Evidence Check

Models of care for people with severe and enduring mental illness

An **Evidence Check** rapid review brokered by the Sax Institute for the NSW Ministry of Health. March 2017.

An **Evidence Check** rapid review brokered by the Sax Institute for the NSW Ministry of Health. March 2017.

This report was prepared by:

Ritsuko Kakuma [1], Bridget Hamilton [2], Lisa Brophy [1], Harry Minas [1] and Carol Harvey [3]

[1] Centre for Mental Health, Melbourne School of Population and Global Health, University of Melbourne
[2] Department of Nursing, Melbourne School of Health Sciences, University of Melbourne
[3] Department of Psychiatry, Melbourne Medical School, University of Melbourne

Enquiries regarding this report may be directed to the:

Manager
Knowledge Exchange Program
Sax Institute
www.saxinstitute.org.au
knowledge.exchange@saxinstitute.org.au
Phone: +61 2 95145950
Fax: +61 2 95145951

Suggested Citation:

Kakuma R, Hamilton B, Brophy L, Minas H, Harvey C. Models of Care for people with severe and enduring mental illness: an Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) for the NSW Ministry of Health, 2017

Disclaimer:

This **Evidence Check Review** was produced using the Evidence Check methodology in response to specific questions from the commissioning agency.

It is not necessarily a comprehensive review of all literature relating to the topic area. It was current at the time of production (but not necessarily at the time of publication). It is reproduced for general information and third parties rely upon it at their own risk.

Models of care for people with severe and enduring mental illness

An **Evidence Check** rapid review brokered by the Sax Institute for the NSW Ministry of Health.
March 2017.
This report was prepared by Ritsuko Kakuma, Bridget Hamilton, Lisa Brophy, Harry Minas and Carol Harvey.

THE UNIVERSITY OF
MELBOURNE

Contents

1 Glossary of terms

24/7	24 hours a day, 7 days a week
95%CI	95% Confidence Interval
ACT	Assertive Community Treatment
AO	Assertive Outreach
ATSI	Aboriginal and Torres Straits Islander
CALD	Culturally and Linguistically Diverse
CBR	Community-Based Rehabilitation
CCT	Continuing Care Team
CC	Care Coordination
CCU	Community Care Unit
CMHT	Community Mental Health Team
CMI/ODS	Client Management Interface/Operational Data Store
CTI	Critical Time Intervention
CTO	Community treatment orders
GP	General Practitioner or General Physician
HF	Housing First
IMP	Individual Management Plan
ICM	Intensive Case Management
IPS	Individual Placement and Support
LoS	Length of Stay
MST	Mobile Support and Treatment
NAIDOC	National Aborigines and Islanders Day Observance Committee
NDIS	National Disability Insurance Scheme
PACT	Program for Assertive Community Treatment
PDRSS	Psychiatric Disability Rehabilitation and Support Services
PSR	Psychosocial Rehabilitation
PTSD	Post-Traumatic Stress Disorder
QoL	Quality of Life
RCT	Randomised Controlled Trial
SMI	Severe or Serious Mental Illness
SPMI	Severe and Persistent Mental Illness (or severe and enduring mental illness)
TAU	Treatment as Usual

2 Executive Summary

Mental disorders represent an ever-increasing burden across all ages and cultures of the population, imposing significant challenges to the mental health and health systems. Recent estimates indicate that lack of investment in mental disorders will cost the global economy approximately US$16 trillion between 2010 and 2030, leading to a call for multi-lateral, multi-sectoral collaborations and public-private partnerships to demonstrate "the effective use of prevention, treatment, and recovery strategies for mental disorders throughout the life course." [1]

While people with severe and persistent mental illnesses (SPMI) represent a small proportion of people with mental disorders, they have high level of needs that often involve long and/or repeated inpatient mental health services that substantially increases associated mental health expenditures. The vast majority of those with SPMI have a diagnosis of psychosis (schizophrenia or schizoaffective disorder) [2], often with comorbidities including major substance use problems, neurological conditions, personality disorders, and intellectual disabilities, as well as physical disabilities and illnesses.

The New South Wales (NSW) Ministry of Health is leading a state-wide initiative — Pathways to Community Living Initiative (PCLI) [3-6] — to provide coordinated support to people who have severe and persistent mental illness and co-occurring disorders, with associated high level needs and disabilities, and who are long-stay patients (over 365 days) in mental health inpatient services (acute and non- acute). This review aims to answer four key questions:

1. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for people with severe and enduring mental illness?
2. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for younger people (16-24) with severe and enduring mental illness with associated comorbidities (such as drug and alcohol issues) and/or major Axis Two disorders (e.g. borderline personality disorder)?
3. Based on the findings to Questions 1 and 2, what would be the best configuration of non-acute inpatient/residential care services for people with severe and enduring mental illness that would facilitate transition to the community?
4. What evidence and examples are there internationally and nationally for models of care for Indigenous populations, with severe and enduring mental illness in non-acute hospital based care and in community care?

Methods

Studies in academic peer-reviewed journals relevant for this review were identified in September-October 2016 by conducting searches in Medline, Embase, and PsycINFO, CINAHL, Cochrane Library and Campbell Collaboration. Grey literature was identified by searching relevant websites of government and key organisations in relevant countries such as Australia, New Zealand, UK, and Canada.

This review included English-language original studies and reviews published between 2006 and September 2016 that evaluated the effectiveness of models of care for people aged 16 years and over with severe and persistent mental disorders on patient and/or system outcomes. Only studies including people with SPMI as their primary focus were eligible for inclusion. Studies that primarily focused on population groups that may fall under different governance structures or considered not relevant to the NSW context were excluded from this review. These included 1) survivors of violence such as war veterans, September 11, Holocaust, school shootings, torture survivors; 2) survivors of natural disasters such as earthquakes, bushfires, and severe weather events; as well as 3) prison inmates, offenders and sex offenders (not SPMI) as the primary focus for the model of care/intervention and evaluation.

Grey literature relevant to this review includes reports published by governments and agencies within Australia and its states/territories, as well as other jurisdictions outside Australia applicable to the NSW context. Where published evidence (peer reviewed or grey literature) was lacking for promising interventions or models, the review team drew on known case examples that are illustrative but not necessarily representative of innovation Australia-wide. Quality of studies were assessed using the CONSORT [7] and STROBE [8] statements for randomised control trials and observational studies respectively. The Canadian Homelessness Research Network's level of evidence framework [9] was used to assess the strength of evidence for the models of care.

Summary of findings by review question

Through the electronic, manual and grey literature searches, we identified and reviewed approximately 150 academic papers, reports and online resources representing over 70 programs/models of care.

1. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for people with severe and enduring mental illness?

The models of care for people with SPMI were grouped into five overarching categories: Intensive Case Management (ICM), Assertive Community Treatment (ACT), Housing First or Supported Housing, Strength-Based and Recovery Oriented Care, and Critical Time Intervention. This is contrasted with the standard case management that remains a common feature of secondary care mental health services across Australia (Table 1).

Table 1. Characteristics of main models of care identified (variations in sub-models not included)

	Standard Case Management*	**Intensive Case Management**	**Assertive Community Treatment**	**Housing First**	**Strengths / Recovery Approach*****	**Critical Time Intervention**
Focus of services	Coordination of services**	Comprehensive approach	Comprehensive approach	Comprehensive approach	Comprehensive approach	Targeted to continuity of care
Duration of services	Time limited	Ongoing	Ongoing	Ongoing	Ongoing	Time limited
Average caseload	35	15	10	Unspecified	Unspecified	25
Outreach	No	Yes	Yes	Yes	Yes	Yes
Coordination or service provision	Coordination	Service provision	Service provision	Service provision	Service provision	Service provision and coordination
Responsibility for clients' care	Case manager	Case manager	Multidisciplinary team	Case manager or Multidisciplinary team	Variable	Case manager
Importance of client–case manager relationship	Somewhat important	Important	Important	Important	Important	Important

* Model often used for comparison

** This may have some direct service provision of clinical care if it's a clinical case management variant

*** As explained below, strengths/recovery models represent a broader grouping of programs that also represents a 'framework' or 'approach' rather than an operationalised program.

- **Intensive Case Management (ICM)** is a model in which case workers, working alone or in an integrated team across multiple staff members and agencies, link individual clients to mainstream housing, clinical and complementary supports. It typically has smaller caseloads that enable more intensive work. Case managers provide outreach, develop relationships and coordinate with other services to help people access needed services. ICM is sometimes a team model that may include housing and complementary support workers, with a link provided to mainstream clinical services.
- **Assertive Community Treatment (ACT)** — also known as outreach or other variations such as Mobile Support and Treatment — is a recovery-oriented, comprehensive model of care delivered by a multi-disciplinary, multi-professional team which typically includes a psychiatrist, doctor, nurse, substance

abuse specialist and a peer specialist on a single team, and that team serves all of the client's needs.[10] Whereas ICM is not necessarily, or mostly is not, a team model, ACT is, by definition, a team model. An ACT team provides client-centred, flexible, home-based intensive care for people with significant mental health and/or addiction issues who are at high risk of frequent hospitalisations and who are unable or unwilling to attend community mental health centres.

- **Supported Housing/Housing First** is a consumer-driven model for homeless people with mental health and substance use problems that houses participants immediately to permanent housing in the community, without any preconditions, before collaborating with them to address health, mental health, addiction, employment, social, familial, spiritual, and other needs. Unlike supported accommodation, housing and clinical services are separate in the Housing First model.
- **The Strengths/Recovery Based Model** of case management is a recovery-oriented approach to working with people with psychiatric disabilities. It was developed and formalised in the US in the 1990s, in reaction to what was then a common clinical approach of focusing directly on what people with psychiatric disability could not do and encouraging modified expectations for what the person might achieve in life.[11] The Strengths Model is both a philosophy of practice and a set of tools designed to help people set meaningful and important life goals by focusing on the abilities, resources and potentials of people and their communities, and promoting a more optimistic approach to working with individuals with mental illness, and the communities within which they live, learn, work and socialise. This model is increasingly understood as a broader approach or framework that is included in many other programs as part of its fundamental principles rather than an operationalised service/program.
- **Critical Time Intervention (CTI)** is a time-limited and targeted evidence-based practice that focuses on mobilising support for society's most vulnerable individuals during periods of transition such as from hospital to community, prison to community, or even veterans transitioning back into society after their service. CTI facilitates community integration and continuity of care by ensuring that a person has enduring ties to their community and support systems during these critical periods, and therefore has been predominantly applied to people with mental illness, people who have been homeless or in prison, veterans and many other groups. CTI shares with ACT models a focus on stabilising patients in the community through development of independent living skills and by building effective support networks in the community.

The key findings from this review were:

- ACT and Housing First models were found to have the strongest evidence for providing care for people with SPMI. They are both very well defined and researched with robust evidence of the clinical efficacy, acceptability by clients, client engagement and cost-effectiveness, especially for high users of inpatient care. Both models have been shown to achieve better health and social outcomes such as improvements in symptom severity, symptom frequency, and functioning compared with standard care, resulting in fewer hospital admissions, emergency department visits, and hospital inpatient days, thereby having a significant impact in reducing mental health care costs.[12-14] In addition to health and health care outcomes, ACT and Housing First models were also found to be effective in reducing rates and durations of homelessness and increasing likelihood for accessing competitive employment.
- Less assertive approaches have also been shown to be nearly as effective in some cases, though they have also been found to have a greater risk for disengagement.
- While the evidence for ICM was consistent with ACT in terms of both consumer outcomes and mental health care costs, ACT models were found to be superior to ICM models in their effectiveness for clinical, social, housing outcomes, as well as care engagement and cost outcomes.
- A consistent feature that has been shown to be effective in the various supported housing models is the presence of a clear mission articulating the role of consumers in this process, their housing options and the types of services that will actually be available to them. The existing studies have consistently confirmed that having a secure home is widely recognised as providing a fundamental basis for mental health. The individualised approach to supported housing not only ensured that consumers were provided with the opportunity to choose and take responsibility for their own home, but it also supported their ability to become more independent members of the community.
- Increasingly, successful programs show a focus on strengths identification (rather than deficit amelioration) and on prioritising psychosocial goals for the person over treatment goals identified by professionals.
- The existing evidence consistently demonstrated the effectiveness of integrated, intensive case management models such as ICM, ACT, and Housing First in reducing hospital use and supporting social outcomes such as community engagement, housing security and likelihood of employment.

However, findings typically showed a lack of impact on clinical outcomes such as symptom reduction and mental health status. Nevertheless, that symptoms did not worsen suggests that the many people with SPMI with complex needs can be *similarly* managed in the community and experience significant benefits in other aspects of their life.

- Critical to all of the models identified was the importance of effective care coordination by a case manager or a case management team to enable effective comprehensive care.
- Peer workers play a key role in supporting consumers by fostering a sense of safety, community and security; they demonstrate to consumers that they understand their experiences and perspectives, and that recovery is possible. They also support improved engagement with the wide range of services available to consumers. Peer workers are increasingly recognised as making a significant contribution in team-based models, as evidenced by the increasing shift over time of models such as intensive case management, ACT, and Housing First to require peer workers in their case management teams.
- Models such as Housing First and nidotherapy have also demonstrated the importance of housing security and appropriate environment/setting in supporting recovery in this particular group.
- Significant gaps still remain in addressing CALD communities. This group continues to be out of reach and disengaged. Language barriers and the differing nature and levels of stigma and discrimination across cultural groups are consistently reported as posing challenges. While robust evidence is not yet available, collaborations with cultural organisations, the use of interpreters and translators, and the use of services such as *EthnicLink*, which goes beyond the provision of translation services and has staff trained to support the delivery of culturally appropriate care, are promising approaches to address these challenges.

This review found that the majority of the identified models delivered a combination of health, social and housing support services coordinated by a case manager or a case management team. While queries into the extent to which the level of integration of services has an impact on outcomes are important, many of the existing studies do not make these issues clear. Thus, while this review found that the two key sectors/services providing collaborative care were 1) health and social care (statutory/government); and 2) health and NGOs, the existing studies did not consistently provide sufficient information and data on the extent of integration of services or its impact on outcomes. One exception was supported employment provided through a mix of mental health and employment agency support. There is evidence that integration is helpful to improve outcomes (so integration is a key criterion for the model).[15]

2. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for younger people (16-24) with severe and enduring mental illness with associated comorbidities (e.g. drug and alcohol issues) and/or major Axis Two disorders (e.g. borderline personality disorder)?

Studies with a particular focus on young persons were far fewer than those focused on adults. Models of care found for this subgroup included ACT teams, intensive case management and Housing First, with consistent findings as adults. Team-based intensive case management approaches with effective coordination, such as the Permanent Supportive Housing Program in California [16] and the Melbourne-based Intensive Mobile Youth Outreach Service (IMYOS) [17], seem to have the most reliable and promising evidence.

While the Permanent Supportive Housing program [16] found mixed results, with those in supported housing programs having increased health care costs compared to those using outpatient mental health care, further analysis found that youths receiving programs with high fidelity to the Housing First model had lower health care costs than those in low fidelity supported housing programs.

In the IMYOS program [17], the rate of psychiatric hospital admissions also declined significantly after IMYOS intervention by 17%, 29% and 28%— at three-, six-, and nine-months post-IMYOS. Similarly, for those admitted, the average length of hospitalisation declined by 6.7 days, 6.2 and 5.5 days at three-, five- and nine-month follow up compared to baseline.

Despite less robust available evidence, existing studies are beginning to indicate that assertive community treatment and outreach or intensive case management approaches are also appropriate for this population group. Youth Prevention and Recovery Care (PARC) Services may also be promising in relation to the provision of sub-acute residential care and hospital to community transition.

3. Based on the evidence from Questions 1 and 2, based on the identified optimal models of care, what would be the best configuration of non-acute inpatient/residential care services for people with severe and enduring mental illness that would facilitate transition to the community?

Despite the increasing shift towards community-based care, the need for non-acute inpatient care remains. However, evidence that informs specific details on how to configure models of care in inpatient/residential settings is scarce. Such evidence is beginning to be developed in the Australian context, such as a recent review on accommodation and support needs of long-term patients by Chopra and colleagues [18], an evaluation of continuing care units in Queensland that is currently underway, by Parker and colleagues [19], and an evaluation of PARC services in Victoria by Brophy and colleagues (unpublished).

A consistent feature in new residential care service developments is the role of peer support workers or peer specialists in improving consumer satisfaction, other provider understandings on consumer experiences and perspectives, and in some cases in reducing readmission rates. Training, supervision and also ensuring there are sufficient numbers of people to enable mutual support and professional development opportunities among that workforce appears to be important for the successful implementation of these roles.[20]

Blended models of service provision that combine clinical treatment services and recovery focused NGO providers appear to be the increasing preference. While a dearth of evidence precludes the provision of particular recommendations on how best to configure blended models of care, the general trend favours in-reach clinical teams, rather than live-in residential teams, and having some flexibility around staffing, for example, 24 hour/day staffing as opposed to part-day staffing.[21]

With the diverse and complex needs of this group, the capacity and flexibility to provide individualised support services is of particular importance. There are significant opportunities in the national roll out of the National Disability Insurance Scheme (NDIS) to increase access for this group of people with psychosocial disability to individualised funding and to support services specifically able to address their needs.

The Quality Indicator for Rehabilitative Care (QuIRC) is a promising web-based toolkit developed in the UK to assesses the living conditions, care and human rights of people with longer term mental health problems in psychiatric and social care facilities [2, 22-24]; it has subsequently been adapted for specialist mental health supported accommodation services (QuIRC-SA) [25]. The QuIRC provides an opportunity to assess the performance of a unit in each of the seven domains of care and may be an important tool in guiding the reconfiguring of remaining inpatient services for people with extremely high and complex needs who will have the most difficulty making the transition to the community and may need to stay in non-acute inpatient care for some time. The seven domains are: Living Environment; Therapeutic Environment; Treatments and Interventions; Self-management and Autonomy; Social Interface; Human Rights; and Recovery-based practice.

While no details were found on the implementation or evaluation of services, non-acute inpatient care/residential and community-based rehabilitation units seem to be categorised into five categories in the UK. These categories represent a continuum of care regarding intensity and duration of direct support: low secure rehabilitation units, high-dependency rehabilitation units, community rehabilitation units, longer term complex care units and highly specialist units.[26, 27] These cover a range of services that provide a step up/step down approach with a range of activities, intended length of admission and settings.

The available evidence suggests that non-acute inpatient services for people with SPMI should have the following components:

1. Non-acute inpatient/residential care services that provide an opportunity to integrate both clinical and non-clinical staff, including peer support workers, such as PARC services in Victoria. A recovery model should be implemented, and ongoing training provided to both clinical and non-clinical staff. Non-clinical support workers need continuing clinical supervision, and to be provided with information on patients' ongoing care requirements.
2. A readiness-for-transitioning program that includes rehabilitation, social and life skills training, and psychoeducation, involving patients, carers, hospital staff, community mental health staff and peer support, who will continue their relationship with the patient after discharge. The transitioning program should be flexible in content and duration, and tailored to individual patient needs.
3. Seamless transition to suitable and secure housing in the community once the patient is ready for discharge. All studies reported improvements in sustaining community living over the long-term when suitable and secure housing is enabled. Those reporting costs showed that even intensive community care was substantially more cost-effective than inpatient care.

4. Links with other health and welfare organisations, in particular housing providers to enable social inclusion, economic participation and the opportunity for transitioning to safe, secure and affordable housing. This will be important to enable sustained community living.
5. Community care and support after discharge ought to encompass all services required for patients with complex needs, including ongoing psychosocial rehabilitation consistent with a recovery model, and disability support that aims to equip patients with living skills and promote independence.
6. Clear articulation of the model's structure, stakeholder roles and responsibilities, and effective communication between all stakeholders involved is imperative, with written partnership agreements implemented to ensure the seamless integration of services.

4. What evidence and examples are there internationally and nationally for models of care for Indigenous populations, with severe and enduring mental illness in non-acute hospital based care and in community care?

While most studies identified in this review did not exclude individuals of Indigenous background, very few had a particular focus on models of care tailored for Indigenous people with SPMI. Indigenous communities are consistently found to be out of reach and disengaged from mental health services. Despite the dearth of evidence however, there are indications that collaboration with Indigenous organisations able to tailor the services to the Indigenous community with appropriate attention to the Aboriginal and Torres Strait Islander ways of life — such as the importance of environment, connection to their own land, and focus on social engagement with the community and family — are key components resulting in better engagement of this group.

The Personal Helpers and Mentors Services (PHaMs) model, for example, built networks with Aboriginal and Torres Strait Islander organisations and communities (such as Land Councils, Aboriginal Medical Services and Indigenous training organisations) used opportunities such as National Aborigines and Islanders Day Observance Committee (NAIDOC) week celebrations, dinners, sports days, awards, service stalls with the local community and other service providers, employed Aboriginal and Torres Strait Islander staff, provided Aboriginal and Torres Strait Islander trainee positions (4 of the 7 PHaMs staff identified as being of Aboriginal and Torres Strait Islander decent) and undertook cultural awareness training for other staff. These were found to have positive outcomes, enhancing the general function, social relationships, ability to access a range of services, improved management of medications, living arrangements and the likelihood of employment and education.

Similar findings were also found in Canada where a Housing First program tailored to a remote Indigenous community and delivered by an Indigenous NGO resulted in significant improvements in service engagement and reduction in hospital use and health care costs. While challenges still remain, these programs show promise in improving the evidence base on how best to design and deliver services to the Aboriginal and Torres Strait Islander population in Australia.

Knowledge Gaps

While this review provides some strong evidence about the overall models of care that seems most appropriate for people with SPMI, the evidence is still very limited in informing how best to configure the residential services and staff mix, optimal governance mechanisms across disciplines and sectors, and service components that work best for particular sub-populations:

1. **Models for residential care**
   While there is an acknowledgment of the need for some inpatient/residential component within a comprehensive service for people with significant psychiatric disability [18], there is insufficient evidence at present about the best approach to staffing residential rehabilitation programs. A particular study to keep in mind is a longitudinal study being conducted now in Queensland specifically to evaluate an integrated peer-support and clinical staffing model for residential mental health rehabilitation.[19]

2. **Governance/oversight of comprehensive and multi-sectoral models of care**
   There are trends in delivery in Australia and Canada towards community sector management of housing provision, in-reach support and staffed residential components. However no comparative evaluation data were found to underpin these or provide guidance for one approach over another, or for proportional commitment to each.

3. **Distribution of evidenced approaches for people with SPMI**
   Current evidence does not provide guidance regarding the likely scale of demand for ACT/intensive packages/residential care, as a proportion of overall service provision required in a catchment

4. **Access to individualised funding**
   Current evidence suggests that increased choice, control and access to individualised funding may offer important opportunities for recovery for people with severe and enduring mental illness. However, it remains unclear how many people currently in long-stay inpatient units will access individualised funding packages (such as NDIS) and whether this support will enhance their opportunities for successful and sustained discharge into the community.

