment on utilization of primary care and other outpatient health services: the North Carolina experience', Journal of the American Psychiatric Nurses Association, vol. 19, p195–204.

The Winston Churchill Memorial Trust of Australia 2012, *To Investigate the policy and practice of self-directed support for people with a mental illness*, Perth.

Williams T M & Smith G P 2014, ‘Can the National Disability Insurance Scheme work for mental health?’, Australian and New Zealand Journal of Psychiatry, vol. 48, p391–4.

World Health Organization 2001, *International classification of functioning, disability and health*, Geneva.

Wright-Berryman J L, McGuire A B & Salyers M P 2011, ‘A review of consumer-provided services on assertive community treatment and intensive case management teams: implications for future research and practice’, Journal of the American Psychiatric Nurses Association, vol. 17, p37–44.

Wykes T, Huddy V, Cellard C, McGurk S R & Czobor P 2011, ‘A meta-analysis of cognitive remediation for schizophrenia: methodology and effect sizes’, American Journal of Psychiatry, vol. 168, p472.

Xia J, Merinder L B & Belgamwar M R 2011, ‘Psychoeducation for schizophrenia’, Cochrane Database of Systematic Reviews, NPAG-NPAG 1p.

Yamada K, Watanabe K, Nemoto N, Fujita H, Chikaraishi C, Yamauchi K, Yagi G, Asai M & Kanba S 2006, ‘Prediction of medication noncompliance in outpatients with schizophrenia: 2-year follow-up study’, Psychiatry Res, vol. 141, p61–9.

Zou H, Li Z, Nolan M T, Arthur D, Wang H & Hu L 2013, ‘Self-management education interventions for persons with schizophrenia: a meta-analysis’, International Journal of Mental Health Nursing, vol. 22, p256–71.

Zubin J & Spring B 1977, ‘Vulnerability - a new view of schizophrenia’, Journal of Abnormal Psychology, vol. 86, p103–26.

This report is available at mindaustralia.org.au/research