5. **CALD and Indigenous populations**
   There was a dearth of evidence for CALD and Indigenous populations. While some evidence was found for particular models such as ACT and Housing First that were adapted for CALD and Indigenous communities, these were very few overall and none were found in relation to residential care. The underrepresentation of mental health research and services focusing on CALD and Indigenous communities in Australia has been an ongoing issue. More efforts and resources are needed to examine this urgently, not only to better meet the mental health care needs of the Australian population, but also to avoid introducing stress and harmful experiences due to the lack of culturally appropriate processes and care.[28, 29]

Implications for NSW and recommendations about future directions

Findings from this review suggest that the optimal model of care for people with SPMI is a comprehensive, multi-disciplinary range of care that is actively coordinated across a range of sectors such as health, social services, education and training, employment, correctional, indigenous affairs, arts, sport, aged care, and justice. Supported housing and ACT/PACT (Program for Assertive Community Treatment) should include access to safe, secure and affordable housing along with access to unconditional support as its foundation, onto which various components of care can be built, tailored to each individual. Given the focus on transitions in living arrangements away from hospital as home for the population of interest in this review, the Housing First program approach warrants careful and first consideration, including the specific cultural and Indigenous elements.

A rehabilitation and recovery approach such as the World Health Organization's Community-Based Rehabilitation (CBR) Framework [30] may be appropriate, given the substantial and diverse disabilities and the complex needs experienced by people with severe and persistent mental illnesses. The multi-sectoral and holistic approach to equitable access to quality care, social inclusion, economic participation, and the requirement for "combined efforts of people with disabilities, their families and communities, and relevant government and non-government services such as health, education, vocational and social services" makes this an ideal framework for consideration.

Essential components of a system-wide model of care include:

- Inpatient and community-based rehabilitation units (including inpatient readiness for transition training with continuity of care between inpatient and outpatient settings, services based on a recovery model, availability of suitable housing with up to 24-hour support and services for patients with complex needs, ongoing disability support, and clear communication with structured articulation of procedures and roles)
- Community rehabilitation teams (ACT/PACT, intensive case management)
- Safe, secure and affordable housing with access to unconditional support (e.g. Housing First)
- Access to a discretionary individualised funding package
- Psychosocial support such as supported employment, social skills development and community functioning/engagement, for example individual placement and support, social skills training, community-engaged recreational activities (arts, music, sports)
- Human rights and advocacy (access to justice system)
- Peer support and empowerment strategies.

3 Introduction and purpose

Mental disorders represent an ever-increasing burden across all ages and cultures of the population, imposing significant challenges to the mental health and health systems. Recent estimates indicate that lack of investment in mental disorders will cost the global economy approximately US$16 trillion between 2010 and 2030. Hence there is a call for multi-lateral, multi-sectoral collaborations and public-private partnerships to demonstrate "the effective use of prevention, treatment, and recovery strategies for mental disorders throughout the life course." [1]

While people with severe and persistent mental illnesses (SPMI) represent a small proportion of people with mental disorders, they have a high level of needs that often involve long and/or repeated inpatient mental health services that substantially increases associated mental health expenditures. The vast majority of those with SPMI have a diagnosis of psychosis (schizophrenia or schizoaffective disorder) [2], often with comorbidities including major substance use problems, neurological conditions, personality disorders and intellectual disabilities, as well as physical disabilities and illnesses. In New South Wales (NSW), initial data indicated that the diagnoses and needs within this group are complex and include many people with a primary diagnosis of schizophrenia (90%) with co-occurring disorders such as substance use disorders and neurological disorder.

The NSW Government recognises that the issue of providing care for long-stay patients (over 365 days) in acute and non-acute mental health units and facilities across all Local Health Districts (LHDs) in NSW is significant. While there has been a decrease in the number of inpatients over the last 20 years, there remains a cohort of people who have not been successfully discharged. While all individuals are likely to continue to require some level of inpatient care even after moving to the community, those who will be able to transition to the community will need fluid pathways back and forth between hospital and home as their illness progresses or their needs change over time.

The development of the Pathways to Community Living Initiative (PCLI) [3-6] was led by the Ministry of Health as a state-wide initiative to provide coordinated support to people who have severe and enduring mental illness and co-occurring disorders, with associated high level needs and disabilities, and who are long-stay patients (over 365 days) in mental health inpatient services (acute and non- acute). This review focuses on four key questions:

1. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for people with severe and enduring mental illness?
2. What can be identified from the national and international literature regarding optimal models of care in both hospital-based and community-based care for younger people (16-24) with severe and enduring mental illness with associated comorbidities (e.g. drug and alcohol issues) and/ or major Axis Two disorders (e.g. borderline personality disorder)?
3. Based on the findings to Questions 1 and 2, what would be the best configuration of non-acute inpatient/residential care services for people with severe and enduring mental illness that would facilitate transition to the community?
4. What evidence and examples are there internationally and nationally for models of care for Indigenous populations, with severe and enduring mental illness in non-acute hospital based care and in community care?

This review builds on the 2014 review by Matheson and Carr [31] which examined *how* to transition long-stay psychiatric patients into community settings and focuses on reviewing the evidence base on *what* models of care exist nationally and internationally for the population being transitioned. It is intended that the review will be used (along with other evidence) by the Ministry of Health to inform the further development of services required for adults with complex mental illness. The review will also be distributed to LHD senior clinical and planning staff to inform their work with this cohort to decrease long-stay admissions.

4 Methodology

4.1 Literature searches

Studies in academic peer-reviewed journals relevant for this review were identified in September-October 2016 by conducing searches in Medline, Embase, and PsycINFO, CINAHL, Cochrane Library and Campbell Collaboration. Grey literature was identified by searching relevant websites of government and key organisations in relevant countries including Australia, New Zealand, UK and Canada.

4.2 Search Strategy

The search strategy included an extensive list of keywords, subject heading and terminologies to identify relevant studies that address all four of the following components.

- **Diagnosis component:** Relevant terms relating to diagnosis included mental disorders, mental disabilities, mentally ill persons, psychotic disorders, schizophrenia, affective disorders, dual diagnosis, bipolar disorder, personality disorders, substance-induced psychoses, substance-related disorders, alcohol-related disorders, dementia and intellectual disabilities.
- **Severity/Complex needs component:** Terms used to narrow studies to only the severe and persistent mental disorders included long-term care, long-stay, medium-term, medium-stay, step-down, secure, severe, severe and enduring, severe and persistent, chronic, complex care, complex need, high level disability and high level need.
- **Model of care component:** “Model of care” includes therapeutic approaches, best practice examples of integrated/coordinated care and transition pathways between hospital and community care, consumer and carer outcomes. Given the inconsistencies in terminologies to describe models of care, terms used to capture relevant studies include delivery of health care, continuity of patient care, quality of health care, model of care, service delivery model, supported housing, supported employment, self-management, peer support, assertive community treatment, intensive case management, skills training, and harm reduction.
- **Outcome component:** Terms used to capture the studies with outcomes of interest included quality of life, patient admission, patient readmission, activities of daily living, homeless persons, homeless youth, homeless, crime, recidivism, return to prison, custody, return to work, vocation, back to work, health behaviour, risk reduction behaviour, lifestyle, exercise, tobacco, diet, patient satisfaction, and consumer satisfaction.

The detailed search strategy for the Medline database is presented in Appendix 1. This formed the basis for the search strategies for all other databases. Manual searches were also conducted by checking reference lists of relevant articles, searching the publications of key researchers in this area as well as known model of care.

4.3 Selection of Studies

This review included English-language original studies and reviews published between 2006 and September 2016 that evaluated the effectiveness of models of care for people aged 16 years and over with SPMI on patient and/or system outcomes. Furthermore, to be eligible, studies had to have people with SPMI as their primary focus.

Grey literature relevant to this review include reports and guidelines published by governments and agencies within Australia and its states and territories, as well as other jurisdictions outside Australia applicable to the NSW context. Where published evidence (peer reviewed or grey literature) was lacking for promising interventions or models, the review team drew on known case examples, which should be seen as illustrative but not necessarily representative.

Studies that primarily focused on population groups that may fall under different governance structures or were not considered to be relevant to the NSW context were excluded from this review. These included 1) survivors of violence such as war veterans, September 11, Holocaust, school shootings, torture survivors; 2) survivors of natural disasters such as earthquakes, bushfires, and severe weather events; as well as 3) prison inmates, offenders and sex offenders as the primary focus of the model of care and evaluation.[1]

The quality of studies was assessed using the Consolidated Standards of Reporting Trials (CONSORT) statement CONSORT [7] for randomised controlled trials (RCTs) and the Strengthening the Reporting of Observational Studies (STROBE) statement for observational studies.[8] The overall level of evidence for models was rated as best practice, promising practice or emerging practice, following the Hierarchy of Evidence Framework developed by the Canadian Homelessness Research Network.[9]

---

[1] Studies and models of care focusing on people with SPMI were not excluded but studies, for instance focusing on interventions/models such as supported housing or transition from prison to community without focus on SPMI were not included.

5 Findings

Through the electronic, manual and grey literature searches, we included and reviewed approximately 150 academic papers, reports and online resources representing over 70 programs/models of care. Given the large number of programs and studies identified, we describe the key models and highlight a sample of the most relevant and best-supported programs in the text. The detailed descriptions of all included programs are presented in the evidence tables in Appendix 2.

A wide range of studies and study methods were included to answer the questions posed in this review: randomised controlled trials (RCTs), non-randomised trials, pre-post evaluations, cost-effectiveness studies, follow up/cohort studies, case control studies, cross-sectional assessments and surveys, medical/client chart audits and reviews, stakeholder consultations, interviews, focus group discussions, site visits and observations. While the quality of evaluation of each of the programs/studies is presented in the detailed tables in Appendix 2, an overall rating of the level of evidence supporting each of the models is presented in the text. The models were categorised into one of three categories using the framework developed and defined by the Canadian Homelessness Research Network as the following [9]:

Best Practice	*"A best practice is an intervention, method or technique that has consistently been proven effective through the most rigorous scientific research (especially conducted by independent researchers) and which has been replicated across several cases or examples"* (p.7).	• Systematic reviews, meta-analyses • RCTs, and quasi-experimental studies
Promising Practice	*"An intervention is considered to be a promising practice when there is sufficient evidence to claim that the practice is proven effective, however, there may not be enough "generalizable" evidence to label them best practices. As the name suggests, these practices do hold promise. Promising practices need effective communication; that is to say, others working in the field need to know that a particular strategy that demonstrates positive results exists. As a promising practice is adopted and adapted for use in other settings, a body of evidence begins to build"* (p.7).	• Realist reviews • Case studies with evidence of effectiveness e.g. external evaluation with scientific rigour • Case studies with encouraging results e.g. internal or external evaluations that lack scientific rigour
Emerging Practice	*"Emerging practices are interventions that are new, innovative and which hold promise based on some level of evidence of effectiveness or change that is not research-based and/or sufficient to be deemed a promising or best practice. Emerging practices highlight the need for more rigorous research and would be of particular interest to program evaluators and researchers"* (p.7).	• Program descriptions or reports with limited data or evidence • Opinions, ideas, policies, editorials

5.1 Models of care for people with severe and enduring mental illness

What can be identified from the national and international literature regarding optimal models of care in both hospital-based care and community-based care for people with severe and enduring mental illness?

Table 1 shows a brief description of the predominant models of care found in this review. Other than those that conducted pre-post evaluations or established a waiting list as a comparison group to evaluate the effectiveness of a particular intervention model, most of the studies in this review used Treatment-As-Usual (TAU) as the comparison group, which typically consisted of standard case management.

None of the models identified in this review are unique or distinct from each other. The well-established and increasing evidence for the importance of integrated comprehensive and coordinated care has informed many of the models, resulting in similar underlying principles, orientation, and service components as well as cross-pollination of lessons learned across models over the years. The distinguishing features in the models, and hence the rationale for how the findings are organised, are the extent to which: the principles, orientation and components are prioritised; the models have been operationally defined; and the setting and context in which the services are delivered. Accordingly, the findings are grouped thematically into four sections: intensive case management (ICM) and assertive community treatment (ACT); supported housing/Housing First; other strength-based/recovery-oriented care; and non-acute inpatient/community-based rehabilitation units. While ACT models are well operationalised and therefore implemented and evaluated similarly across settings, the strength-based/recovery-oriented models are less operationalised into a specific program due to their broader approach. The greater diversity in the implementation of strength-based/recovery-oriented models across programs means that high quality evaluations of these models are possible using a wide range of methodologies but are more difficult and less likely to include experimental methods such as randomised controlled trials. We have discussed these together in terms of philosophical common ground, but also identified distinctions and contrasts both in tables and in the text (see section 5.1.3 for further comments).

Table 1. Characteristics of main models of care identified (variations in sub-models not included)

	Standard Case Management*	**Intensive Case Management**	**Assertive Community Treatment**	**Housing First**	**Strengths / Recovery Approach*****	**Critical Time Intervention**
Focus of services	Coordination of services**	Comprehensive approach	Comprehensive approach	Comprehensive approach	Comprehensive approach	Targeted to continuity of care
Duration of services	Time limited	Ongoing	Ongoing	Ongoing	Ongoing	Time limited
Average caseload	35	15	10	Unspecified	Unspecified	25
Outreach	No	Yes	Yes	Yes	Yes	Yes
Coordination or service provision	Coordination	Service provision	Service provision	Service provision	Service provision	Service provision and coordination
Responsibility for clients’ care	Case manager	Case manager	Multidisciplinary team	Case manager or Multidisciplinary team	Variable	Case manager
Importance of client–case manager relationship	Somewhat important	Important	Important	Important	Important	Important

* Model often used for comparison

** This may have some direct service provision of clinical care if it’s a clinical case management variant

*** As explained below, strengths/recovery models represent a broader grouping of programs that also represents a ‘framework’ or ‘approach’ rather than an operationalised program.

The majority of the identified models delivered a combination of health, social and housing support services that were coordinated by a case manager or a case management team. While queries into the extent to which the level of integration of services (e.g. fully integrated such as in PARC service and ACTs in UK, or with separate care plans and approaches such as the HASI-Plus – see below for model details) has an impact on outcomes are worthwhile, many of the existing studies do not make these issues clear, especially how integrated the approach is.

The two key collaborative care models comprise: health and social care (statutory/government); and health and NGO. Despite the importance of effective collaboration, existing studies have not examined the impact of the scope and level of collaboration and integration on service and client outcomes. One exception is an evaluation of an integrated mental health and employment agency support to provide supported employment that has been found to contribute to improvements in outcomes.[15]

5.1.1 Intensive Case Management and Assertive Community Treatment

Overview of the Model

Intensive Case Management (ICM) is a model in which case workers, working alone or in an integrated team across multiple staff members and agencies, link individual clients to mainstream housing, clinical and complementary supports. It typically has smaller caseloads that enable more intensive work. Case managers provide outreach, develop relationships and coordinate with other services to help people access needed services. ICM is sometimes, but not always, a team model that may include housing and complementary support workers, with a link provided to mainstream clinical services.

Assertive Community Treatment (ACT) — also known as outreach or other variations such as Mobile Support and Treatment (MST) — is a recovery-oriented[2], comprehensive model of care delivered by a multi-disciplinary, multi-professional team.[10] Whereas ICM is not necessarily or mostly not a team model, ACT is, by definition, a team model. An ACT team provides client-centred, flexible, home-based intensive care for people with significant mental health and/or addictions issues who are at high risk of frequent hospitalisations and who are unable or unwilling to attend community mental health centres.

They provide a range of supports directly to individuals who would not be ready for integration into the mainstream for some time (e.g. recovery and wellness services, peer support, integrating mental health and addictions supports). Where appropriate and able, an ACT team may also provide housing and complementary supports or link the client to mainstream housing and complementary supports.

ACT typically includes a psychiatrist, doctor, nurse and substance abuse specialists in a single team, and that team serves all of the client's needs. At least one peer specialist is on staff and the client/staff ratio is typically 10:1 or less. Services and supports are provided seven days per week with 24-hour crisis coverage, and the team typically meets daily.

Characteristics of ICM and ACT models are the following:

Characteristics of ICM	**Characteristics of ACT**
• One-on-one case manager to client relationship using a recovery-oriented approach (the team of case managers may include housing and complementary support workers) • The case manager brokers access to mainstream services that the client identifies as needed to attain his or her goals • The case manager links clients to health professionals (e.g. family doctor) and other services • The case manager often accompanies clients to meetings and appointments in support of their goals/needs • Case managers are available on a regular schedule; caseloads are sometimes shared between case managers to assure coverage of 7 days per week, 12 hours a day • The staff to client ratio is generally 1 case manager per 20 clients • The duration of the service is determined by the needs of the client, with the goal of declining supports and transitioning to mainstream services as soon as possible. In some cases, it may be possible to transition clients within 12 to 16 months.	• A multi-disciplinary team of health professionals that provides wrap-around service directly to clients • The client's health and social needs are addressed through integrated health and social care • The team members are available 24/7 and provide real-time support • The ACT team meets regularly with the client and with each other (could be daily) • The team is mobile, often meeting clients in their homes • The staff to client ratio is generally 1 ACT team per 10 clients • The program components are informed by client choice, peer support and a recovery-orientation • Services offered on a time-unlimited basis, with planned transfers to lower-intensity services for stable clients.

---

[2] Initial models were explicitly rehabilitation focused and in recent years the recovery orientation has been added.

Evidence

Assertive Community Treatment / Assertive Outreach

Level of evidence: Best Practice

Assertive Community Treatment (ACT) is very well defined and researched with robust evidence of the clinical efficacy and cost-effectiveness in Australia for people with SPMI, and especially for high users of inpatient care. Most Australian and US studies of ACT were conducted in the 1990s and subsequently in the UK and Europe. ACT has typically been found to be more acceptable to clients and therefore to lead to improved engagement with clients than standard care.[32] It has been shown to achieve better health and social outcomes such as improvements in symptom severity, symptom frequency, and functioning compared with standard care, resulting in fewer hospital admissions, emergency department visits, and hospital inpatient days.[12-14] ACT models were also found to be effective in reducing rates and durations of homelessness and increasing likelihood for accessing competitive employment.

The UK experience that ACT models have not achieved similar successes compared with those reported from Australia and the US has generated valuable lessons. Examination into the reasons behind their lack of initial success suggests that the problems were due to implementation issues, such as poorer fidelity to the ACT model or problems with the program and study designs. For instance, comparison of ACT models in London and Melbourne found that the London teams made fewer contacts with clients, were less likely to operate during extended hours and scored more poorly on the team-based approach.[12, 33] The inability to detect an effect could also be due to the quality of the existing health and social care system in the setting. For example, if the standard of care in a particular context is already high, then the ability for ACT to exceed the benefits at a level that achieves 'statistical significance' is more difficult. This may explain the findings in the UK where many of the ACT features (community-based, team manager with clinical responsibilities, integrated health and social care staff, provision of some in vivo working) are already partly adopted in standard care.[34]

ACT models have also been found to be effective when modified for particular sub-populations such as the elderly, Indigenous communities [35, 36], culturally and linguistically diverse (CALD groups) [37, 38], those with co-occurring substance use problems, the homeless, and those with a history of problems with the justice system. They have also been the basis for a wide range of integrated models of care that increasingly address the multiple and diverse needs of the clients. We see this development in the inclusion of consumer/peer support staff, and the combination of ACT with other models of care such as Housing First, Illness Management and Recovery [39], and supported employment.[40]

With respect to the costs for implementation, it is well-recognised that ACT models are costly compared to standard case management models due to the need for increased numbers and diversity in expertise of staff, more complex collaborative mechanisms to meet the required standards, and features of the model such as home visiting and operation over extended hours. However, the studies identified in this review have consistently found that ACT models are most effective for the more severely disabled and/or high needs sub-group of people with SPMI and therefore cost-effective, primarily due to the significant reduction in the use of other costly services such as inpatient and emergency care, shelters, and other types of housing.

Intensive Case Management

Level of evidence: Best Practice

A recent Cochrane systematic review by Dieterich and colleagues (2010) examined the effectiveness of intensive case management (ICM) on patient outcomes.[41] Based on 38 randomised controlled trials from the US, Canada, Europe or Australia representing over 7,000 participants, the authors found that ICM had significantly greater improvements than standard care in retaining care, general functioning, obtaining employment, securing housing, reducing readmissions and reducing length of hospital stay.[41] They also found that the higher the fidelity of ICM to the ACT model, the better it was at decreasing hospital stay. And finally, the higher the hospital use at baseline, the more effective ICM was at decreasing time in hospital. Of particular note is that when both ACT fidelity and baseline hospital use were included in the same analysis, ACT fidelity was no longer significantly associated with hospital use, suggesting that the intensive case management irrespective of its level of fidelity to ACT model is most effective for long-stay patients with complex needs.

With respect to direct costs, Dieterich and colleagues identified in their systematic review two studies that evaluated service costs. Both of these studies found ICM to have significantly greater reduction in costs for psychiatric hospital care, with savings of approximately US$144 per person per month (fiscal year 1990).

The evidence for ICM is therefore consistent with ACT in terms of both consumer outcomes and mental health care costs. Nevertheless, ACT models have been shown to be superior to ICM models in their effectiveness for clinical, social, and housing outcomes, as well as care engagement and cost outcomes.

Multiple and Complex Needs Initiative (MACNI) and other intensive brokered packages

Level of evidence: Promising Practice

The Multiple and Complex Needs Initiative (MACNI) provides targeted, time-limited and flexible interventions to a small number of clients aged 16 years and over with combinations of mental illness, substance abuse, intellectual impairment, acquired brain injury and forensic issues.

Rather than emphasising ground level negotiation between consumer and case managers, as is a core feature of ACT or Strengths models (see Section 5.1.3), a distinctive feature of the MACNI process is the between-organisation meeting of key decision makers. Funders, clinical and support services managers meet as a panel to review, negotiate and agree about the person's needs based on professional assessments, consumer views and preferences, and the perspectives of informal supporters and carers. This informs resource allocation and the provision of a package of care for these high needs clients. The program's primary purpose is to facilitate better coordination of supports and services to deliver 'wraparound' care[3] individually tailored to a person's needs.[44] A legislative framework also underpins this model to ensure appropriate service delivery for the target population.[45]

Following that process, a time-limited intensive program is negotiated between services and support providers and the consumer. A key role is the care coordinator[4] who is required to coordinate across agencies, and ensure the package of care is delivered. The network of parties provides services and the panels review a range of clinical, psychosocial and economic outcomes at intervals. Several reports tracked outcomes and the latest evaluation was conducted by independent consultants in 2007.[46]

MACNI packages for 247 individuals were costed at an average of A$250,000, with high cost packages of A$650,000. Two snapshot studies confirm that for the majority of individuals eligible to receive a MACNI response, improvements across all four MACNI platforms of accommodation, health and wellbeing, social connectedness and safety were evidenced by the service providers working with them at the time of care plan closure. The findings of the external evaluation suggested that the MACNI process was effective for psychosocial outcomes for some consumers, but it was not effective for those with substance use, and it was unwieldy and overall ineffective in reducing costs.

Substantial evaluation and review of MACNI provided a clear direction for future brokerage of intensive and targeted programs. Several critical success factors were identified by service providers, including:

- coordinated care plans
- care plan coordination
- provision of training and secondary consultation for the care team as part of the care plan
- access to a reflective space for workforce
- access to brokerage funds that can be used flexibly.

---

[3] Wraparound approach to care has ten key elements.[4243] (1) efforts based in the community; 2) requires a team-based process involving the family, the consumer/client, natural supports, agencies, and community services working together to develop, implement and evaluate the individualised plan; 3) families must be full and active partners at every level of the wraparound process; 4) services and supports must be individualised, built on strengths, and meet the needs of clients and families across life domains to promote success, safety, and permanence in home, school/work, and community; 5) the process must be culturally competent, building on unique values, preferences, and strengths of clients and families, and their communities; 6) wraparound clients and family teams must have flexible approaches and adequate flexible funding; 7) wraparound plans must include a balance of formal services and informal community and family supports; 8) there must be an unconditional commitment to serve clients and their families; 9) the plans should be developed and implemented based on an interagency, community-based, collaborative process; and 10) outcomes must be determined and measured for the individual client, for the program, and for the system.

[4] See the care coordination section which highlights the importance of the role of care coordinators in the success of case management programmes.

Integrated Service Program (ISP) – NSW, Australia

Level of evidence: Promising Practice

The report of the Integrated Service Program (ISP) evaluated in NSW [47] details a brokerage package with similar features to MACNI. This program provided packages to 38 people at an average cost of A$207,000. IPS differed markedly from MACNI model in that that one team was responsible for the coordination of service delivery. The range of services coordinated and delivered through the team consisted of:

- An ISP Project Management Committee with a Director and three key agencies i.e., Ageing, Disability and Home Care NSW (ADHC), Health, Housing
- An Interagency Reference Group consisting of consultation stakeholders, NSW Health, ADHC, Police, Department of Juvenile Justice, Housing NSW, Department of Family and Community Services, CID
- A Clinical Reference Group to provide resources regarding system responses to various illness or disorders
- Two senior project officers for project management and liaison work
- A Supportive Living Manager to manage 48 full time equivalent (FTE) staff at accommodation units
- Accommodation staff (managers and administration)
- Site-based accommodation staff
- Clinical support services staffed by four clinical consultants, two clinical support workers, 0.5 FTE senior specialist psychologists, occupational therapist, vocational trainer, and two administrative staff.

Eighteen months into the program, IPS was found to be associated with significant decrease in aggression, increase in daily living skills, increase in physical health, increased family engagement, increased QoL and pronounced decrease in hospital use. There was a remarkable decrease in the number of hospital services used per year; in particular, there was a 90% decrease in the number of inpatient days, an 83% decrease in the number of days spent in psychiatric units, and an 82% decrease in the number of hours spent in emergency care. The cost of provision of hospital services for clients decreased from about A$1,261,392/year one year prior to ISP to A$517,673/ year during ISP, thus demonstrating a 60% reduction in costs for NSW Health.

However, the potential for gains to be retained after exit from the time-limited IPS service is not confirmed. Clients remained with IPS longer than initially planned. Personal wellbeing and involvement in community activities decreased for clients who had exited, which suggests that the transition out of ISP may be problematic for clients.

Mental Health Nurse Incentive Program (MHNIP) - Australia

Level of evidence: Promising Practice

Mental Health Nurse Incentive Program (MHNIP) [48] is a Commonwealth-funded program to support mental health nurses located in primary care health services to provide psychosocial support and coordination to consumers and their carers beyond the treatment these people receive from general practitioners (GPs). A key feature of the MHNIP is the access afforded to people in rural and remote settings where primary care is the main or only local service model.

In contrast with the Commonwealth funded psychological services, which mainly improve access to psychological care for people with high prevalence disorders such as depression and anxiety disorders, the MHNIP targets people with SPMI. This group is defined as people with psychiatric diagnoses of psychoses and personality disorder and associated disability, as indicated by diagnostic groupings and Health of the Nation Outcomes Scale (HoNOS) scores equivalent to people accessing case management in the state and territory funded tertiary/clinical mental health services. The report estimates this group as 0.6% of the adult population: there are close to 50,000 people with such diagnoses and disability in the Australian population. The intensity of MHNIP packages of care varies widely, but the per patient average cost was A$2,674 for patients in metropolitan areas to A$3,343 in non-metropolitan areas.

External evaluation of the program found that psychosocial outcomes included increased involvement in social and educational activities, improved family interactions, positive flow on benefits to some carers of MHNIP patients, and some evidence of increased patient employment. Overall mental health hospital admissions decreased by 13.3% for a sample of MHNIP patients in the 12 months following their involvement in the program. The outcomes however were not the same for all: people with bipolar disorders, for example, showed a slight increase in the number of admissions. Based on the analysis of a sample of patients, there was on average a reduction in individual admission days by 58% and in length of hospital stay by nearly 20 days (i.e. from 37.2 days to 17.7 days). The number of emergency department presentations for MHNIP patients was also reduced.[48]

Personal Helpers and Mentors Service (PHaMs) – Australia

Level of evidence: Promising Practice

The Personal Helpers and Mentors Service (PHaMs) [49-51] is a complimentary initiative to the Mental Health Nursing Incentives Program managed by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) that is required to work collaboratively with the Partners in Recovery (PIR) (see below) arrangements established at the local level. PHaMs aims to provide non-clinical community-based one-on-one team-based support using a strengths-based, recovery approach.

The PHaMs team structure is determined by service providers according to local need, the needs of participants, the availability of staff, and worker profile. It is designed to 1) provide a diverse knowledge base among workers that can be shared to benefit the whole team; 2) allow for team support, ongoing training and development, and direct supervision, debriefing and shared learning experiences and opportunities; and 3) offer choice for participants around the gender and culture of their worker (where possible) as well as a choice of who they might prefer to build a long-term relationship with.

All team members have distinct roles that must be filled within each team: a team leader, a peer support worker, and general caseworkers. The role of the peer support worker within the PHaMs team can vary and be tailored to the particular service. PHaMs services providing specialist services also include specialist workers such as a cultural broker in Remote Services, and employment specialists in Employment Services.

A standard PHaMs service has a team of five members with varied backgrounds, academic qualifications, work experience and knowledge. While some team members may have professional backgrounds as social workers and psychologists, which helps to build the capability of the team, they are employed as personal helpers and mentors, not to undertake specified professional roles.

Caseload for PHaMs is 10-12 clients per staff member. By 2013, there were 175 PHaMs services operating across Australia (95 in metropolitan, 69 in non-metropolitan and 11 in remote sites).

Specific activities of PHaMs services include:

- Helping participants better manage their daily activities and reconnect to their community
- Connecting participants to outreach services if needed, for example, coordinating support services and assisting in navigating the mental health and community sector supports
- Liaising and working with other stakeholders to make and receive appropriate referrals and links with appropriate services, such as clinical, drug and alcohol, employment and accommodation services
- Working with participants to develop and carry out Individual Recovery Plans that focus on their goals and recovery journey, such as: assisting participants to make and attend appointments; to manage daily tasks; facilitate transport; address barriers to social and economic participation; find employment; secure stable housing; improve personal, parenting or vocational skills; improve relationship with family and friends; manage everyday tasks such as using public transport and housekeeping
- Engaging and supporting family, carers and other significant people in participants' lives
- Monitoring and reporting progress against participants' Individual Recovery Plans.

Overall, clients found the recovery approach of PHaMs to be highly effective in engaging clients, generating clients' trust and empowering clients to achieve goals. Goal setting and planning was focused efforts and enabled clients to work at their own pace, which was perceived as less intimidating for clients. Clients reported that the flexibility of the program in terms of meeting venue and frequency was a more positive experience and preferable to the 'intimidating' institutional settings, and was more convenient with regards to transportation. Clients felt that they were better engaged with health services as well as a wide range of other services that they were not previously accessing, such as Centrelink, housing, employment, public transport, libraries, and support groups. Activities such as gardening, art, drama, and music also reduced a sense of social isolation and gave them a sense of connection with people who had similar interests and understood their perspectives.

Clients reported improved confidence, more knowledge about their condition, more connectedness with family members, better social and community inclusion. They reported increased ability to manage their lives, a sense of achievement and hope in the future. Overall, they reported more resilience, problem solving skills, healthier lifestyles, improved quality of life, improved security, and improved family and community relationships. Furthermore, the carers and relatives of PHaMs clients also reported significant progress, more understanding of mental health conditions, of how to pick up signs of deterioration, how to live and relate more effectively to clients, and to understand recovery principles and processes.

PHaMs providers are expected to consider the particular needs of Aboriginal and Torres Strait Islander and CALD people, both of whom are under-represented in the client-base in most services. Despite the positive outcomes found overall for PHaMs, most services reported great difficulty in attracting Aboriginal and Torres Strait Islander clients and reported not feeling competent to provide appropriate services, for example, due to their limited understanding of how to provide them with appropriate service. Engaging with and building trust with clients, families and communities was seen as the main challenge. While PHaMs for the Aboriginal and Torres Strait Islander community is presented in detail in Section 5.2, a brief summary of approaches found to be effective in addressing these issues is presented here:

- Building networks with Indigenous organisations and communities, such as Land Councils, Aboriginal Medical Services and Indigenous training organisations
- Using opportunities such as NAIDOC week celebrations, dinners, sports days, awards, service stalls with the local community and other service providers
- Employing Aboriginal and Torres Strait Islander staff and providing Aboriginal and Torres Strait Islander trainee positions (four of the seven PHaMs staff identified as being of Aboriginal and Torres Strait Islander decent)
- Undertaking cultural awareness training for other staff in the service.

More challenging for PHaMs than the Indigenous communities were the CALD communities, particularly in rural areas where the community members are less familiar with the culture and cultural norms, and support mechanisms such as translators and providers with the particular language/cultural competencies were less available. Strategies to address this problem included:

- Promoting CALD communities through other organisations providing services to CALD groups and through community-based cultural organisations
- Provision of transcultural training for service staff
- Networking and building collaborative relationships with CALD organisations and organisations from which referrals might come
- The use of interpreters and translators (though expensive).

Of particular note is the success PHaMs had with the use of *EthnicLink Service*, which through its workforce covers approximately 40 languages. These workers are trained as language workers as opposed to translators, and therefore work in a very culturally sensitive way that has enabled modification of assessment approaches and ensuring appropriate support services.

Despite the encouraging findings, some challenges have also been identified in its implementation, particularly in relation to collaboration across services. Similar to other case management models presented in this review, the PHaMs service relies heavily on referral and case management relationships with other providers. These take time to establish, require good communication, and are time-consuming to maintain. While a broad range of relationships were established (e.g. health, correctional, alcohol and drug, employment, housing, financial, welfare services), the evaluation of PHaMs found that more time was needed to strengthen these relationships. Areas requiring stronger relationships included: better understanding of psychosocial recovery and what PHaMs can provide, differences in beliefs about treatment approaches, lack of familiarity with psychosocial rehabilitation approaches, and lack of respect for community-based services. Ensuring high quality human resources to implement PHaMs was also found to be challenging, with 53% of services having indicated that recruitment of appropriate staff was an ongoing challenge. Factors underpinning recruitment challenges included availability of suitable staff, salary levels, rural locations, low status of community services, and gender balance.

Adult Mental Health Reform Initiatives (AMHRI) – Victoria

Level of evidence: Promising Practice

The Victorian Government has initiated adult mental health reform initiatives (AMHRI) that aim to address priority pressures and issues related to high risk/high need mental health clients. The specific focus is supporting people with severe and enduring symptoms of mental illness and complex needs, including people who move between service providers in an uncoordinated manner, at risk of poor outcomes including repeated hospital admissions, homelessness and/or incarceration.[52] The specific initiatives include Secure Extended Care Unit (SECU) Diversion [53-55] and Substitution, Intensive Home-Based Outreach Support (IHBOS) and Care Coordination.

i) Secure Extended Care Unit (SECU) Diversion and Substitution

Eastern Health [56] describes its SECU diversion program as a collaboration with “consumers, carers and service providers to promote self-determination and enable progress towards reaching personal recovery goals.” Program features include:

- Extended operating hours to 8:30am-8:30pm during the week for a greater responsive service compared to Maroondah Mobile Support Team case management alone. Weekend hours remain 8:30am-5:00pm
- Provision of greater capacity to actively outreach and provide intensive support with the partnership arrangement of Eastern Health and Eastern Access Community Health (EACH) - Mental Health Community Support Service
- Combined case management provided by Eastern Health and EACH to assist with planning, treatment, recovery focused goals, and instilling hope
- Capacity to broker external resources and/ or specialist services to meet the consumer’s specific goals and needs
- Psychiatric, psychological, social, functional and family assessment
- Advocacy, education, employment and support developing meaningful community connections with your community
- Support in maintaining safe, secure and affordable accommodation
- Shared care with GPs and Eastern Access Community Health (EACH) as part of a brokerage arrangement
- Coordinated service provision including wellness and relapse prevention planning
- Liaison and planning to establish post-discharge supports and minimise the risk of relapse.

ii) Intensive Home-Based Outreach Service (IHBOS)

The Intensive Home-Based Outreach Service is a patient-centred model of care (mainly based on the Collaborative Recovery Model[5] or Recovery Star Model), which seeks to involve patients in all treatment and support decisions and helps the patient to develop individualised care plans and identify their own recovery and treatment goals [57]. Mobile Support and Treatment Teams (MSTs) and Continuing Care Teams (CCTs) provide clinical treatment and care, and the Psychiatric Disability Rehabilitation and Support Services (PDRSS) provide psychiatric disability rehabilitation support. Sub-contracting by the PDRSS was not widely used. IHBOS also included primary health, housing, and in some cases corrections and community services. The support focusses on building the client’s skills in all aspects of life, including domestic, emotional, health, employment, advocacy, leisure and social capabilities. IHBOS also included provision for a pool of flexible brokerage funds to address issues such as rental arrears, methadone arrears, material goods, and transport.

Patients were expected to receive support for up to 18 months when the majority of patients were expected to transit to moderate and standard Home-based Outreach Support, although an estimated 20-30% of patients were expected to need the intensive level of support over the long term.

iii) Care Coordination (CC)

Models such as MACNI and PIR are heavily reliant on the role of care coordinators and there have been various attempts to capture the fundamental requirements of this role. This is also related to descriptions of the Local Area coordinators in Western Australian and the UK and Wales.[58-61] CC is intended for people with SPMI and multiple needs, delivered through selected PDRSS (it was part of a 2009-10 State Budget reform package). It aimed to address priority pressures, risks and opportunities associated with high risk/high need adult clients (aged 16-64 years) of the specialist public mental health service system. CC introduced 20 dedicated non-clinical care coordinator roles to free up clinical services from coordination and management tasks to focus on providing clinical treatment and treatment planning, review and medical monitoring of high need clients (to improve efficiency and effectiveness of services).

Care Coordination provides the practical support to access and remain engaged with the range of mental health, general health, community and social support services they need. With a caseload of approximately 15 clients, and a budget of A$2 million per annum, key functions of care coordinators (distinct from case managers) are the following:

---

[5] The Collaborative Recovery Model is described in section 5.1.3.

- Service system coordination — operates more like 'service coordination' or 'service hub' — works with, and guides the service team process and tasks while building collaboration with all parties involved with the client.
- Long-term focus — takes a long-term planning focus. Supports the care team, coordinates the broader community-level service plan, provides guidance around service delivery and may help to coordinate crisis intervention activity.
- No direct engagement — Care Coordination does not include the provision of psychosocial supports and the Care Coordinator does not engage in direct day to day work with the client. Client engagement is through assessment or review of the care plan and focuses on how the client perceives the services to be working. Typically, the Care Coordinator only meets the client with one of their direct support workers, Case Manager or in a case conferencing environment.

Findings suggest that these roles need to be differentiated from more traditional case management roles. Broad (2012) discussed how local area coordinators need to embrace principles that include valuing citizenship, relationships with informal supporters, building connections with local support and recognising people's gifts or strengths.[61] The literature on Support Facilitators on PIR and Local Care coordinators seems to share emphasis on the importance of leadership supporting these roles and building connections and partnerships. Sutton and colleagues (2016) discuss the importance of the judicious use of flexible funding.[60] The value of outcome measurement is also indicated in this literature. There is an emphasis on being focused on the needs of individuals and building cost effective responses that may be about creating new opportunities based on existing resources in the community.

While Nous Group was engaged by the Victorian government to conduct a longitudinal evaluation of these new initiatives between 2010 to 2013, the evaluation report [57] is not publicly available. However, a recent study by Petrakis and colleagues [62] found that an example of AMHRI, that are based on a collaboration between a clinical service and a community-managed service, have achieved high levels of satisfaction among the complex clients accessing the services who value the recovery oriented service delivery model. Petrakis et al (2014) explain that "Consumer participation has been a core feature of the AMHRI. To facilitate communication and to prioritise their input, consumer involvement in care planning has been actively sought — consumers often participated in, and often chair, their care team meetings, some of which occurred in the consumers' homes. Consumer consultants are employed by both organisations to ensure that the consumer perspective is included in all aspects of mental health service planning, delivery and evaluation to improve responsiveness to consumer needs. They are staff employed within each service due to a combination of their interpersonal skills, administrative skills and lived experience as consumers. They carry out various roles including orientation of new consumers to the service and systems of care, co-facilitating psychoeducation and support meetings, conducting satisfaction surveys with consumers regarding projects and programmes, membership on program implementation and service evaluation committees, and at times the review of applicants for suitability for employment within the service" (p.97).

5.1.2 Supported Housing / Housing First

Overview of the Model

People with severe mental illness, and especially those with substance use problems, are over-represented in the homeless population and tend to represent the subgroup that remain homeless for long periods of time and have difficulty accessing safe, affordable and secure housing. This group tends to have high use of emergency health services, hospitals and the justice system and therefore impose significant costs on the public system. The risk of homelessness may also account for why some people are apparently "stuck" as long-stay inpatients, but the exact figure of the proportion is unknown.[63]

Models of care that target housing as a key component for recovery-oriented care for people with SPMI have been shown to be effective in numerous settings. Different countries use different terminologies to define and distinguish different types of housing assistance such as supported accommodation, supported housing, housing first etc. In this report, we use the following definitions:

Supported Accommodation sometimes refers to privately provided long term supported accommodation that focuses on providing all housing and basic needs including meals, but with limited onsite service providers and generally relying on "in reach" services from local mental health service providers.

Supported accommodation also describes residential rehabilitation programs that are generally time limited (although potentially up to two years or more) programs, typically providing accommodation that has an integrated on-site clinical support service. In this context, landlord and service provider functions are integrated in the same agency. This is further discussed in the section below on inpatient and community care units. These programs often mandate clients to achieve and maintain sobriety and/or to have specific recovery or rehabilitation needs or goals in addition to receiving psychiatric services.

Supported Housing / Housing First, on the other hand, is a consumer-driven model that houses participants immediately to permanent housing in the community, without any preconditions, before collaborating with them to address health, mental health, addiction, employment, social, familial, spiritual and other needs. Unlike supported accommodation, housing and clinical services are separate in the Housing First model.

Consumer choice is central to the Housing First model and guides both housing and service delivery. Participants are offered an array of health, mental health, and other support services after they are housed. Core Principles of Housing First include the following:

- **Immediate access to permanent housing with no housing readiness requirements:** Individuals are given immediate access to housing without preconditions about 'readiness' for housing or being in psychiatric/substance use treatment in order to keep their housing. This is to promote personal choice to pursue treatment and respect that they may find alternative ways of managing their mental health issues or addictions. Housing and clinical services are also separated to ensure that clinical service use can change without a housing move, and that a person can stay connected to her or his mental health team even if the individual becomes temporarily homeless. Individuals can also choose to change housing without this impacting their clinical services.
- **Consumer choice and self-determination:** Participants are able to have some choice in the type of housing they want as well as location, although choice may be constrained by the conditions of the local housing market. Housing choice may include non-scattered sites or congregated housing options. Housing allowances are important in ensuring choice of housing unit. The treatment plan is also developed together between the participant and the ACT team or case manager.
- **Individualised, recovery-oriented, and client-driven supports:** Supports are tailored to participants' needs and range from intensive case management, where support is coordinated by a case manager, to ACT, where support is coordinated by a multidisciplinary team. Treatment and supports should be both voluntary and congruent with the unique social and individual circumstances of each participant, and consistent with a recovery orientation.
- **Harm reduction:** The aim of harm reduction is to reduce both the risks and effects associated with substance use disorders and addiction at the level of the individual, community, and society, without requiring abstinence. Subsequently, Housing First does not have sobriety requirements and participants' substance use will not result in a loss of housing unless their behaviour violates the terms of their lease. Housing First teams will use these occasions for enhanced intervention and treatment.
- **Social and community integration**: Meaningful psychological, social, and physical integration of individuals who were formerly homeless and living with mental health issues is an important part of the Housing First model and is facilitated by the separation of housing and clinical services. Participants should be given opportunities for meaningful participation in their communities. Community integration is important in terms of preventing social isolation, which can undermine housing stability.

In addition to unit type, clients should be able to have some choice in relation to neighbourhood preference. Furthermore, they should not make up more than 20% of renters in a specific unit and should not pay more than 30% of their income towards rent.

The Housing Team will take responsibility in assisting participants secure appropriate housing of their choice, the Clinical Team provides a range of recovery-oriented, client-driven supports. Supports range from ICM, where support is coordinated by a case manager, to ACT, where support is coordinated by a multidisciplinary team. Collectively these supports address health, mental health, social care, and other needs. Effective assessments at enrolment are important for matching the right participants with the right supports. These supports are aimed at promoting community integration and improving quality of life and independent living. Specific roles and responsibilities of the Housing and Clinical Teams are summarised below.

Responsibilities of the Housing Team	Supports provided by Clinical Team

• Helping participants search for and identify appropriate housing • Building and maintaining relationships with landlords, including mediating during times of conflict • Applying for and managing housing allowances • Assistance in setting up apartment • Independent living skills development	• Life skills for maintaining housing • Establishing and maintaining relationships • Engaging in meaningful activities • Income support • Vocational assistance, such as enrolling in school, finding employment, or volunteering • Managing addictions • Community engagement

Level of evidence: Best Practice

The evidence on supported housing models for people with SPMI are just as strong if not stronger than on ACT models. We have presented below a few key programs to highlight how the model has been operationalised and present the effectiveness on clients' health and social outcomes and their impact in reducing mental health and other public service costs.

At Home/Chez Soi Project – Canada

Level of evidence: Best Practice

Similar to ACT, Housing First models have consistently been shown to be effective and cost-effective for people with SPMI. The At Home/Chez Soi Project in Canada [16, 35-37, 64-74] is the largest randomised trial of its kind, with five sites (Moncton, Montreal, Toronto, Winnipeg and Vancouver), over 2200 participants, and with some variations across sites to fit the particular demographic profile. The study included adults aged 18 years or older (19 years or older in Vancouver) with the Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV defined SMI who were experiencing homelessness (no fixed place to stay) or precarious housing (living in a rooming house, single room occupancy housing, or a hotel or motel with two episodes of absolute homelessness in the past year) and not receiving ACT at study entry.

Participants were categorised as high or moderate needs, where a person with 'high needs' was defined as: 1) having a score of less than 62 on the Multnomah Community Ability Scale (MCAS); 2) assessment of bipolar disorder or psychotic disorder on the Mini International Neuropsychiatric Interview 6.0 (MINI 6.0); 3) at least two hospitalisations in one year of the past five years; and 4) a comorbid substance use disorder, or arrest or incarceration in the past six months. Individuals were referred to the study by health and social service agencies in the five cities.

Across all five sites, the participants in the high needs group were randomised into the Housing First + ACT (HF-ACT) treatment group or treatment as usual (TAU), where TAU consisted of access to the existing network of programs (outreach, drop-in centres, shelters, and general medical health, addiction, and social services) and could receive any housing and support services other than services from the Housing First program.

Participants with moderate needs were randomised to Housing First + Intensive Case Management (HF-ICM) across all five sites. However, two sites had a third 'ethno-racially responsive' group to better respond to the demographic profile of the setting. The Toronto site [37] for instance added an additional model for the moderate needs group — Housing First + Ethno-racial ICM (HF-ER ICM) — to fit with the substantial proportion of the sample being of ethno-racial or of Aboriginal background (59% and 5% respectively). This model included in its team an agency with extensive anti-racism/anti-oppression principles to lead the development and implementation of this particular model. HF-ER ICM had particular sensitivities to providing care in environments that are inclusive and welcoming of ethno-racial communities, offering linguistic and culturally accessible programming and services onsite. The program also offered a variety of unique services including art therapy, community kitchen, computer program, creative expression, life skills, music therapy, traditional Chinese medicine, yoga, as well as Women's and Men's support groups. Staff members explicitly addressed oppression and mental health together, adapting delivery of service to clients' pace and recognising variety in healing approaches. The program also involved families and peer networks early in the recovery process.

In the Winnipeg site [36] where 71% of the study participants were of Aboriginal background, a third group was also added which was tailored to Aboriginal communities: Housing First + Aboriginal ICM (HF-AB ICM). HF-AB ICM is a "Medicine Wheel"/ICM model with the additional day program delivered by the Aboriginal Health and Wellness Centre. Delivered by Aboriginal partners, this model responds to the unique Aboriginal housing needs and incorporates the Indigenous notions of home, health and place, and was based on evidence indicating the therapeutic importance of connection to land, community and family.

The At Home/Chez Soi Project was highly successful in achieving significant improvements in the stability of housing for participants in the Housing First intervention groups compared to their respective TAU groups across all sites. Participants also showed significantly greater improvements in reducing their use of most health and homelessness services, and improved quality of life and community functioning compared with the TAU group throughout the two-year follow up. However, significant differences were not found regarding problems associated with substance use or physical or mental health problems in the high needs group. While the reasons are uncertain, this seems consistent with the findings from ICM and ACT models that were also found to have greater reductions in hospital use, improved quality of life, and community engagement compared to TAU.

With respect to cost for implementation, there were significantly greater cost savings with the Housing First intervention than TAU across all five sites. The main cost offsets were office visits in community health centres and other community-based providers, hospitalisations in medical units in general hospitals and stays in detox facilities. Within each site, comparison of costs and cost-savings between the high needs and moderate needs group revealed dramatic differences. In Montreal and Toronto, for instance, the cost savings for the high needs group was, on average approximately C$22,000 per person per year compared to approximately C$14,500 for the moderate needs group. The difference was slightly greater in Vancouver with C$28,282 compared to C$15,952. Moncton and Winnipeg had slightly less savings but also similarly showed significant differences between high and moderate groups approximately C$17,000 compared to C$5,000.

Housing and Accommodation Support Initiative (HASI) and HASI Plus - NSW, Australia

Level of evidence: Promising Practice for HASI; Emerging Practice for HASI Plus

Housing and Accommodation Support Initiative (HASI) [75, 76] is a supported housing program based on a three-way partnership between NSW Health, the Department of Housing and the non-government sector (NGO) – now called Community Managed Organisations or CMOs. NSW Health is responsible for providing ongoing clinical care through local health districts and for funding accommodation support provided by NGOs, with a recovery framework. Long-term housing is provided by Housing NSW and community housing providers, and stage 3B involved the purchase of 50 properties for high-support patients.

Consumers living in properties which they own or rent privately can also receive HASI support. Tenancy management services are provided by public, community and private providers.

NGO support works within a recovery framework and involves help with accessing the community, developing skills in personal self-care, counselling and advocacy. They work with patients to identify and achieve the goals that patients set for themselves in their individual service plans. Different stages of HASI were targeted to meet the different needs of patients, from low support (up to five hours a week) to high support (up to eight hours a day).

Priority for higher support is given to patients who are in hospital due to difficulties in accessing high levels of accommodation support, homeless people or people at risk of homelessness, those whose current housing is at risk due to lack of care and support, or those who are unlikely to be able to maintain a mainstream tenancy agreement without HASI-type support.

A pre-post evaluation of HASI was conducted to evaluate client outcomes two years after entry into the program and found positive results[75, 76]:

- 24% reduction in hospitalisations and 59% reduction in length of hospitalisation
- Greatest decreases in length of hospitalisation were experienced by men and younger patients (<44 years), and a trend for higher support patients vs. lower support patients in the first year, but not by year 2
- Significant improvement in mental health (Kessler 10), life skills (LSP16) and behaviour (HoNOS)
- 90% successfully maintained their tenancies; they paid rent on time, maintained their property, and were good neighbours
- Small improvement in independence in daily living skills (significant only for cooking and cleaning), social participation, community activities and involvement in education and voluntary or paid work
- Patients reported improved quality of life (no scale reported)
- Physical health remained lower than the general population

- Initial increase in community mental health services use, then more frequent use of psychiatrists and allied health professionals, and less frequent use of community mental health services
- Patients receiving higher HASI support services used community mental health and psychiatric services more frequently than those on lower support, but used general practitioner or allied health services less frequently
- Patients who were most willing and motivated to engage benefited the most, and those with drug or alcohol use and/or low motivation benefited the least.

The annual cost per person (not including clinical services) was estimated for a start-up of approximately A$110,340 and a recurrent annual cost of between A$11,000 and A$58,000, plus project management costs of between A$200 to A$500, depending on the level of accommodation support and the method of calculating the annual unit cost.

The HASI was further developed in 2012 and called HASI Plus, which is more suitable for the target group of this review.[6] The HASI Plus program provides housing, daily living support and clinical care for people who have complex support needs and require intensive daily support (16 or 24 hours) to maintain community living. HASI Plus specifically targets people who: 1) are transitioning from mental health inpatients units or similar institutions (such as correctional facilities) into the community after long periods or multiple occasions of repeated admission; and 2) without stable housing, sufficient and individualised daily living support and appropriate clinical care, are unable to live independently in the community and are likely to return to institutional care or come into contact with the criminal justice system. An evaluation of the HASI Plus program is not available yet to determine the impact of the model on client outcomes.

500 Lives, 500 Homes – Brisbane, Australia

Level of evidence: Promising Practice

In Queensland, a roadmap has been developed to adopt a Housing First approach to tackling homelessness in Brisbane, which builds on the 500 Lives, 500 Homes Campaign, implemented through several programs based on the Housing First approach.[77] For instance, in 2014, a coalition of government and non-government agencies set a target to house 500 individuals and families over three years. Since its inception, 500 Lives, 500 Homes has applied Housing First principles to support 142 families and 268 people to end their homelessness (410 households), as at July 2016 and are on well-placed to achieve its target to house 500 individuals and family groups by 2017.

Furthermore, **Brisbane's Street to Home program** provides scattered site supportive housing to rough sleepers by offering outreach support to tenants living in public housing in partnership with the Department of Housing and community housing providers. It has successfully engaged and supported people with chronic homelessness to move into permanent housing with 111 people housed over a 12-month period (2015-2016) of whom 91% sustained their housing.

The **Brisbane Common Ground program** also adopted a Housing First model. It is a partnership between Common Ground Queensland and Micah Projects. It is an innovative, purpose-built building with 146 units and a mix of tenants who have experienced chronic homelessness and people on low incomes. The evaluation of Brisbane Common Ground program demonstrated that supportive housing can have both human and economic benefits. The key findings are the following:

- Most tenants reported improvements in satisfaction with life and mental wellbeing.
- Brisbane Common Ground removed barriers to access housing for people experiencing chronic homelessness with support needs, and fostered the conditions to sustain housing.
- A 12-month tenancy at Common Ground reduces the annual cost of Queensland Government services by A$13,100 per person.

This evaluation also demonstrated the need to scale up supportive housing initiatives to end homelessness; the model is replicable, cost effective and improves outcomes for tenants (low eviction rate: 2.8% in 2014). Furthermore, an evaluation of the Hope Street Brisbane Common Ground's supportive housing service resulted in a collective cost savings per annum of A$1.24 million across health, corrections and specialist homelessness services.[78]

---

[6] http://mhrm.mhcc.org.au/chapter-11/11a.aspx

An evaluation of the **Homeless to Home healthcare after hours service** in Brisbane, which incorporated the Housing First approach into the activities of nurses working with an assertive outreach team of housing-focused community workers to house the Micah Project, estimated that a A$500,000 investment will return a cost avoidance of A$6.9 million in hospital and emergency department care [79]. The collaborative approach found an annual net social benefit of between A$12.61 million and A$13.06 million, primarily due to reductions in hospital admissions and mental health services.

The Housing First models in Brisbane have also been found to be cost-effective, with substantial overall cost reductions to health, justice and community service systems. This has largely been attributed to the reductions in the use of justice services where the cost to police and courts declined from an average A$8,719 per person per annum to A$2,172 per person per annum. [7]

Despite these achievements, some challenges were also identified with the Housing First approach. The 500 Lives 500 Homes campaign found that despite best efforts, access to housing was found to be the greatest barrier to ending homelessness for individuals and families. Data sourced from 500 Lives 500 Homes suggest a total current demand of 1870 dwellings, with a mix of dwelling types: 25% for families with children, 75% for young people (under age 25 years) and single adults.[77] It further recommends that 30% of all housing across these two target groups needs to be allocated to permanent supportive housing.

A consistent feature among the various supported housing models that have shown to be effective has been the presence of a clear mission articulating the role of consumers in this process, the housing options and the types of services that will actually be available to them. The existing studies have consistently confirmed that having a secure home is fundamental for mental health. Not only did the individualised approach to supported housing ensure provision of opportunities for consumers to choose and take responsibility for their own home, it also supported their ability to become more independent members in their community.

The development of community mental health agencies, such as At Home/Chez Soi, HASI-Plus and the Housing First initiatives in Brisbane has enabled a shift from segregated, institutional care to community living for people with a mental illness, and to substantially reduce mental health care and other public system costs.

5.1.3 Strengths Based / Recovery Oriented Models of Care

Overview of the Model

The Strengths Model of case management is a recovery-oriented approach to working with people with psychiatric disabilities that was developed and formalised in the US in the 1990s, in reaction to what was then a common clinical approach of focusing directly on what people with psychiatric disability could not do and encouraging modified expectations for what the person might achieve in life.[11] The Strengths Model is both a philosophy of practice and a set of tools designed to help people set meaning and important life goals by focusing on the abilities, resources and potentials of people and their communities, and promoting a more optimistic approach to working with individuals with mental illness, and the communities within which they live, learn, work and socialise.

Six core principles serve as the foundation for strengths-based practice [11]:

1. **Focus is on the person's strengths, not pathology, symptoms, weaknesses, problems or deficits.** The understanding is that solving problems at best restores a person to the status quo, whereas developing her or his strengths and encouraging her or his dreams and aspirations leads to growth and accomplishments. Another benefit of focusing on strengths is that one is more likely to uncover the uniqueness of an individual than if one focuses on the person's deficits, which may be common to a large group of similarly disabled.
2. **The community is viewed as an oasis of resources**, not as posing obstacles for clients and case managers to overcome. The wider community is the source of mental health, providing a wealth of opportunities for social interacting, belonging and contributing. There are far more naturally occurring resources than those that can be provided by mental health teams and specialist programs. The emphasis is on engaging people in existing, ordinary services, as opposed to creating targeted services only for use of people within a disability group.
3. **Interventions are based on the principle of clients' self-determination**. No actions are taken

---

[7] A Housing First approach to homelessness in Brisbane; Sustaining tenancies and the cost effectiveness of support services

without the client's approval. The client is the director, with the right to make mistakes and to learn from them.

4. **The case manager–client relationship is primary and essential**. The case manager needs to be there beside the client when the going gets tough, and not just by appointment or in office hours. The client needs someone to confide in, to share in her or his struggles and achievements.
5. **Assertive outreach is the preferred mode of intervention**. Clients are seen and engaged with in the context of their own environment such as in the park, the home or a cafe rather than in the service office. You can learn a lot more about people this way than just from listening to what they tell you when you see them in the context of their environment.
6. **People with serious mental illness continue to grow, learn and change**. This principle sets expectations about people's continuing agency in their social and everyday life. It challenges ideas (based in biological psychiatry) that can highlight neurological or cognitive impairment, that are sometimes associated with expectations of psychosocial decline.

Principally implemented in the US in the community support sector, the strengths model of case management teams are generally small and have intensive caseloads, comparable with ACT teams elsewhere [11]

Evidence

This grouping of the literature encompasses a broader range of models and programs than all other sections. They represent a range of models that are less 'operationally defined' and/or less researched than ACT and supported housing models. As is the case with ACT and supported housing, many of the models presented in this section have significant similarities, 'cross-pollination' and linkages. The common emphasis of the models in this section are: a strengths orientation in assessment, individualising of intervention or support focus to accord with self-defined needs/goals; and alignment with the aim of promoting personal recovery rather than a primary emphasis on effective treatment. An overview of the overarching commitments, best exemplified in the strengths model, is provided below and more specific models are described separately along with the associated evidence base.

Consequently, strengths-based/recovery-orientated care is increasingly seen more as an approach or framework than a specific and unique model or program. In this review, the majority of the identified models make explicit reference to its recovery-orientation and/or strength-based approaches as part of the fundamental principles of their programs. Many of the recovery-based models and initiatives presented below also incorporate some form of intensive care such as ICM, ACT or Housing First as a component of the comprehensive model of care.

Typically, the approaches are not associated with as substantial an evidence base as several of the models examined in other sections and the diversity in implementation from this less operationalised approach makes experimental methodologies such as randomised controlled trials challenging or inappropriate. Nevertheless, high quality and rich evidence supporting strengths/recovery approaches are available. For models in particular have been evaluated using experimental designs: Collaborative Recovery Model, the Wellness Recovery Action Plan (WRAP)[80, 81], strengths model of case management [82, 83] and nidotherapy.[84]

While the origins of these models vary, several are grass-roots initiatives that were developed within the community sector or peer services rather than emerging from clinical settings. The WRAP, for example was generated from peer/consumer-led services in the US [80], and Strengths arose in community-based social care.[85]

In Australia, the strengths-focused models have gained momentum, aligned to the national and state policy directions for recovery-orientated models of care.

Collaborative Recovery Model (CRM) - Australia

Level of evidence: Best Practice

The Collaborative Recovery Model (CRM) is an evidence-based model developed in Australia that aims to provide a unifying framework and specific procedures to support recovery from enduring mental illness.[86, 87] CRM is consistent with the values of the recovery movement and meets the criteria for a Recovery Oriented Practice approach outlined in various Australian governments' Frameworks for Recovery Oriented Practice.[88]

CRM Guiding Principles	Components of the CRM Model	CRM Model applications
• Recovery is an Individual Process • Collaboration and Autonomy Support	• **Change Enhancement** involves supporting the individual to explore their relationship to change and build confidence and capacity to engage in a change process. The model recognises that each individual is different and that change is a very individual process. • **Collaborative Strengths and Values Identification**, focuses on identifying and bringing into focus the personal strengths and values of the individual as they start to vision a life of meaning and purpose for themselves. • **Collaborative Visioning and Goal Striving**, involves setting goals to support the individual to further express their strengths and values in their day to day lives. • **Collaborative Action and Monitoring**, supports the realisation of goals through the development of action plans including the supports the person will need to achieve their goals.	• **Coach** – an individual based coaching intervention, delivered one on one by support workers • **Flourish** – a group based self-development program, delivered by peer support workers • **Empower** – a group based program delivered by people with experience as carers for carers

The Collaborative Recovery Model uses a coaching framework to guide all interactions between consumers and service providers, emphasizing and supporting self-determination and efficacy as well as calibrating relational dynamics in a power neutral stance.

These guiding principles and components provide the foundations for the CRM's integrative framework to assist service workers, carers and organisations to provide recovery-focused individualised structures and support that places the onus on the consumer to direct their own recovery.[87] While not specific to people with SPMI, three streams of CRM (high support, rural and Indigenous) were evaluated through a five-year non-randomised trial commencing in 2002 at 12 sites, both clinical and non-clinical and in three states of Australia.[8] [86] The Australian Integrated Mental Health Initiative-High Support Stream Project (known as AIM-HI) focuses on improving outcomes for CRMD patients who need high support interventions. Intervention priorities are: (a) collaborative goal setting and homework that maximises ongoing self-management of physical and mental health, and (b) interventions that can be transported and sustained in multiple settings (rehabilitation/community case management). Evaluation of the program found that:

- CRM training improved staff attitudes to recovery and quality of care plan, and goal setting documentation
- Unless supported organisationally, transfer of training is low
- Consumers were able to distinguish CRM-trained and non-CRM- trained services
- Stages of psychological recovery can be measured (just like symptoms)
- Goals set by consumers varied across the stage of psychological recovery
- Between session tasks completed by consumers were related to mental health outcomes
- Positive approaches (e.g. goals, strengths, gratitude) were popular with consumers.

Wellness Recovery Action Plan (WRAP)

Level of evidence: Promising / Best Practice

The Wellness Recovery Action Plan (WRAP) [81] is a group-based and peer-facilitated intervention that encourages people to plan for greater wellbeing, and also to plan in advance to prevent relapse and recover well from crises. Typically 8-12 sessions are guided in terms of content so that participants generate and keep readily accessible via a workbook or other take-home resources the following: personalised wellness strategies, a daily maintenance plan and a crisis plan and keep these plans readily accessible via a workbook or other take-home resources.

---

[8] Trial details available at the Australian New Zealand Clinical Trials Registry website: https://www.anzctr.org.au/Trial/Registration/TrialReview.aspx?id=697

WRAP has been studied in controlled experimental (N=514) and pre-post evaluations (n=109), and the content and process has been highly acceptable to service users. It was found in both cases to be effective, associated with reduced psychotic symptoms and increased hope compared to TAU as measured by standard psychometric scales. The RCT study was associated with increased Quality of Life over time.

WRAP can be considered a focussed self-management resource of value within a wider model of support that incorporates peer facilitation.

St Vincent's Mental Health Strengths Model – Melbourne, Victoria

Level of evidence: Promising Practice

St Vincent's Mental Health (SVMH) in Melbourne is one clinical mental health service in Australia that has adopted the strengths model.[89, 90] SVMH received support of a service in Timaru in the South Island of New Zealand to mentor senior staff and provide training throughout the implementation.

The elements of strength assessment, goal planning and strengths-oriented staff supervision are core to the SVMH model. Managers and staff embraced a shift in emphasis, attending to what clients wanted to achieve and to identifying the strengths clients could bring to pursuing life goals. The Strengths Model encourages case managers and the service in general to value clients' individual worth and capacity. Aligned with other case management approaches, the Strengths model equates to the intensive case management in terms of: its comprehensive approach, worker caseload/ ratio of 10-15 consumers per worker, longer duration, case manager primary relationship and responsibility; and mix of service provision and coordination/ brokerage.

Compared to the individual service plans (ISPs) implemented as part of case management practice in the 1990s, the trainers and the clinicians identify several differences in practice with goal plans as used in this model. First, while ISPs identify client goals, these are blended with clinician-identified priorities, whereas goal plans put first the (usually nonclinical) goals of the consumer. Second, in conventional clinical documents, consumer strengths are most often identified as mitigating factors in risk assessments or relapse prevention plans, rather than as central attributes with which to work.

Likewise, clinicians report that team meetings and supervision sessions take on a different character from their past experience, with a greater emphasis on brainstorming ideas and rarely on probing problems.

At SVMH, aspects of ongoing evaluation include fidelity audits and evaluations of psychosocial outcomes for consumers and economic outcomes for the organisation where the person has been a patient. A friendly and positive tone of the case management relationship, accessibility of case managers, and practical assistance to achieve goals have been identified by consumers as valuable elements of the service by consumers. [91] Areas considered less satisfactory or problematic included: over-emphasis on medication; and the undermining lack of choice associated with legally mandated treatment such as community treatment orders (CTOs).

Nidotherapy

Level of evidence: Promising / Best Practice

Nidotherapy is a model based on the central goal of improving outcomes for people with mental disorders by altering their environment rather than by means of direct treatments or interventions.[92] Whereas most therapies typically aim to modify an individual's behaviour, emotions and thinking to cope in society, nidotherapy focuses on creating a better 'fit' between the environment and the individual. While initially developed and applied with people with personality disorders, especially (clinical) treatment resistant cases, its use has broadened to include other psychiatric conditions such as schizophrenia and related disorders. While many overlapping elements exist between nidotherapy and ACT, the key difference is the emphasis and priority nidotherapy gives to environmental factors and supports. Though addressed in ACT, it is not a defining feature of ACT and therefore may not be included in some instances. Nidotherapy is based on five principles that underpin the five phases. [93]

Principles of Nidotherapy	Phases
• Collateral collocation (seeing the environment from the point of view of the person with schizophrenia) • Formulation of realistic environmental targets • Improvement of social function • Personal adaptation and control • Wider environmental integration and arbitrage	• Identification of the boundaries of the therapy • Full environmental analysis • Implementation of common nidopathway • Monitoring of progress • Resetting of nidopathway and completion

The assessment of the physical, emotional and social environment of the person is done collaboratively and a mediator is considered essential for resolving any conflict that may emerge during in this process. Based on the assessment, realistic targets are developed to adjust the environment to support and facilitate the improvements in social functioning and recovery. Target attainment is regularly monitored to provide useful and timely feedback, encouragement, and to revise targets as necessary according to any difficulties encountered.

Nidotherapy aligns and works well alongside other services to make improvements to a person's wellbeing, housing, money management, personal relationships, work and other factors, to improve people's relationships, self-esteem, medication compliance, mental health and generally creating a better life situation. If environmental factors or someone's surroundings are at all responsible for causing illness and relapse, then nidotherapists and people with schizophrenia can identify these factors together to try and reduce the number and severity of relapses.

An RCT was conducted in London to examine the effectiveness of nidotherapy as an additional 'enhancement' component to an assertive outreach program compared to standard assertive outreach among 52 individuals with SPMI and comorbid personality disorder.[84] Fifteen sessions of nidotherapy were added to standard assertive outreach treatment as provided by the Community (formerly Paddington) Outreach and Rehabilitation Team in central London. After 12 months, the nidotherapy group was found to have a significant reduction (63%) in hospital bed use compared with the ACT-only group. While the nidotherapy group had significantly greater engagement with outpatient mental health services than the ACT-only group at 6-month follow up (based on the Engagement and Acceptance Scale), this difference was not sustained at 12-month follow up. Furthermore, no significant differences were found in changes in psychiatric symptoms or social functioning (based on the Social Functioning Questionnaire - Key worker version), suggesting that effective engagement with outpatient mental health services may be an important component in reducing hospital use. This is similar to findings of other models such as ACT, intensive case management and Housing First models, which were found to have significantly greater improvements than TAU for hospital use, engagement with a wide range of community-based services and community engagement, despite minimal or no significant difference in clinical outcomes such as symptom severity and reduction. This study suggests that nidotherapy can further improve the impact of these already cost-effective models.

While there was only one study on nidotherapy with some mixed findings, it seems worthwhile considering — and perhaps exploring it further — in the context of people with SPMI. Not only does this approach align well with the supported housing model where the priority is to identify and enable the best possible housing option for people with SPMI to promote recovery, it may also be a useful model in thinking about how best to approach CALD and Aboriginal and Torres Strait Islander communities for whom the environment has a particular importance.

Peer Support and engagement in discharge planning and post discharge support

Level of evidence: Promising / Best Practice

There is emerging, although inconsistent, evidence that peer support has potential in assisting people make the transition from hospital to community.[94-96] Sledge and colleagues found a statistically significant reduction in the number of hospitalisations and the number of days spent in the hospital, with participants assigned peer support workers as "recovery mentors" doing significantly better than those without a recovery mentor on both number of admission events and number of hospital days.[94] Other beneficial effects were also found, including a significant decrease in substance use, a decrease in depression and increases in hope, self-care and sense of wellbeing. Lawn and colleagues found similar benefits in a project based in Australia [95], but Simpson (2014) found less evidence of statistically significant benefit.[96] Even so Davidson and colleagues (2012) argue that peer support has an evidence base, but that its appropriate implementation to ensure the benefits are achieved and sustained requires organisational commitment to system transformation.[97]

5.1.4 Non-Acute Inpatient and Community-Based Rehabilitation Units

Numerous studies were identified that examined inpatient and transitional care which have varied in scope and study quality. We highlight below some key programs relevant to the NSW context.

Prevention and Recovery Care (PARC) Services – Victoria, Australia

Level of evidence: Emerging / Promising Practice

In Victoria, Prevention and Recovery Care (PARC) services are a central element of delivery of recovery-oriented care. First initiated in 2003, they are delivered in partnership between community-managed mental health support services (non-government mental health agencies) and clinical mental health service providers. PARC services are intended for people with severe mental disorders such as those who predominantly have psychotic and more severe non-psychotic disorders, with accompanying psychosocial needs. They take the form of residential services (≈10 beds) that support adults with severe mental disorders to either avoid hospital admission (step up) or to leave hospital early (step down), and to have a strong emphasis on integrating clinical mental health care with intensive recovery-focused psychosocial rehabilitation. The services are short-term with a focus on daily living and practical assistance.

PARC services include clinical community intervention and treatment (crisis support planning, symptom control and relapse prevention). This involves individually tailored recovery care planning and implementation and different types and levels of psychosocial and other support to encourage functionality and engagement with the community (including family, study or work).

PARC services have become an important vehicle for reducing pressure on scarce and more expensive inpatient beds, and are seen as a means of providing less restrictive care. The majority of PARC services provide sub-acute, short-term care (a maximum of 28 days) for adults.

The stated objectives of adult PARC services are to:

1. Provide a service option for people with a severe mental illness, both in the inpatient setting and in the community, whose treatment and recovery is better suited to an intensive, short-term treatment and support in a residential setting
2. Provide a mix of clinical, psychosocial, and other support that:
    a) enables gains from the period in the inpatient setting to be strengthened and community transition and treatment plans to be consolidated
    b) minimises the trauma and disruption for consumers and carers that may arise from a first episode or relapse of mental illness
3. Supplement crisis intervention and enhance access to inpatient services through the:
    a) prevention of unnecessary inpatient admissions; and
    b) provision of an intensively-supported early discharge alternative.[98]

In 2015, Victoria spent A$33.75 million on its 20 adult PARC services and by 2017 Victoria will have 22 adult PARC services, with 220 beds. All but one of these adult PARC services have a 28-day maximum length of stay, enabling a sub-acute service. A breakdown of the PARC services shows 19 sub-acute adult PARC services with a further two sub-acute adult PARC services in development. Each Victorian Area Mental Health Service catchment will have a PARC service embedded in the area mental health continuum of care options (with one exception). There are an estimated 2,520 admissions to the 20 current adult PARCS each year. Following Victoria's lead, other Australian states have developed PARC services or similar models of step up and step down services.

There are early signs that Victorian PARC services and their equivalents in other Australian states are well regarded by those they serve (particularly when they are staffed by supportive and caring workers and offer practical assistance, therapeutic activities and socialisation opportunities) [99-101] and are associated with improvements in recovery-related indicators (e.g. role functioning) [100, 101] and symptom-based measures.[101] However, the evidence base is limited, largely relying on small, localised evaluations that, with rare exceptions [100, 102], have not involved comparison groups, considered longer term outcomes, or been published in the peer-reviewed literature.[99, 101, 103, 104] Importantly, these evaluations have not addressed the key question of whether the availability of sub-acute residential beds in PARC services reduces pressures on acute beds in inpatient services. It is unclear whether PARC services can realistically be expected to do this in the face of extremely high demand for inpatient beds, whether PARC services and inpatient psychiatric units are serving similar populations, and whether they are achieving comparable outcomes.[105-107] A recent evaluation undertaken by the Victorian government found that PARC services may be targeting people with less severe mental illness that those in inpatient units and Community Care Units. The report appears to suggest that PARC services may be best placed to assist to avoid admission to hospital through enhancing the "step up" capacity of these units. The report concludes that preliminary findings suggest that PARC services have not yet had a significant impact on preventing avoidable admissions to acute units and avoidable re-admissions. However, PARC services have potential to provide an important option for mental health care focused on recovery and social inclusion and least restrictive treatment practices.

Internationally, the evidence base is weak. A recent review of controlled studies concluded that current research is insufficient to provide convincing evidence about the appropriateness, effectiveness or efficiency of community residential alternatives to standard acute inpatient mental health services.[108] This paucity of evidence has led to calls for rigorous research to elucidate the models under which these services operate, and their impacts on consumers, their carers and the wider service system.[107]

A comprehensive three year NHMRC funded evaluation of the impact and efficiency of PARC services has recently commenced in Victoria. This research will contribute substantial and invaluable evidence on the appropriateness, effectiveness and efficiency of this program.

Community Care Units (CCUs) - Melbourne, Australia

Level of evidence: Emerging / Promising Practice

A community care unit (CCU) is generally a 20-bed cluster housing development in a residential setting, staffed on a 24-hour basis by a multidisciplinary team to provide clinical care and rehabilitation of the residents. Recent data from Victoria suggests that CCUs have a particular focus on people with a primary diagnosis of schizophrenia, schizotypal and delusional disorders (79%) by comparison to PARC services (48%) and inpatient units (44%). While maintaining its patient-centred and individualised approach to management, the rehabilitation aims changed over the years since the initial development of CCUs in the mid-1990s While previous intended for lifelong or long-term care for previously institutionalised patients, that the majority of the initial cohort of patients were discharged over the first five years of operation led to a shift in goals towards short- and medium-term rehabilitation (one to two years).

One such unit was evaluated by Hamden and colleagues by comparing 15 past with 16 current patients of the CCU. [109] The evaluation found that past and current residents of the CCU showed significant improvements in quality of life through friendships, a home-like environment, and reduced re-admissions to, and length of stay in, acute psychiatric care units. Marked reductions in admissions were seen, both during CCU care as well as after discharge. Length of stay at CCU was found to be decreasing over the years with more discharges occurring every year and the majority of past CCU residents living independently or in supported accommodation.

Another such CCU is the Footbridge Community Care Unit. The home-like units were designed on the principle of fitting into the style of domestic housing in the surrounding community rather than an institutional design. The rehabilitation programme at the Footbridge CCU utilised the model of case management applied in a residential psychosocial rehabilitation program. Each resident was engaged in the process of developing a rehabilitation plan with their case manager using the Individualised Service Plan (ISP) framework to develop and set goals. Like other CCUs in Victoria, a 24-hour staffing arrangement was adopted and integrated the approach of providing a therapeutic home-like environment, with the intended principle of providing individuals with a long-term home.

An eight year follow up of patients discharged from the Footbridge CCU found that apart from one patient who was doing very well, all of the patients had high levels of disability based on clinician rated measures of functional disability (Mean Life Skills Profile 16 score = 22.1 and HoNOS score = 16.2).[110] On the other hand, the self-report measure of functional disability (as assessed with manualised Continuity of Life Interviews) showed that most reported positively on the support provided in the CCU, although later experiences of moving repeatedly from one setting to another were adverse. Five key unmet needs were identified: promotion of independence, stability in accommodation, stability in social networks, consistency of care, and addressing the theme of loss. Therefore, despite significant gains during the period of residential rehabilitation in the CCU after hospital discharge, by the time of follow-up individuals were in general leading restricted lives characterised by a lack of stable residential and social supports.

Recent Victorian data has also found minimal change in HoNOS scores on admission and discharge at CCUs. While no comment is made about this in the report, because the focus was on PARC services, it may suggest that CCUs have stronger outcomes in relation to preventing further deterioration in functioning and maintenance of stable community-based living rather than achieving clinical recovery gains.

While other CCUs are also implemented across Australia such as the Rockhampton CCU in Queensland [111], no evaluation to examine its effectiveness has been conducted.

Adult Residential Rehabilitation

Level of evidence: Emerging / Promising Practice

In 2011, the Victorian government initiated a review of mental health residential services in Victoria. The review, undertaken by the Nous Group, recommended that adult residential rehabilitation services change from a bed-based transitional support program to a supported housing program where consumers are placed in end point housing with home-based outreach support.[112] While such changes have not been made, these services have been, the service model has nevertheless improved. Mind Australia's new adult residential Peer Recovery Community (PRC) service model has a focus on supporting personal recovery and promoting wellbeing. The objectives of the PRC include enhancing clients' choice and supporting clients to exercise control, improving participation and inclusion, assisting clients to live an autonomous life through short term (up to one year) group living and separate individualised support. The PRC also encompasses the values of improved access and entry processes, increased support for families and carers, a flexible workforce, financial sustainability and the development of routine and rigorous evaluation processes to maintain quality and performance as well as consistency across services. [113] Findings from a recent early impacts and implementation evaluation suggest that these service improvements are receiving positive feedback from residents and other stakeholders. [114]

Critical Time Intervention

Level of evidence: Promising / Best Practice

Critical Time Intervention (CTI) is a time-limited and targeted evidence-based practice that focuses on mobilising support for society's most vulnerable individuals during periods of transition.[115] It facilitates community integration and continuity of care by ensuring that a person has enduring ties to their community and support systems during these critical periods, and therefore has been predominantly applied with people with mental illness, people who have been homeless or in prison, veterans and many other groups.

CTI shares with ACT and intensive case management models a focus on stabilising patients in the community through development of independent living skills and by building effective support networks in the community. CTI also shares with other models such as nidotherapy an emphasis on the importance of process structures. The model has been widely used on four continents. The key components and phases of CTI are the following:

Components of CTI	**Phases**		
	Phase 1: Transition	**Phase 2: Try-Out**	**Phase 3: Transfer of Care**
• Focus on period of transition • Time-limited • Phased approach • Focused • Decreasing intensity over time • Community-based • No early discharge • Small caseloads • Harm reduction approach • Weekly team	• Provide support & begin to connect client to people and agencies that will assume the primary role of support • Make home visits • Engage in collaborative assessments • Meet with existing supports • Introduce client to	• Monitor and strengthen support network and client's skills • Observe operation of support network • Mediate conflicts between client and caregivers • Help modify network as necessary • Encourage client to take more	• Terminate CTI services with support network safely in place • Step back to ensure that supports can function independently • Develop and begin to set in motion plan for long-term goals • Hold meeting with client and supports to mark final transfer of care • Meet with client for last

supervision - Regular full caseload review	new supports - Give support and advice to client and caregivers	responsibility	time to review progress made

Herman and colleagues conducted a randomised controlled trial to evaluate the effectiveness of CTI compared to usual care among 150 patients.[116-122] Participants had a lifetime diagnosis of a psychotic disorder, were long-term inpatients at risk of homelessness, were living in transitional residences following hospitalisation and were homeless at the index hospitalisation, or had an episode of homelessness within eighteen months preceding this admission. The average length of transitional residence stay was 162 days. The majority were male (71%), their mean age was 37.5 years and 80% had a comorbid substance use disorder.

Services were delivered by bachelor- or masters-level staff trained in CTI who were comfortable working in the community and had established relationships with patients prior to discharge (minimum of three pre-discharge contacts). The emphasis was on maintaining continuity of care during the critical period of transition while primary responsibility gradually passes to existing community supports that remain in place after the intervention ends. A typical worker supported around four patients and was involved in outreach to other potential patients. Housing arrangements ranged from community residences and other structured programs to supported apartments and independent housing, either alone or with family members. Neither CTI workers nor research staff were involved in determining the initial housing arrangements.

At 18-month follow up, the participants in the CTI group were found to be nearly 80% less likely to be homeless during the last four months of the follow-up period compared with the TAU group. The largest effect was seen by a subgroup of participants who received the recommended minimum three pre-discharge contacts, who were 90% likely to be homeless during the same time period.

Furthermore, participants in the CTI group were also significantly less likely to be re-hospitalised, had greater perceived access to care, and reported greater frequency of family contact and greater improvement in satisfaction with family relations compared to those in the TAU group.

5.1.5 General Trends and Emerging Models

Partners in Recovery - Australia

Level of evidence: Emerging Practice

Partners in Recovery (PIR) [123-127] is an initiative funded under the Australian Government's 2011-2012 Mental Health Reform and managed by the Department of Health and Ageing. PIR aims to better support people with severe SPMI with complex needs, and their carers and families, by getting services and supports from the multiple sectors with which they may come into contact and from which they could benefit to work in a more collaborative, coordinated and integrated way.

To establish programs that are recovery oriented, client-focused, flexible in their roll out, and complementary to existing service systems, PIR aims to:

- Build/strengthen partnerships and better communication links between a wide range of clinical and community support organisations responsible for delivering services to the PIR target group
- Promote a common goal of community-based recovery amongst the clinical and community support services
- Drive collective responsibility for clients and encourage innovative solutions to ensure effective and timely access to services and supports
- Provide better coordination of clinical and other supports and services to deliver wrap around care that is individually tailored to the person's needs
- Improve referral pathways to the range of services and supports needed by the PIR target group.

PIR organisations are NGOs located in each of the 61 Medicare Local (now Primary Health Networks, or PHNs) geographic regions to build partnerships and collaborate with multiple services and sectors to meet client needs. These may include: specialist mental health services, public housing, education and employment services, domestic violence and justice services, private psychiatrists and psychologists, GPs, allied health professionals, hospitals, specialists, alcohol and other drug treatment services, disability support services, and those who can provide income support. Support Facilitators undertake the day-to-day PIR work as the 'point of engagement' for clients, and receive and review referrals, assess client needs, develop and monitor PIR Action Plans, and engage with existing case managers, services and supports to ensure the client needs are met to the best possible extent.

This is a recent national initiative that is being implemented across the country and no evaluations of its impact on client outcomes are available yet. Nevertheless, some evidence is beginning to emerge from some of the implementation sites demonstrating its ability to reach the intended target group (e.g. in Sydney [126]) and describing the process of co-creating values, engagement platforms and co-created outcomes. Examples of co-created outcomes include new initiatives, changes to existing interventions and referral practices, and increased understanding and awareness of clients' needs between a wide range of over 100 partner organisations (e.g. in Brisbane North Primary Health Network).[125]

The Michael and MISHA Projects – Sydney, Australia

Level of Evidence: Emerging / Promising Practice [9]

While aimed at addressing homelessness more broadly (not specifically focused on people with SPMI), the Michael Project [128] and the subsequent MISHA (Michael's Intensive Supported Housing Accord) Project [129] have shown promising results that may be applicable to people with SPMI.

The Michael Project service delivery model was comprised of three components: temporary accommodation (typically up to three months) or outreach support, assertive case management, and guaranteed access to a range of specialist services and supports.[128] Based on a comprehensive evaluation including client surveys (N=106 at 12-month follow up), case manager surveys (n=13), case studies (n=20), specialist provider interviews (N=11) and managers' focus groups (N=8), the Michael Project findings suggest that an integrated, targeted and timely model of service delivery offered from within the existing accommodation support system can have a beneficial impact for men experiencing homelessness and can lay a platform for recovery and social inclusion. The cost savings in the health and justice sectors alone are sufficient to more than cover the total cost of service delivery. Investing in a range of supports and services that are interconnected across a number of life domains and which are provided when required and at the level of intensity needed, leads to better outcomes for men experiencing homelessness and for society and provides a cost saving to government.

Following the Michael Project, MISHA (Michael's Intensive Supported Housing Accord) Project was established in late 2010 with the aim of providing homeless men with support to enter and sustain permanent housing, ensure access to mental and physical health supports, reduce social isolation and equip the men to live successfully within the community. The Project drew on ACT principles and the Housing First model to emphasize a multi-disciplinary team approach to the holistic management of a client's needs and a rights-based approach to the benefits of permanent housing and consumer choice. The program used scattered site housing leased via social housing providers and a MISHA support team with strong links to existing community programs operating in the Parramatta area.

The mental health of participants was poor at entry into the Program and there was little improvement during the two-year follow-up period; levels of psychological distress were higher than general population estimates, but remained stable over time. Nevertheless, the majority (90%) of the participants successfully sustained their tenancies for the entire two-year study period with improvements in employment status.

The recurrent cost of MISHA support was estimated at A$27,914 per client, for an average support period of 2.04 years, or approximately A$14,000 per year. After considering health, justice and welfare offsets, the net cost was A$9,260 per client per year. In total, the cost of mainstream health, justice and welfare services was reduced from A$32,254 per participant in the baseline period, to A$24,251 per participant in the 24-month follow-up period. This represents a large savings to government of A$8,002 per participant per year. If potential cost offsets — such as reduced incidence of eviction (A$2,400 per client) and reduced use of crisis/emergency accommodation services once the client is in stable housing (A$6,427 per client) — are taken into account, the net recurrent cost of support would be reduced to A$9,865 per client, or A$4,836 per client per year, and the program would be cost neutral in just under three years after support commenced.

5.1.6 Knowledge Gaps

The evidence is robust for the cost-effectiveness of ICM, ACT and Housing First models and particularly strongest for the most complex and vulnerable individuals with severe and enduring mental illness. The

---

[9] Rated as 'emerging' due to the lack of primary focus on people with mental illness.

highly operationalised models have shown the strongest evidence in reducing costs, improving sustained community housing and social inclusion. While the evidence on symptom reduction and quality of life has been mixed, evidence of any negative consequences compared to treatment as usual seems negligible or absent. Nevertheless, knowledge gaps still remain with regards to optimal models of both community-based and inpatient/residential care for people with SPMI.

Two key gaps in knowledge are in regard to CALD and Indigenous populations. While evidence is increasingly becoming available, the majority are still in the beginning phases of understanding the issues through qualitative research and evaluation methods. While just as valid and perhaps more rich in the information gained through these methods, robust quantitative methods and data are also needed to determine if particular models tailored to CALD and Indigenous populations are just as effective or more effective than 'mainstream' models in providing appropriate support. Having both qualitative and quantitative data will further enable governments and communities to advocate for and scale up appropriate mental health and social services to these population groups.

Some of the emerging evidence from the Housing First programs in Canada and Australia provides promising and innovative approaches to build upon and better meet the support and service needs of people with SPMI in Australia and offer lessons for other settings.

The consistent and robust evidence for the greater effectiveness of ICM and ACT models for those with more complex needs also supports prioritisation of these models for the long-stay patients being supported for transition into the community.

5.2 Models of care for younger people (16-24) with severe and enduring mental illness

What can be identified from the national and international literature regarding optimal models of care in both hospital-based care and community-based care for younger people (16-24) with severe and enduring mental illness with associated comorbidities (e.g. drug and alcohol issues) and/ or major Axis Two disorders (e.g. borderline personality disorder)?

Studies that had a particular focus on young persons were far fewer than for adults. Models of care found for this subgroup included ACT teams, intensive case management and supported housing with generally consistent findings as adults. While one program, the Permanent Supportive Housing program [16], found mixed results with those in supported housing programs having increased health care costs compared to those using outpatient mental health care, further analysis found that youths receiving programs with high fidelity to the Housing First model had lower health care costs than those in low-fidelity supported housing programs.

5.2.1 Evidence

While detailed descriptions and evaluation results of the programs are presented in Appendix 1, those with strong evidence or non-evaluated but promising practices are summarised below.

Permanent Supportive Housing (PSH) – California, USA

Level of evidence: Best Practice

The Permanent Supportive Housing (PSH) Program [16] is a program in California funded through Proposition 63, the Mental Health Services Act (MHSA) approved in 2004 that legislated the application of a 1% tax on incomes over US$1 million to fund public mental health services. The cornerstone of the MHSA was the implementation of full-service partnerships, team-based PSH programs that do "whatever it takes" to improve housing and recovery outcomes among persons with serious mental illness who are homeless or at risk of homelessness. The MHSA also supports a diverse array of programs, including outreach and treatment for underserved populations, prevention and early intervention programs, and innovative approaches to service delivery.

The PSH Program provides services to individuals with serious mental illness who were homeless or at risk of homelessness through subsidised permanent housing and multidisciplinary team-based services with a focus on rehabilitation and recovery. It applies an intensive case management or multidisciplinary team model such as ACT or Housing First and recruits clients through outreach and referrals from psychiatric hospitals, emergency rooms, other mental health programs, county agencies, jails, shelters, rescue missions, and the street.

Most PSH programs delivered services to clients in real-world settings: in their homes, workplaces, and other places in the community chosen by the client or deemed of therapeutic value by staff. Crisis intervention services were available 24 hours a day, 7 days a week.

A quasi-experimental study evaluating health service utilisation among 5,218 youths (aged 18-24 years), either in the PSH program (N=2,609) or using standard outpatient mental health services (N=2,609), found that youths in the PSH program had increased inpatient, crisis residential and mental health outpatient costs. The total service costs increased by US$13,337 among youths in PSH compared with youths in the matched control group. However, among those in the PHS program, youths in higher-fidelity programs had larger declines in use of inpatient services and larger increases in outpatient visits, compared with youths in lower fidelity program. These findings suggest that either the PSH programs enable greater access to specialised inpatient services for youths, inpatient admissions reflect a positive strategy for youths, or that youths in PSH programs may be experiencing different service trajectories than others.

The greater reduction in likelihood of hospital admissions and increased use of outpatient services among those in PSH programs with higher fidelity to the Housing First model also suggests that high fidelity is particularly important in youth-oriented PSH programs.

Youth Residential Rehabilitation (YRR)

Level of evidence: Promising Practice

In a review conducted by the Nous Group (2011), Youth Residential Rehabilitation services in Victoria, Australia were described as offering either 24-hour on-site support, with capacity to provide staff sleepovers or less staff support on an extended hours basis. [112] Hours of staffing availability varied across the YRR services (136 beds across 14 sites). These services are provided by community mental health support services — formerly Psychiatric Disability Rehabilitation and Support Services (PDRSS) or NGOs — and funded by the State Government. Consumers reported high levels of difficulties, including alcohol and drug dependencies, and 47% reported unresolved trauma as their prevalent difficulty. According to a Census undertaken in 2010, 34% of YRR consumers, at the time of the survey, were being supported for 6-12 months. Seventy percent of activities were centred on work, domestic activities, self-care, social contact and recreation. There was little variation of activity types across providers. Sixty-one percent of residents required assistance with practical issues such as housing or money. YRR consumers also required more assistance with management of risk to self or management of risk to others (combined, 38%). The average contact time per week was 3.5-4 hours and the YRR program was found to cost approximately A$48,000 per consumer per annum.

The Nous Group found that the service delivery model was not clear and consistent, and that these services did not reflect the intensive residential support model that residents appeared to require. YRR stakeholders showed broad agreement for the retention of a bed-based approach for young people, as this was considered necessary to provide stability, peer support and relative safety during this critical development stage of young people. Youth mental health experts and service providers suggested that up to 12 months of recovery support was appropriate for the consumer target group. While this service model has continued, the services have experienced reforms subsequent to the Nous review and changes in expectation through a recommissioning process. The current aim of the YRR services, as described by the Victorian Government, is to help young people to achieve their recovery goals. This may include: learning or relearning skills and gaining the confidence required for independent living; learning to better manage their mental illness; developing social relationships, social connections, recreation, physical health, education, vocational training, employment and housing, and other needs; support for alcohol and drug issues.[130] Mind Australia's current youth residential services offer residential support for up to 12 months. The residential experience is described as enabling people to work on their personal recovery and optimise their capacity to live independently in the community. When young people leave the residential service, they are supported to settle into their chosen living arrangements and to consolidate the skills they have learnt to manage health fluctuations and maintain their wellbeing.[131]

Adolescent Intensive Management (AIM) Team

Level of evidence: Promising Practice

The Adolescent Intensive Management (AIM) Team is a unique model of intensive outreach service with high-risk and difficult to engage adolescents in Melbourne.[132] The program targets a slightly younger group (age 12-18 years) than sought in this review, with extreme risk behaviours, difficult to manage behaviours and multiple residential placements. These patients were typically admitted to inpatient services through accident and emergency departments of general hospitals.

The AIM team was integrated into the Child and Adolescent Mental Health Service at the Austin Hospital but retained a separate identify. It offered after hours and weekend on-call telephone consultation services to clients, their families and other service providers for crisis management, and to reduce emergency department visits, and provide timely information and advice. The multidisciplinary AIM team consisted of experienced clinicians, a social work team leader, a consultant psychiatrist able to provide two sessions per week, and five experienced clinicians, of whom three were in senior positions.

Referrals were made by the outpatient team after failure to engage a young person in the treatment process, where there was increased demand on resources or by inpatient units when a young person required intensive follow up after discharge.

A client chart review over 12 months was conducted to evaluate this program. Of the 70 clients assessed, two thirds were female, with a mean age of 15.2 (range 13-17 years). Twenty percent attended school on a full-time basis, 15% on a part time basis, and one participant (1.4%) was enrolled in distance education. Seventeen percent attended vocational rehabilitation programs. The clinical and risk factor profile of the clients was the following:

- 60% of participants were prescribed psychotropic medication (37% antidepressant, 10% antipsychotic, 9% both, 3% stimulants)
- 73% of parents of participants had mental health problems, 20% had substance use problems, and 11.4% had forensic problems
- 44% of participants had attempted suicide (predominantly female – 84%), 64% were considered a danger to self, due to history of self-harm, 18.6% were considered a danger to others (e.g. made threats)
- 30% had a history of sexual abuse, 24% physical abuse, 41% emotional abuse, 33% neglect, 54% had experienced domestic violence.

Sixty percent of the clients received case management — including therapy with parents, the parent-young person dyad, and family therapy as well as secondary consultation – and 26% were seen for individual therapy.

Duration of AIM team involvement ranged from 1-32 months (median 9 months). The duration pattern suggested that most require a minimum of 6 months. By the end of the study period, 36 clients (51%) were discharged while the other 34 remained. Among them, 6 did not need further mental health care, 13 returned to referrers in outpatient teams, and 17 were referred to other community services, such as a GP or private psychiatrist.

Intensive Mobile Youth Outreach Service (IMYOS, ORYGEN Youth Heath)

Level of evidence: Promising Practice

The Intensive Mobile Youth Outreach Service (IMYOS, ORYGEN Youth Heath) [17] is a Melbourne-based program that offers assistance to young people who display signs of mental illness, are considered at 'high-risk' (e.g. of suicide) and have a history of poor engagement with clinic-based services. IMYOS is a sub-programme of ORYGEN Youth Health (OYH), a specialist mental health service for adolescents and young adults aged between 15 and 24 years who reside in the western and north-western regions of Melbourne. There continue to be four IMYOS teams in Metropolitan Melbourne that service the 12- to 18-year age group.

The IMYOS utilised a flexible outreach approach to engagement and treatment that did not depend upon clients maintaining appointments at a centre-based office, but instead provided services in the most natural setting possible, typically in clients' homes. IMYOS operated during normal business hours, Monday to Friday. At all other times, clients were able to contact the Youth Access Team, providing 24-hour, 7 days per week mobile assessment and acute community treatment for all OYH clients.

IMYOS was a multidisciplinary team, staffed by three psychologists, two social workers, one occupational therapist and one psychiatric nurse. A consultant psychiatrist was available for two days a week. Each fulltime clinician carried a caseload of 8-9 young people and provided on average two home visits per client per week. IMYOS interventions were multi-systemic and typically incorporated the individual, their families and support system (e.g. school). IMYOS worked within a case management framework, offering interventions varying from practical support to structured therapy.

Pre-post evaluation of the model was based on a quarterly review of 47 client charts. Nearly half of the clients were female, the mean age was 15.5 years. The majority of clients had traumatic upbringings such as parental separation before age 3 (79%), witnessing domestic violence (45%), childhood physical abuse (43%), and/or sexual abuse (43%). There was also a high proportion with a family history of mental illness (66%), substance abuse (53%) and suicide (26%). The clinical profiles of the clients were the following: 40% mood disorder, 38% attention-deficit/disruptive behaviour, 31% substance-related disorder, 22% anxiety disorder, 9% psychotic disorder, 38% with personality disorder, and 63% with problematic substance use. The average length of IMYOS treatment was 12.6 months.

This study found a significant reduction in rates of risks such as suicide ideation, self-harm, violence, and crime between referral and discharge over the 12-month period.[10] The rate of psychiatric hospital admissions declined significantly — by 17% at three months, 29% at six months and 28% by nine months — after IMYOS intervention compared to before IMYOS. Similarly, of those admitted, the average length of hospitalisation declined by 6.7 days, 6.2 and 5.5 days at three-, five- and nine-month follow up compared to baseline.

Antenne d'Intervention dans le Milieu pour Adolescents (AIMA) Project

Level of evidence: Promising Practice

The Antenne d'Intervention dans le Milieu pour Adolescents (AIMA) Project (or Mobile Team for Adolescents in English) [133] is an ACT model in Switzerland with a multidisciplinary team which consisted of a child psychiatrist, a social worker and a nurse. The intervention model was an assertive, flexible, time-limited treatment (on average four months), with frequent meetings (twice daily, five days per week) taking place in the adolescent's living environment (family, centre, school, job training location), in close collaboration with other professionals already involved with the situation, and with a direct involvement of families in the treatment.

With a caseload per case manager of 10, treatment planning was based on in-depth evaluation of the client's difficulties and resources, in order to align with the development process of the specific life phase. The intervention emphasised growth tasks aiming for the construction of an autonomous identify, for example returning to school, job training, making friends, developing romantic relationship, negotiating the progress of emancipation from one's parents, and dealing with problems associated with body changes.

The case manager accompanied the client in their school or professional/vocational reintegration, working on social skills in order to develop and maintain their network of peers, motivational intervention to decrease substance abuse, supporting the parental role, evaluating psychiatric pathology, introducing medication if necessary, managing stress and specific symptoms (if any), coordinating the professionals around the adolescent, as well as facilitating access if needed (consultation with the general practitioner, gynaecologist, teachers, professional insertion or school re-integration programmes, child services, young offenders officers, etc.). The case manager also provided psychoeducation about the mental health problem adapted to early intervention or training for social skills required to cope with interpersonal problems.

Leniency and creativity was demonstrated to develop a trusting relationship, including accommodating preferences for meeting places (home, coffee shops, youth centres, even in the streets).

The interventions could be intensive, with the possibility of intervening five days a week (Monday–Friday) and up to twice a day. The treatment requests originated from various institutions or persons of the adolescent's network: child psychiatrists from the outpatient clinics, hospitals, school structures, education centres, judiciary structures or families. Any new treatment request was discussed during a multidisciplinary orientation conference based on its relevance.

After an average of 20 treatment sessions — corresponding to 17 hours of face-to-face contact — participants showed significant improvements in: hyperactivity/focus problems, scholastic/language skills, non-organic somatic symptoms, emotional symptoms, peer relationships, family relationships, school attendance, lack of knowledge pertaining to difficulties; and total Health of the Nation Outcomes Scales for Children and Adolescent (HoNOSCA) scores.

---

[10] No information is provided about outcomes beyond the 12-month period.

Assertive Community Treatment – Switzerland

Level of evidence: Promising Practice

A case-control study of an ACT model in Switzerland [134] (based on the AIMA Project) was conducted among 124 clients receiving ACT to determine if duration of ACT was associated with inpatient admissions. The mean age was 16 years, with 51 girls and 73 boys. All 124 had some form of severe mental illness (19 with anxiety, 34 with depression, 19 with conduct disorder, 13 with psychosis, and 9 with personality disorder). No association was found between duration of ACT treatment and likelihood of inpatient admission, suggesting that the impact of ACT can be seen very early. This study also found that the HoNOSCA score used at admission was a reliable tool to predict the likelihood of future hospital admissions during ACT; the probability of successful prediction was 69.8%.

Furthermore, while it is unclear if this is the same program and/or includes a subgroup or different study participants compared with the program mentioned above, Urben and colleagues conducted a pre-post evaluation of 47 adolescents aged 13-18 years receiving ACT treatment.[135] Thirty percent of clients had depression, 19% had anxiety, 17% had conduct disorders, 11% had psychosis, and 4% had personality disorders. Mean duration of treatment was 276 days between admission and discharge.

Participants showed reduced symptoms (i.e., hallucinations, somatic disturbances and emotional difficulties) between three-month assessment and discharge. Reductions were also observed for difficulties with language and physical illness (impairment score) as well as relationships with peers, family, or school attendance (social score). Analyses suggest that the minimum duration of ACT to achieve maximum benefit in improving impairment, and social functioning should be nine months. The study also found that improvements in social score may be associated with improvements in school attendance.

Thus, the quantity and quality of evidence on models of care for adolescents and young adults is patchy at best; the Melbourne-based Intensive Mobile Youth Outreach Service seems to have the most reliable and promising evidence. Nevertheless, these studies begin to indicate that assertive community treatment and outreach or intensive case management approaches are also appropriate for this population group.

5.2.2 Emerging Models

While evaluations of the programs were not available and available studies do not necessarily focus on long-stay service users, the following programs may provide some lessons on how to support young persons with SPMI.

Mind Y-PARC – Victoria, Australia

Level of evidence: Emerging Practice

Y-PARC services were established as an outcome of the *Because mental health matters – Victorian mental health reform strategy 2009-19* [52] which supports early intervention in "life, illness and episode".[136] Y-PARCs provide short-term 28-day mental health residential support for young people between the ages of 16 and 25 in the community. This model of delivery operates under a partnership between a clinical mental health service and a community mental health support service, in this instance, Mind Australia. It is anticipated that these partnerships will enable complementary and collaborative contributions to a recovery oriented service. The first Mind Y-PARC program was opened in Frankston in August 2012 with two other programs since established in Dandenong and Bendigo. Partnerships exist with Peninsula Health in Frankston, Monash Health in Dandenong and Bendigo Health in Bendigo. The Y-PARC model uses a developmental and holistic approach to the young person's recovery. As well as providing clinical and mental health support services, links to services in the community and the natural supports that exist in the young people's lives are made so that their recovery can be sustained when they leave the service. The following are the aims and key objectives as stated in the model:

- Prevent further deterioration in mental state and associated disability, particularly where without a Y-PARC admission an acute hospital based admission is likely (step up)
- Enable earlier discharge from acute hospital based care through the provision of an intensive, safe and supportive residential community-based mental health program (step down)
- Provide short-term transitional recovery care and support and thereby minimise the trauma and impact of a first episode or relapse of mental illness in young people and their families/carers
- Promote and support strong family and carer engagement and thereby reduce stress and the risk of family breakdown and carer burden which may be exacerbated when young people become acutely unwell

- Provide a youth friendly environment which promotes early help seeking and voluntary engagement and participation in treatment and recovery
- Provide an integrated approach to clinical, recovery and psychosocial interventions with a particular focus on assisting young people to maintain, engage or re-engage in positive and supportive social, family, educational and vocational connections with their local community despite fluctuations in mental state and need for support.

Service level objectives of the Y-PARC are to:

- Provide an additional service option in the continuum of care for clinicians to use in tailoring services to the needs of clients and families
- Supplement crisis intervention services and enhance access to inpatient services for those who need this the most, through the redirection of unnecessary inpatient admissions and the provision of actively supported early discharge alternatives
- Provide an alternative to, and hence prevent, admission and readmission to acute hospital based mental health care where the person is assessed as clinically safe and appropriate.

While this model has not yet been assessed, the Frankston Y-PARC is currently being evaluated using a mixed methods approach and findings will be published in 2017.

Youth Axis – Western Australia, Australia

Level of evidence: Emerging Practice

Youth Axis provides specialist mental health assessment, treatment, consultation and community capacity building [137] that focuses on enhancing the mental health and wellbeing of young people who have emerging mental health issues, primarily associated with ultra-high risk (UHR) of developing psychosis and/or emerging borderline personality disorder. It targets persons aged 16-24 years living in stable accommodation in the Perth Metropolitan area, whose function has declined in the previous 12 months and are accepting of help. Relevant symptoms to meet the criteria to receive care from Youth Axis include one or both of the following:

- Unusual and out of character thoughts and/or behaviour with suspected UHR criteria
- Significant personality difficulties in the following areas:
    - Problems with regulating emotions and thoughts
    - Suicidal ideation and/or self-harming
    - Impulsive and reckless behaviour
    - Unstable relationships with other people
    - Substance abuse.

Youth Axis provides: triage, assessment, evidence based counselling, psychotherapy and psycho-education, assertive case management and psychosocial support, outreach, transitional support, and consultative advice and support to other agencies including collaborative clinical interventions and projects.

YouthLink - Western Australia, Australia

Level of evidence: Emerging Practice

YouthLink is a specialist mental health service managed by North Metropolitan Health Service Mental Health providing counselling, therapy and case management to young people aged 13-24 years in Perth, Western Australia, with serious mental health problems and barriers to accessing mainstream services.[138]

The program is aimed at people who: may be homeless or transient; have limited support networks; may be marginalised due to their sexuality; and/or experience cultural barriers, including Aboriginal and Torres Strait Islander people.

Services are provided by clinical psychologists, social workers, clinical nurses and Aboriginal and Torres Strait Islander health practitioners, and include: triage, assessment, intensive case management and psychosocial support, assertive outreach, evidence-based counselling, psychotherapy and psycho-education; transitional support; and consultative advice and support to other agencies.

YouthReach South - Western Australia, Australia

Level of evidence: Emerging Practice

YouthReach South is a specialised mental health service for marginalised young people aged 13-24 years in the South Metropolitan Region who are homeless or experiencing other significant barriers in accessing mainstream services.[139] The Service has a focus on engagement, early intervention, consumer participation, inclusion of diversity and trauma informed service delivery.

Available services include: triage; assessment; intensive case management and psychosocial support; assertive outreach; evidence based counselling, psychotherapy and psychoeducation; transitional support; consultative advice and support to other agencies including collaborative clinical interventions and projects; and in-reach to the State-wide homeless youth facility, Ngatti, which provides services including comprehensive psychiatric care, prescribing of medication, metabolic screening and depot administration.

5.2.3 Knowledge Gaps

There remain substantial gaps in the knowledge about how best to respond to the needs of young individuals. While the existing evidence seems to be relatively consistent with those in the previous sections for adults, there are also some mixed or conflicting findings that suggest that some of the issues and configurations of case management teams may differ for some of the age groups.

The importance of health and mental health promotion and prevention is well established, and it is as often stated that there is a 'window of opportunity' in providing the best support possible to help youths become independent, productive, resilient and healthy adults to live a meaningful and fulfilling life.

As stated in a recent Lancet Commission on adolescent health and wellbeing, in a global context where adolescents and young adults face unprecedented social, economic, and cultural change, health, education, family support, and legal systems must be transformed to keep pace with these changes and respond appropriately and effectively [140]. "The most powerful actions for adolescent health and wellbeing are intersectoral, multilevel, and multi-component: information and broadband technologies present an exceptional opportunity for building capacity within sectors and coordinating actions between them (page 2).[140]

5.3 Non-acute inpatient/residential care services to facilitate transition to the community

Based on the evidence from Questions 1 and 2, within the identified optimal models of care, what would be the best configuration of non-acute inpatient/residential care services for people with severe and enduring mental illness that would facilitate transition to the community?

5.3.1 Evidence

Despite the increasing shift towards community-based care, the need for non-acute inpatient care remains. This is supported by the evidence presented in Questions 1 and 2, showing that community-based models of care have achieved a wide range of positive outcomes, but not for all persons with SPMI. The long-term follow up study of 18 residents discharged from the Footbridge Community Care Unit in Melbourne in particular found that some of the residents had deteriorated or had more restricted lives when discharged to less supported services in the community and therefore concluded that some caution is required in expecting that all those in supported residential services will be able to be moved along a continuum to less intensive care. [110] It does appear that there is a subgroup of people with enduring needs in relation to psychosocial disability who need ongoing support and care in high quality residential support services.

However, evidence is scarce that informs specific details on how to configure models of care in inpatient/residential settings. Such evidence is beginning to be developed in the Australian context, such as a recent review on accommodation and support needs of long-term patients by Chopra and colleagues [18], an evaluation of continuing care units in Queensland that is currently underway, by Parker and colleagues [19], and an upcoming evaluation of PARC services in Victoria by Brophy and colleagues (unpublished).

The general trend worldwide has been towards deinstitutionalisation and/or reduction in size and duration of institutional care. Therefore, in most settings, the focus has been on models such as PARC services, with a strong emphasis on short-term recovery-oriented care. One exception may be in the expansion of long-stay specialist forensic psychiatric care such as Thomas Embling Hospital in Victoria. While SECU continues to be implemented in the Australian context, the focus of work has been on diverting patients from SECU, using an enhanced version of ACT in the community, sometimes supplemented by individualised funding.

There are some consistent features in new residential care service developments. Increasingly, services are including peer support workers or peer specialists in the range of residential services. This includes Indigenous peer support workers. Evidence to date about the value of peer support in these settings is mostly based on high levels of consumer satisfaction and qualitative findings. There is also evidence regarding reduced readmission rates. Training, supervision and also having sufficient numbers of people to enable mutual support and professional development opportunities among that workforce appears to be important to the successful implementation of these roles.[20]

Blended models of service provision that combine clinical treatment services and recovery focused NGO providers appear to be the increasing preference. It is difficult to give particular recommendations on how best to configure blended models of care with the dearth of evidence, but the general trend favours in-reach clinical teams, rather than live-in residential teams, and having some flexibility around staffing (e.g. 24 hour/day staffing vs. part-day staffing). Killaspy and colleagues (2016) compared a nationally representative sample of 22 residential care, 35 supported housing, and 30 floating outreach services (or Housing First).[11] [21] Quality of care was best in supported housing. People in supported housing and floating outreach were more socially included but experienced more crime than those in residential care. Quality of life was similar for service users in residential care and supported housing and lower for those in floating outreach than in residential care. However, autonomy was greater for those in supported housing than for those in residential care, and satisfaction with care was similar across services**.** The study concluded that although floating outreach services appeared to be the most cost-effective service and also enabled gains in autonomy and social inclusion, there were increased risks to personal safety. Sustainability of service provision approach and longer-term tenure are under-examined elements in such a three-way comparison. Supported housing generated the highest service quality scores and the authors concluded that this service type may provide the best balance between the promotion of autonomy and the provision for support, to people with complex needs who have a primary diagnosis of psychosis.

With the diverse and complex need of this group, the capacity and flexibility to provide individualised support services is of particular importance. There are significant opportunities in the national roll out of the National Disability Insurance Scheme (NDIS) in Australia to increase access for this group of people with psychosocial disability to individualised funding and to support services specifically able to address their needs.

In the absence of the capacity to provide conclusive recommendations on how to configure non-acute inpatient care services, a tool to evaluate the quality of facility-based services for people with SPMI may provide some promising directions. The Quality Indicator for Rehabilitative Care (QuIRC) is a web-based toolkit[12] developed in the UK which assesses the living conditions, care and human rights of people with longer term mental health problems in psychiatric and social care facilities [2, 22-24]; it has subsequently been adapted for specialist mental health supported accommodation services (QuIRC-SA).[25] QuIRC assesses the provision of care across seven domains considered most important for recovery:

1. Living/built environment (includes access to pleasant outdoor space, a home like environment, respecting privacy, activities)
2. Therapeutic environment (includes low staff service user ratio, providing client centred care)
3. Treatments and interventions (includes meaningful occupation, psychological interventions)
4. Self-management and autonomy (includes facilitating residents to take on more responsibility for their own care, maintain or improve their relationships with family and friends)
5. Social interface (includes building links with community resources, facilitating patients to become involved in local community groups)
6. Human rights (includes providing a complaints procedure, promoting patient engagement in care and treatment decisions, minimising use of physical restraint and/or seclusion)
7. Recovery-based practice (includes promoting patient involvement in the running of the facility and promoting a healthy lifestyle).

---

[11] In the UK context, supported accommodation provides graduated support after discharge from hospital to the community, with three main types of accommodation: 1) Residential care homes are typically time-unlimited communal facilities staffed 24h/day with day-to-day necessities such as meals, supervision of medication and cleaning provided for service users; 2) Supported housing are tenancies in shared or individual self-contained apartments with on-site staff available up to 24h/day with a focus on rehabilitation to (re)gain skills to transition to more independent living; and 3) Floating outreach services are time-unlimited supports for people living in self-contained, individual tenancies with at minimum weekly visits from off-site staff to provide practical and emotional support at the start with gradual reduction in visit until they eventually cease [21].

[12] Available at www.quirc.eu

Its content was informed by triangulation of the evidence on critical components of care collated from:

1. A review of care standards in each of the ten countries that took part in the DEMoBinc study [141]
2. A systematic review of the international literature on the components of care in facilities that provide for people with longer term mental health problems and the effectiveness of these components [142]
3. Delphi exercises with service users, carers, advocates and mental health professionals in each of the countries to identify the best aspects of care to promote recovery for people in longer term mental health facilities [143]
4. Review of the content of the QuIRC by an international panel of experts (including experts by experience) in rehabilitation, recovery orientated practice, human rights law, mental health law, disability rights and care standards. [24]

Evaluation of mental health rehabilitation services using QuIRC in 52 of 60 NHS Trusts in England (comprising 133 units and 739 service users) using QuIRC found that quality of care is associated with better clinical outcomes in people with SPMI. [144]

The QuIRC provides an opportunity to assess the performance of a unit in each of the seven domains of care and may be an important tool in guiding the reconfiguring of remaining inpatient services (for people with extremely high and complex needs who will have the most difficulty making the transition to the community and may need to stay in non-acute inpatient care for some time).

5.3.2 General Trends and Emerging Models

While no details were found on the implementation or evaluation of services, non-acute inpatient care/residential and community-based rehabilitation units seem to be grouped into five categories in the UK that represent a continuum of care regarding intensity and duration of direct support: low secure rehabilitation units, high-dependency rehabilitation units, community rehabilitation units, longer term complex care units, and highly specialist units.[26, 27] These may be comparable and/or relevant to the Australian context and therefore the details of each are presented in Table 2.

Table 2. Details of the types of inpatient rehabilitation units in the UK 26, 27.

	Low secure rehabilitation units	**High-dependency rehabilitation units**	**Community rehabilitation unit**	**Longer term complex care units**	**Highly specialist units**
Client group and focus	This group has diverse needs but all have been involved in offending or challenging behaviour. They will all be detained under the Mental Health Act 1983 and the majority under Part 3 of the Act. Levels of security will be determined by Ministry of Justice requirements and a key task will be the accurate assessment and management of risk. Clients will have varying levels of functional skills and are likely to require therapeutic programmes tailored to their offending behaviour in addition to their mental disorders.	People who need this kind of facility will be highly symptomatic, with multiple or severe co-morbid conditions, significant risk histories and challenging behaviours. Most will be detained under the Mental Health Act. Around 20% will have had forensic admissions. The focus is on thorough ongoing assessment, maximising benefits from medication, engagement, reducing challenging behaviours and re-engaging with families and communities. These units have a major role in repatriating patients from secure services and out-of-area placements to local services and, ultimately, to local community living.	People with complex mental health needs who cannot be discharged directly from hospital to an independent or supported community placement due to their ongoing high levels of need. The focus is on facilitating further recovery, optimising medication regimes, engagement in psychosocial interventions and gaining skills for more independent living.	Patients will usually have high levels of disability from complex comorbid conditions, with limited potential for gaining skills required for supported community living, and have associated significant risks to their own health and/or safety and/or to others. Co-morbid serious physical health problems are common and will require ongoing monitoring and treatment.	These units cater for people with very particular needs, for example acquired brain damage, severe personality disorder, comorbid autism-spectrum disorder. Psychological approaches to treatment and management predominate. Often, nearby step-down units will be required that allow people to move on but maintain contact with the specialist expertise they require. Very active liaison with referrers is an essential aspect of the working of these services.
Recovery goal	To move onto a high dependency or community rehabilitation	To move onto community rehabilitation unit or to supported community	To achieve a successful return to community living. Most people will	To promote personal recovery and improving social and interpersonal	To move onto more independent settings often with complex care

	unit.	living.	move onto a supported tenancy.	functioning (Other options will usually have been tried without success; disability and risk issues remain but a more domestic setting that offers a high level of support is practical).	packages developed with the advice of the specialist service.
Site	Stand-alone unit or within a hospital campus.	Ward usually based in the local mental health unit to benefit from support from other wards and out of hours cover.	Local, community-based unit providing a domestic environment that facilitates service users' confidence and abilities in managing activities of daily living (self-care, shopping, cooking, budgeting etc.) and promotes engagement in community-based activities/vocational rehabilitation.	Usually community-based, sometimes on a hospital campus.	Within hospital complexes or in stand-alone units.
Length of admission	2 years plus; variable, depending on the nature of the offending behaviour and psychopathology.	1 to 3 years	1 to 2 years	5 to 10 years	1 to 3 years, but highly variable depending on the nature of the conditions and specialist treatment programmes.
Functional ability	Domestic services provided by the unit rather than its residents, although participation in domestic activities with support encouraged as part of therapeutic	Domestic services provided by the unit, although participation in domestic activities with support encouraged as part of therapeutic	Domestic environments that facilitate service users to acquire everyday living skills in preparation for more independent community living.	Domestic services provided by the unit rather than its residents, although participation in domestic activities with support encouraged as part of therapeutic	Variable, but hopefully covering a range from full domestic services to high levels of patient participation in activities of daily living.

	programme.	programme.		programme.	
Risk management	Higher-staffed units able to manage behavioural disturbance with full range of physical, procedural and relational security and specialist risk assessment and management skills.	Higher-staffed (often locked/lockable) units able to manage behavioural disturbance.	"Open" units, staffed 24 hours by nurses and support workers with regular input from other members of the multidisciplinary team. Specialist risk management skills are essential.	Higher-staffed units but with emphasis on unqualified support staff; risk management based on relational skills and environmental management.	Varies with risk profile and treatment needs.
Degree of specialisation	One unit per 1 million population.	Should be available in all Trusts. One unit per 600,000 to 1 million population.	Should be available in all Trusts. One unit per 300,000 population.	Should be available in all Trusts. One unit per 600,000 population.	Highly specialist facilities for people with specific conditions and complex comorbidities, requiring specialist treatment programmes for populations of several million.

In summary, existing evidence suggests that non-acute inpatient services for SPMI should have the following components:

1. Non-acute inpatient/residential care services provide an opportunity to integrate both clinical and non-clinical staff, including peer support workers, such as PARC services in Victoria. A recovery model should be implemented, and ongoing training provided to both clinical and non-clinical staff, including skill development in group process and facilitation. Non-clinical support workers need continuing reflexive and supportive supervision, and need to be provided with information on patients' ongoing care requirements.
2. A readiness-for-transitioning program that includes rehabilitation, social and life skills training, and psychoeducation that involves patients, carers, hospital staff, community mental health staff and peer support who will continue their relationship with the patient after discharge. The transitioning program should be flexible in content and duration, and tailored to individual patient needs. The limitations to transition need to be considered in the context of some people who require enduring access to high levels of support.
3. Seamless transition to suitable and secure housing in the community once the patient is ready for discharge. All studies reported improvements in sustaining community living over the long-term when suitable and secure housing is enabled, and those reporting costs showed that even intensive community care was substantially cheaper than inpatient care. There needs to be careful consideration of the risks associated with increased autonomy for some people who may be more vulnerable due to complex needs.
4. Links across health and welfare sectors, in particular housing providers, need to be developed and maintained in order to enable social inclusion, economic participation and the opportunity for transitioning to safe, secure and affordable housing. This will be important to enable sustained community living and efficient and comprehensive meeting of support needs, with implementation of the NDIS.
5. Community care and support after discharge ought to encompass all services required for patients with complex needs, and include ongoing psychosocial rehabilitation that is consistent with a recovery model, and disability support that aims to equip patients with living skills and promote independence.
6. Clear articulation of the model's structure, stakeholder roles and responsibilities, and effective communication between all stakeholders involved is imperative, with written partnership agreements implemented across agencies and/or sectors, to ensure seamless integration of services.

5.2.3 Knowledge Gaps

While this review provides some strong evidence about the overall models of care that seem most appropriate for people with SPMI, the evidence is still very limited for specific details about how best to configure the residential services and staffing, optimal governance mechanisms across disciplines and sectors, and which components work best for particular groups within people with SPMI:

1. ***Models for residential care***
   While there is an acknowledgment of the need for some inpatient/ residential component within a comprehensive service for people with significant psychiatric disability [18], there is insufficient evidence at present about the best approach to staffing residential rehabilitation programs. A particular study to keep in mind is a longitudinal study being conducted now in Queensland specifically to evaluate an integrated peer-support and clinical staffing model for residential mental health rehabilitation.[19]
2. ***Governance/oversight of comprehensive and multi-sectoral models of care***
   There are trends in delivery in Australia and Canada towards community sector management of housing provision, in-reach support and staffed residential components. However no comparative evaluation data were found to underpin this or provide guidance for one approach over another, or

for proportional commitment to each.

3. *Distribution of evidenced approaches for people with SPMI*
   Current evidence does not provide guidance regarding likely scale of demand for ACT/intensive packages/residential, as a proportion of overall service provision required in a catchment.

4. *Access to individualised funding*
   Current evidence suggests that increased choice and control and access to individualised funding may offer important opportunities for recovery for people with severe and enduring mental illness. However, it remains unclear how many people currently in long-stay inpatient units will access individualised funding packages (such as NDIS) and whether this support will enhance their opportunities for successful and sustained discharge into the community.

5. *CALD populations*
   There was a dearth of evidence on effective work with CALD populations. While some evidence was found for particular models such as ACT and Housing First that were adapted for CALD communities, these were very few and none were found in relation to residential care. The underrepresentation of mental health research and services focusing on CALD communities in Australia has been an ongoing issue, and more efforts and resources are needed to examine this urgently, not only to better meet the mental health care needs of the Australian population but also to avoid introducing stress and harmful experiences due to the lack of culturally appropriate processes and care.[28, 29]

5.4 Models of care for Indigenous populations with severe and enduring mental illness

What evidence and examples are there internationally and nationally for models of care for Indigenous populations, with severe and enduring mental illness in non-acute hospital based care and in community care?

While numerous studies included the Indigenous population in their study, only two programs with sufficient program information and evaluation were found to specifically address care in relation to this particular group: the Personal Helpers and Mentors Initiative (PHaMs) in Australia [49-51] and the Housing First At Home/Chez Soi Project in Winnipeg, Canada.[36]

Personal Helpers and Mentors Service (PHaMs) – Australia

Level of evidence: Promising Practice

As presented earlier in Section 5.1.1, the Personal Helpers and Mentors Service (PHaMs) [49-51] is an intensive case management service managed by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) that aims to provide non-clinical community-based one-on-one team-based support for people with severe mental illness using a strengths-based, recovery approach.

The PHaMs team structure is determined by service providers according to local needs, the needs of participants, the availability of staff, and worker profile. It is designed to: 1) provide a diverse knowledge base among workers that can be shared to benefit the whole team; 2) allow for team support, ongoing training and development, and direct supervision, debriefing and shared learning experiences and opportunities; and 3) offer choice for participants (around the gender and culture of their worker where possible) as well as who they might prefer to build a long-term relationship with.

PHaMs services deliver activities that support the development and implementation of Individual Recovery Plans, such as: management of daily activities and connection in their family and community; access to a ranges of outreach services and other referrals; and links with appropriate services such as clinical, drug and alcohol, employment and accommodation services, finding employment, securing stable housing, to name a few. PHaMs providers are expected to consider the particular needs of Indigenous people and people of CALD background, both groups of whom are under-represented in the client-base in most services.

While the overall effectiveness of the PHaMs program was positive as presented earlier, most services reported great difficulty in attracting Aboriginal and Torres Strait Islander clients and reported not feeling competent to provide appropriate services (e.g. limited understanding of how to provide appropriate service). Engaging with and building trust with clients, families and communities was seen as the main challenge. PHaMs has found that the following approaches have begun to resolve these issues:

- Building networks with Aboriginal and Torres Strait Islander organisations and communities such as Land Councils, Aboriginal Medical Services and Indigenous training organisations
- Using opportunities such as NAIDOC week celebrations, dinners, sports days, awards, service stalls with the local community and other service providers
- Employing Aboriginal and Torres Strait Islander staff and providing Aboriginal and Torres Strait Islander trainee positions (four of the seven PHaMs staff identified as Aboriginal and Torres Strait Islander)
- Undertaking cultural awareness training for other staff in the service.

At the Moree PHaMs service in rural NSW where 63% of clients identified as Aboriginal and Torres Strait Islander, client outcomes were generally positive. For instance, Moree PHaMs found strong engagement of Aboriginal and Torres Strait Islander clients – 65% of the total service participants and 63% of the study participants. Twelve of the nineteen clients who had completed the PHaMs program were of Aboriginal and Torres Strait Islander background.

The ten most frequent types of goals set by clients (from most frequent to least) included: attending counselling/psychological services, improving accommodation, increasing social/community involvement, medication compliance, staying 'out of trouble', increasing practical skills, addressing drug and alcohol issues, improving relationships, gaining employment and attending appointments.

Pre-post PHaMs rating of client functioning by case workers showed significant differences in adaptive functioning at case closure than at commencement (Role Functioning Scale) from moderately effective to adequate levels of functioning. Self-ratings of recovery were consistent with caseworker ratings:

- All participants reported improved functioning in household activities (e.g. cooking, cleaning, shopping, finances)
- 81% reported receiving help with relationships
- 100% reported benefiting from assistance with transport
- 68% reported receiving help with accessing clinical services
- 63% described improvements in the management of medications
- 63% reported a change in accommodation and greater satisfaction with their living arrangements
- 97% reported that they were unemployed and not participating in education or training, but 37% indicated that they would like to be involved in voluntary or paid work
- 32% expressed a desire to participate in education.

Clients reported a high satisfaction with PHaMs. Mean scores out of 11 included: 8.7 for overall satisfaction, 8.4 for confidence in services, and 8.5 in likelihood to recommend to others. Relationships with caseworkers were rated on average 8.5 out of 10.

At Home/Chez Soi Project – Winnipeg Site, Canada

Level of evidence: Best Practice

With the At Home/Chez Soi Project, as reported earlier, there is strong evidence for the effectiveness of the Housing First model for a wide range of vulnerable persons including those with SPMI. The Winnipeg Site developed the 'Housing First Ni Apin Program', a Housing First service combined with intensive case management developed and delivered by the Aboriginal Health and Wellness Centre in Winnipeg. This program is a 'Medicine Wheel'/ICM model with the additional day program delivered by the Aboriginal Health and Wellness Centre. Delivered by Aboriginal partners, this model responds to the unique Aboriginal housing needs that incorporates Aboriginal notions of home, health and place, and is based on evidence indicating the therapeutic importance of connection to land, community and family. In addition to the assessment of health, social, housing and cost outcomes to evaluate the effectiveness of this model, the Winnipeg site conducted in-depth interviews with a representative sub-group of participants and key informants (service providers and study site investigators).[35]

The mental health, social and housing outcomes were significantly superior for those in the Housing First group compared with those in the TAU group. Substantial improvement in overall community functioning and social skills over the entire study period was observed amongst people in the HF-AB ICM group compared to those in the HF-ICM and TAU groups.

In the interviews, participants shared life stories indicating that having both decent housing and a trusting relationship with an At Home/Chez Soi (or other) worker enabled them to gain control over their social relationships, reconnect with previous positive relationships such as children and family, and begin to establish new ones. While the participants were satisfied with the HF approach as an invaluable intervention, their deeply rooted sense of home remained largely disconnected from the housing experience in the city. The apartments met their practical needs but some reported not feeling 'at home' in the sense of not feeling connected to land, community and family. While the apartment in Winnipeg (the 'city') was reported as lonely and isolating by some respondents, others reported that the stability of having the apartment enabled mobility between the city and visits to family back at the reserve when they needed to re-connect with their family and land.

Positive outcomes included a shift from a sense of a disempowered status of being homeless to being able to exercise self-control and discretion. The opportunity to own and control an apartment was therapeutic in restoring a sense of self-worth and feeling part of society.

Nevertheless, the permanent housing framework of the Housing First program may not be fully compatible with the traditional Aboriginal and Torres Strait Islander ways of life of migrating; for instance setting roots and establishing a home may not be a priority. Being around trusted people was more important. For example, some reported that being homeless and with friends was preferable and less lonely to living in a single room apartment or living with strangers. Furthermore, home is a family place where the family network is typically significantly wider for Indigenous persons. Some project staff reported being stunned at the amount of family presence and activities — which landlords did not always appreciate.

These findings revealed some important issues that are highly relevant and require consideration for the development of appropriate Indigenous models of care in Australia. While second nature to Aboriginal and Torres Strait Islander communities, mainstream services need to better understand not just the different conceptualisations about health and wellbeing in Aboriginal and Torres Strait Islander and CALD people but the similarly distinctive notions concerning social structures and housing that respect and respond to the need for connection to the land and family.

In such communities for instance, the notion of privacy is often non-existent and having a private and spacious one-bedroom apartment to his/herself or a larger unit shared with someone new is not necessarily preferable to a smaller or lower quality housing that is close to, or can be shared with people they know and trust.

The migratory component is also an interesting one that may influence how we think of optimal supportive housing options. Whereas the non-Indigenous contexts are leaning away from transitional housing towards more permanent housing, a more flexible model may be required for Aboriginal and Torres Strait Islander people. The notion of choice highlighted throughout the majority of the studies in this review seems particularly pertinent in this context.

5.4.1 Knowledge Gaps

As stated earlier in Section 5.1, there are substantial gaps in knowledge on how best to respond to complex mental health care needs among Aboriginal and Torres Strait Islander people. While evidence is increasingly becoming available, the majority of studies are still in the beginning phases of understanding the issues through qualitative research and evaluation methods. While just as valid and perhaps more rich in the information gained through these methods, robust quantitative methods are also needed to determine if particular models tailored to Indigenous populations are just as effective or more effective than 'mainstream' models in providing appropriate support. Having both quantitative and qualitative evidence will further enable governments and communities to advocate for and scale up appropriate mental health and social services to these population groups.

6 Conclusion

This review found strong evidence for models of community-based service provision that feature outreach, and longer term, individualised and client-centred support, with the strongest evidence base found for Assertive Community Treatment, Housing First, and Intensive Case Management. These models are well defined and evaluated in the most operational detail. The evidence suggests that the achievements of such programs are more significant for individuals with high and complex needs than less functionally impaired persons with SMI.

While the existing evidence does not enable conclusive statements about causal pathways, they nevertheless suggest that the reasons for these models being more effective for people with SPMI are likely related to the fact that the intense and integrated nature of these models are able to improve engagement in activities and social functioning, which influences quality of life and can potentially reduce the need for inpatient care. There were reasonably consistent findings across all studies of reduced readmissions and length of hospital stay, improved quality of life, social functioning, engagement in activities, increased likelihood of access to employment, and improvements in psychiatric symptoms for patients receiving the assertive/intensive team-based care. The findings also showed relatively consistent cost benefit of these models for this particular population group, primarily due to the corresponding reductions in the use of inpatient and emergency care.

Less assertive approaches have also been shown to be nearly as effective in some cases, though they have also been found to have a greater risk for disengagement. Peer roles are targeted to facilitating engagement of disenfranchised people, goal identification and goal striving, and were found to be incorporated into many of the models identified in this review. Common factors across the majority of the models include individualisation, personalisation, choice and control.

Increasingly, successful programs show a focus on strengths identification (rather than deficit amelioration) and on prioritising psychosocial goals for the person over treatment goals identified by medical professionals. This orientation arose in strengths and consumer-led practices, but has gained a hold across most contemporary service models and is the overarching framework to enhance and improve mental health services in Australia.[88] The prioritising and active assistance with personal psychosocial goals is a key feature of programs that sustain consumer engagement, and can potentially offset the impositions and loss of control associated with assertive treatments, community treatment orders and limited options regarding accommodation type. Such active support programs (e.g. Housing First, ACT, IPS and various modes of intensive case management) are noted to be expensive compared to a range of TAU services. However, the evidence in this review clearly showed the significantly greater reduction in hospital use and mental health care costs compared to TAU services, and that the reduction was most pronounced in people with SPMI with particularly complex needs and a high use of inpatient services.

Findings from this review suggest that the optimal model of care for people with SPMI is a comprehensive, multidisciplinary range of care that expands and is actively coordinated across a range of sectors such as health, social services, education and training, employment, correctional, Indigenous affairs, arts, sport, aged care, and justice. Supported housing and ACT/PACT (Program for Assertive Community Treatment) should include access to safe, secure and affordable housing with access to unconditional support as its foundation, onto which various components of care can be built, tailored to each individual. Given the focus on transitions in living arrangement, away from hospital as home for the population of interest in this review, the Housing First program approach warrants careful and first consideration, including the specific cultural and Indigenous elements.

A rehabilitation and recovery approach such as World Health Organization’s Community-Based Rehabilitation (CBR) Framework (Figure 1) [30] may be appropriate given the substantial and diverse disabilities and the complex needs experienced by people with severe and persistent mental illnesses. The multi-sectoral and holistic approach towards equitable access to quality care, social inclusion, economic participation, and the requirement for “combined efforts of people with disabilities, their families and communities, and relevant government and non-government services such as health, education, vocational and social services" makes this an ideal framework for consideration.

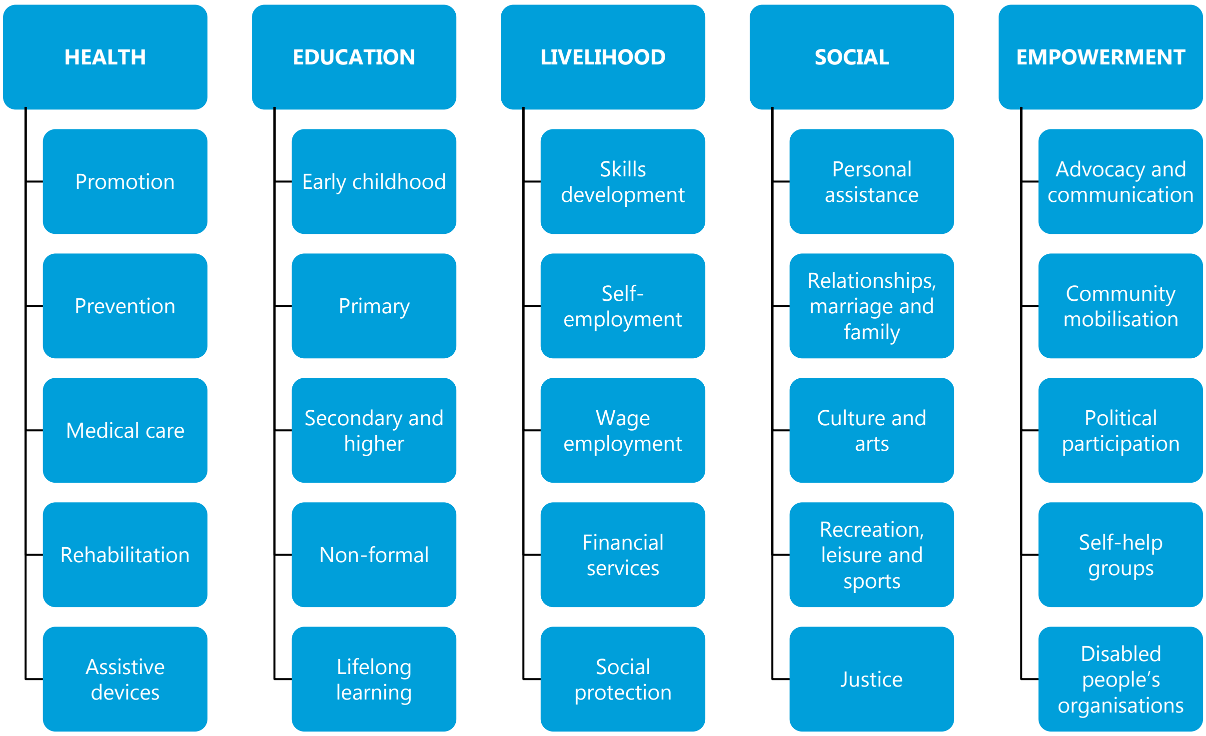
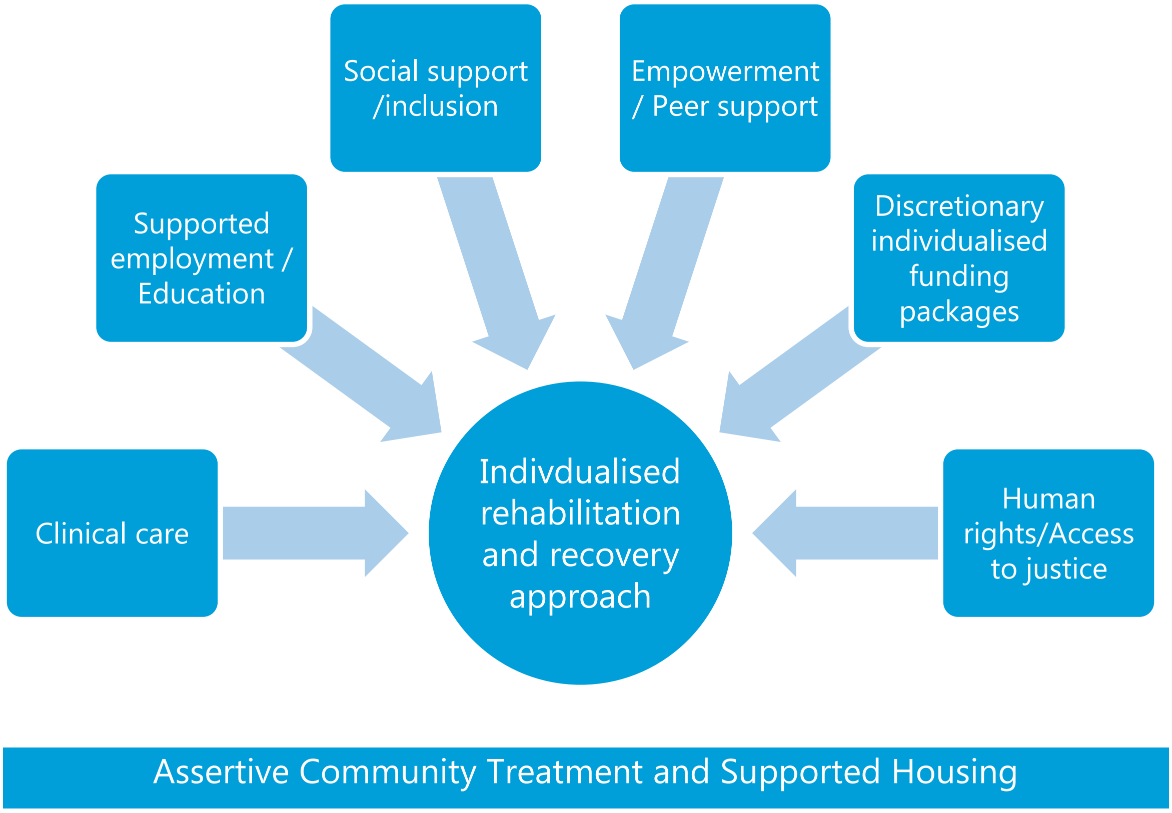


Figure 1. CBR Matrix

Essential components of a system-wide model of care include:

- Inpatient and community-based rehabilitation units (including inpatient readiness for transition training with continuity of care between inpatient and outpatient settings, services based on a recovery model, availability of suitable housing with up to 24-hour support and services for patients with complex needs, ongoing disability support, and clear communication with structured articulation of procedures and roles)
- Community rehabilitation teams (ACT/PACT, intensive case management)
- Safe, secure and affordable housing with access to unconditional support (for example Housing First)
- Psychosocial support such as supported employment, social skills development and community functioning/engagement, for example, individual placement and support, social skills training, community-engaged recreational activities (arts, music, sports)
- Access to discretionary individualised funding packages
- Human rights and advocacy (access to justice system)
- Peer support and empowerment strategies.

Inter-sectoral collaboration with a wide range of partners will be essential.



Cross-cutting priority themes:

- Life-course perspective
- Age-appropriate
- Gender-mainstreamed
- Culturally responsive
- Family inclusive
- Trauma-informed
- Least-restrictive

Figure 2. Recommended service delivery framework

7 References

1. Asia-Pacific Economic Cooperation. APEC Roadmap to Promote MentalWellness in a Healthy Asia Pacific (2014-2020). 26th APEC Ministerial Meeting, 7-8 November 2014; Beijing, China2014
2. Killaspy H, White S, Wright C, Taylor TL, Turton P, et al. Quality of longer term mental health facilities in Europe: validation of the quality indicator for rehabilitative care against service users' views. PLoS ONE. 2012;7(6):e38070.
3. New South Wales Department of Health. Pathways to Community Living Initiative - Reform.
4. New South Wales Department of Health. Aged Care Assessment Teams (ACATs) and My Choice: Pathways to Community Living.
5. New South Wales Department of Health. Pathways to Community Living: Assisting long-term patients to live in the community.
6. New South Wales Department of Health. Pathways to Community Living Information for Staff: Assisting long-term patients to live in the community.
7. Moher D, Schulz KF, Altman DG. The CONSORT statement: revised recommendations for improving the quality of reports of parallel-group randomized trials. JAMA. 2001;285(15):1987-91.
8. Vandenbroucke JP, von Elm E, Altman DG, Gotzsche PC, Mulrow CD, et al. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and Elaboration. PLoS Medicine. 2007;4(10):e297.
9. Canadian Homelessness Research Network. What Works and For Whom? A Framework for Promising Practices. Toronto: Canadian Homelessness Research Network Press; 2013. Available from: http://homelesshub.ca/resource/what-works-and-whom-framework-promising-practices
10. Stein LI, Test MA. Alternative to mental hospital treatment. I. Conceptual model, treatment program, and clinical evaluation. Archives of General Psychiatry. 1980;37:392-7.
11. Rapp CA, Goscha RJ. The Strengths Model: Case management with people with psychiatric disabilities (2nd ed.). New York: Oxford University Press; 2006.
12. Harvey C, Killaspy H, Martino S, White S, Johnson S. A comparison of the implementation of assertive community treatment in Melbourne and London. Acta Neuropsychiatr. 2006;18(6):254.
13. Clausen H, Landheim A, Odden S, Saltyte Benth J, Heiervang KS, et al. Hospitalization of high and low inpatient service users before and after enrollment into Assertive Community Treatment teams: a naturalistic observational study. Int J Ment Health Syst. 2016;10:14.
14. Clausen H, Ruud T, Odden S, Saltyte Benth J, Heiervang KS, et al. Hospitalisation of severely mentally ill patients with and without problematic substance use before and during Assertive Community Treatment: an observational cohort study. BMC Psychiatry. 2016;16:125.
15. Killackey E, Waghorn G. The challenge of integrating employment services with public mental health services in Australia: progress at the first demonstration site. Psychiatr Rehabil J. 2008;32(1):63-6.
16. Gilmer TP. Permanent Supportive Housing for Transition-Age Youths: Service Costs and Fidelity to the Housing First Model. Psychiatric services (Washington, DC). 2016;67(6):615-21.
17. Schley C, Ryall V, Crothers L, Radovini S, Fletcher K, et al. Early intervention with difficult to engage, 'high-risk' youth: evaluating an intensive outreach approach in youth mental health. Early Interv Psychiatry. 2008;2(3):195-200.
18. Chopra P, Harvey C, Herrman H. Continuing Accommodation and Support Needs of Long-Term Patients with Severe Mental Illness in the Era of Community Care. Current Psychiatry Reviews. 2016;7(1):67-83.
19. Parker S, Dark F, Newman E, Korman N, Meurk C, et al. Longitudinal comparative evaluation of the equivalence of an integrated peer-support and clinical staffing model for residential mental health rehabilitation: a mixed methods protocol incorporating multiple stakeholder perspectives. BMC Psychiatry. 2016;16:179.
20. Gallagher C, Halpin M, Central Adelaide Local Health Network. The Lived Experience Workforce in South Australian Public Mental Health Services. Adelaide, SA: State of South Australia; 2014.
21. Killaspy H, Priebe S, Bremner S, McCrone P, Dowling S, et al. Quality of life, autonomy, satisfaction, and costs associated with mental health supported accommodation services in England: a national survey. Lancet Psychiatry. 2016;3(12):1129-37.
22. Cardoso G, Papoila A, Tome G, Killaspy H, King M, et al. Living conditions and quality of care in residential units for people with long-term mental illness in Portugal--a cross-sectional study. BMC Psychiatry. 2016;16:34.

23. Killaspy H, Cardoso G, White S, Wright C, Caldas de Almeida JM, et al. Quality of care and its determinants in longer term mental health facilities across Europe; a cross-sectional analysis. BMC Psychiatry. 2016;16:31.
24. Killaspy H, White S, Wright C, Taylor TL, Turton P, et al. The development of the Quality Indicator for Rehabilitative Care (QuIRC): a measure of best practice for facilities for people with longer term mental health problems. BMC Psychiatry. 2011;11:35.
25. Killaspy H, White S, Dowling S, Krotofil J, McPherson P, et al. Adaptation of the Quality Indicator for Rehabilitative Care (QuIRC) for use in mental health supported accommodation services (QuIRC-SA). BMC Psychiatry. 2016;16:101.
26. Wolfson P, Holloway F, Killaspy H, editors. Enabling recovery for people with complex mental health needs: A template for rehabilitation services. London: Royal College of Psychiatrists; 2009.
27. Joint Commission Panel for Mental Health. Guidance for commissioners of rehabilitation services for people with complex mental health needs. Volume Two: Practical mental health commissioning: Joint Commission Panel for Mental Health; 2012. Available from: www.jcpmh.info
28. Minas H, Kakuma R, Too LS, Vayani H, Orapeleng S, et al. Mental health research and evaluation in multicultural Australia: developing a culture of inclusion. Int J Ment Health Syst. 2013;7(1):23.
29. Minas IH, Kakuma R, Too LS, Vayani H, Orapeleng S, et al. Mental health research and evaluation in multicultural Australia: Developing a culture of inclusion. Melbourne: National Mental Health Commission; 2013. Available from: http://www.mentalhealthcommission.gov.au/media/80646/2093%20mhima%20cald%20report_06.pdf
30. World Health Organization. Community-based rehabilitation guidelines. Geneva: World Health Organization 2010. [Access Date. Available from: http://www.who.int/disabilities/cbr/guidelines/en/
31. Matheson SL, Carr VJ. Transitioning long-stay psychiatric inpatients to the community [Internal Document]. An Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au); 2014.
32. Killaspy H, Johnson S, Pierce B, Bebbington P, Pilling S, et al. Successful engagement: a mixed methods study of the approaches of assertive community treatment and community mental health teams in the REACT trial. Soc Psychiatry Psychiatr Epidemiol. 2009;44(7):532-40.
33. Harvey C, Killaspy H, Martino S, White S, Priebe S, et al. A comparison of the implementation of assertive community treatment in Melbourne, Australia and London, England. Epidemiol Psychiatr Sci. 2011;20(2):151-61.
34. Killackey E, Harvey C, Amering M, Herrman H. Partnerships for Meaningful Community Living: Rehabilitation and Recovery-Informed Practices. 2013
35. Alaazi DA, Masuda JR, Evans J, Distasio J. Therapeutic landscapes of home: Exploring Indigenous peoples' experiences of a Housing First intervention in Winnipeg. Soc Sci Med. 2015;147:30-7.
36. Distasio J, Sareen J, Isaak C. At Home/Chez Soi Project: Winnipeg Site Final Report. Calgary, AB: Mental Health Commission of Canada; 2014. Available from: http://www.mentalhealthcommission.ca
37. Stergiopoulos V, O'Campo P, Hwang S, Gozdzik A, Jeyaratnam J, et al. At Home/Chez Soi Project: Toronto Site Final Report. Calgary, AB: Mental Health Commission of Canada; 2014. Available from: http://www.mentalhealthcommission.ca
38. Bhugra D, Ayonrinde O, Butler G, Leese M, Thornicroft G. A randomised controlled trial of assertive outreach vs. treatment as usual for black people with severe mental illness. Epidemiol Psychiatr Sci. 2011;20(1):83-9.
39. Salyers MP, McGuire AB, Rollins AL, Bond GR, Mueser KT, et al. Integrating assertive community treatment and illness management and recovery for consumers with severe mental illness. Community Ment Health J. 2010;46(4):319-29.
40. Gold PB, Macias C, Rodican CF. Does Competitive Work Improve Quality of Life for Adults with Severe Mental Illness? Evidence from a Randomized Trial of Supported Employment. Journal of Behavioral Health Services & Research. 2014;43(2):155-71.
41. Dieterich M, Irving CB, Park B, Marshall M. Intensive case management for severe mental illness [Review] [MAYBE]. Cochrane Database Syst Rev. 2010(10):CD007906.
42. Behar L. Changing patterns of state responsibility: a case study of North Carolina. J Clin Child Psychol. 1985;14(3):188-95.
43. Winters NC, Metz WP. The wraparound approach in systems of care [Review]. Psychiatr Clin North Am. 2009;32(1):135-51.
44. Department of Health and Social Services Victoria. Service provision framework: Multiple and Complex Needs Initiative (External document). 2015.

45. Parliament of Victoria. Human Services (Complex Needs) Act 2009 No. 16 of 2009. Version incorporating amendments as at s1 August 2015. 2009
46. Nous Group. The Case for Mental Health Reform in Australia: A Review of Expenditure and System Design. Nous Group & Medibank for Better Health; 2013.
47. McDermott S, Bruce J, Fisher KR, Gleeson R. Evaluation of the Integrated Services Project for Clients with Challenging Behaviour: Final Report. Social Protection Research Centre Publication; 2010.
48. Healthcare Management Advisors. Evaluation of the Mental Health Nurse Incentive Program. In: Department of Health and Ageing, editor. Adelaide: Department of Health and Ageing; 2012
49. Courage Partners. Evaluation of the FaHCSIA targeted community care mental health initiatives: Final Report. Canberra: Department of Families, Community Services and Indigenous Affairs, Commonwealth of Australia; 2011.
50. Department of Social Services. Part C1: Personal Helpers and Mentors Guildelines under the Targeted Community Care (Mental Health) Program. Canberra: Australian Government; 2013
51. Dunstan DA, Todd AK, Kennedy LM, Anderson DL. Impact and outcomes of a rural Personal Helpers and Mentors service. Aust J Rural Health. 2014;22(2):50-5.
52. Department of Human Services Victoria. Because Mental Health Matters: Victorian Mental Health Reform Strategy 2009 – 2019. In: Services VDoH, editor. Melbourne: Victorian Government; 2009
53. ACT Mental Health Justice Health and Alcohol & Drug Services. Secure Mental Health Unit – Model of Care draft Nov 2013. 2013.
54. Victorian Department of Health. Program Management Circular: Distribution and function of secure extended care unit (SECU) beds in Victoria.
55. Victorian Department of Health. Secure Extended Care Unit (SECU) Diversion and Substitution Request for Proposal. 2009.
56. Eastern Health. Secure Extended Care Unit Diversion Program. Available from: https://www.easternhealth.org.au/services/item/584-secure-extended-care-unit-diversion-program
57. Bowser D, Ashkanasy Z. Evaluation of selected Adult Mental Health Reform Initiatives. Final Report. Nous Group 2013. Nous Group: 2013. Available from: http://www.nousgroup.com/au/work/evaluation-of-selected-adult-mental-health-reform-initiatives
58. Brophy L, Hodges C, Halloran K, Grigg M, Swift M. Impact of care coordination on Australia's mental health service delivery system. Aust Health Rev. 2014;38(4):396-400.
59. Smith-Merry J, Gillespie J, Hancock N, Yen I. Doing mental health care integration: a qualitative study of a new work role. International journal of mental health systems. Int J Ment Health Syst. 2015;9(1):1.
60. Sutton K, Isaacs AN, Dalziel K, Maybery D. Roles and competencies of the Support Facilitator in Australia. Aust Health Rev. 2016
61. Broad R. Local Area Coordination: From service users to citizens. The Centre for Welfare Reform; 2012.
62. Petrakis M, Brophy L, Lewis J, Stylianou M, Scott M, et al. Consumer measures and research co-production: a pilot study evaluating the recovery orientation of a mental health program collaboration. Asia Pac J Soc Work. 2014;24(1-2):94-108.
63. Dearn L. Long-Stay patient project. Full report. Melbourne: Office of the Public Advocate; 2009. Available from: http://www.publicadvocate.vic.gov.au/file/file/Research/Discussion/2009/Long_stay_Patient_Project_Report.pdf
64. Somers JM, Patterson ML, Moniruzzaman A, Currie L, Rezansoff SN, et al. Vancouver At Home: pragmatic randomized trials investigating Housing First for homeless and mentally ill adults. Trials. 2013;14:365.
65. Aubry T, Bourque J, Volk J, Leblanc S, Nolin D, et al. At Home/Chez Soi Project: Moncton Site Final Report. Calgary, AB: Mental Health Commission of Canada; 2014. Available from: http://www.mentalhealthcommission.ca
66. Aubry T, Tsemberis S, Adair CE, Veldhuizen S, Streiner D, et al. One-year outcomes of a randomized controlled trial of housing first with ACT in five Canadian cities. Psychiatric services (Washington, DC). 2015;66(5):463-9.
67. Currie LB, Moniruzzaman A, Patterson ML, Somers JM. At Home/Chez Soi Project: Vancouver Site Final Report. Calgary, AB: Mental Health Commission of Canada; 2014. Available from: http://www.mentalhealthcommission.ca
68. Latimer E, Rabouin D, Méthot C, McAll C, Ly A, et al. At Home/Chez Soi Project: Montréal Site Final Report. Calgary, AB: Mental Health Commission of Canada; 2014. Available from: http://www.mentalhealthcommission.ca
69. Stergiopoulos V, O'Campo P, Gozdzik A, Jeyaratnam J, Corneau S, et al. Moving from rhetoric to reality: adapting Housing First for homeless individuals with mental illness from ethno-racial groups. BMC Health Serv Res. 2012;12:345.

70. Kozloff N, Adair CE, Palma Lazgare LI, Poremski D, Cheung AH, et al. "Housing First" for Homeless Youth With Mental Illness. Pediatrics. 2016
71. Kozloff N, Stergiopoulos V, Adair CE, Cheung AH, Misir V, et al. The Unique Needs of Homeless Youths With Mental Illness: Baseline Findings From a Housing First Trial. Psychiatric services (Washington, DC). 2016;67(10):1083-90.
72. Nelson G, Macnaughton E, Curwood SE, Egalite N, Voronka J, et al. Collaboration and involvement of persons with lived experience in planning Canada's At Home/Chez Soi project. Health & Social Care in the Community. 2016;24(2):184-93.
73. Stergiopoulos V, Gozdzik A, Misir V, Skosireva A, Connelly J, et al. Effectiveness of Housing First with Intensive Case Management in an Ethnically Diverse Sample of Homeless Adults with Mental Illness: A Randomized Controlled Trial. PLoS ONE. 2015;10(7):e0130281.
74. Stergiopoulos V, Gozdzik A, Misir V, Skosireva A, Sarang A, et al. The effectiveness of a Housing First adaptation for ethnic minority groups: findings of a pragmatic randomized controlled trial. BMC public health. 2016;16(1):1110.
75. Bruce J, McDermott S, Ramia I, Bullen J, Fisher KR. Evaluation of the Housing and Accommodation Support Initiative (HASI): Final Report. Sydney: Social Policy Research Centre Publications; 2012 978-0-7334-3180-7.
76. McDermott S, Bruce J, Oprea I, Fisher KR, Muir K. Evaluation of the Mental Health, Housing and Accommodation Support Initiative (HASI): Second Report. Sydney: Social Policy Research Centre Publishing; 2011 978-0-7334-3026-8.
77. 500 Lives 500 Homes. Housing First: A roadmap to ending homelessness in Brisbane. 2016
78. Parsell C, Petersen M, Moutou O, Culhane DP, Lucio E, et al. Brisbane Common Ground Evaluation: Final Report. Prepared for: the Queensland State Government, Department of Housing and Public Work. Brisbane: Institute for Social Science Research; 2015.
79. Conelly L. An Economic Evaluation of the Homeless to Home Healthcare After-Hours service. Available from: http://micahprojects.org.au/assets/docs/Publications/IR_130_An-Economic-Evaluation-of-the-Homeless-to-Home-Healthcare-After-Hours-Service.pdf
80. Cook JA, Copeland ME, Jonikas JA, Hamilton MM, Razzano LA, et al. Results of a randomized controlled trial of mental illness self-management using Wellness Recovery Action Planning. Schizophr Bull. 2012;38(4):881-91.
81. Fukui S, Starnino VR, Susana M, Davidson LJ, Cook K, et al. Effect of Wellness Recovery Action Plan (WRAP) participation on psychiatric symptoms, sense of hope, and recovery. Psychiatr Rehabil J. 2011;34(3):214-22.
82. Macias C, Farley OW, Jackson R, Kinney R. Case management in the context of capitation financing: an evaluation of the strengths model. Adm Policy Ment Health. 1997;24(6):535-43.
83. Macias C, Kinney R, Farley OW, Jackson R, Vos B. The role of case management within a community support system: Partnership with psychosocial rehabilitation. Community Ment Health J. 1994;30(4):323-9.
84. Ranger M, Tyrer P, Miloseska K, Fourie H, Khaleel I, et al. Cost-effectiveness of nidotherapy for comorbid personality disorder and severe mental illness: randomized controlled trial. Epidemiol Psichiatr Soc. 2009;18(2):128-36.
85. Rapp CA, Goscha RJ. The Strengths Model: Recovery-oriented approach to mental health services (3rd ed.). New York: Oxford University Press; 2011.
86. Oades L, Deane F, Crowe T, Lambert WG, Kavanagh D, et al. Collaborative recovery: an integrative model for working with individuals who experience chronic and recurring mental illness. Australas Psychiatry. 2005;13(3):279-84.
87. Oades L, Crowe T, Deane F. The Collaborative Recovery Model: moving beyond 'us and them' in mental health. New Paradigm: The Australian Journal on Psychosocial Rehabilitation. 2007;June:32-37.
88. Australian Health Ministers Advisory Council. A National Framework for Recovery Oriented Mental Health Services. 2013.
89. Chopra P, Hamilton B, Castle D, Smith J, Mileshkin C, et al. Implementation of the Strengths Model at an area mental health service. Australas Psychiatry. 2009;17(3):202-6.
90. Slade M. 100 ways to support recovery: A guide for mental health professionals. London: Rethink; 2009.
91. Hamilton B, Bichara E, Roper CE, Easton C. Gaining strength: consumers' experiences of case management with the Strengths Model. Melbourne: St Vincent's Health, Melbourne & Departmetn of Health, Victoria; 2012.

92. Tyrer P, Sensky T, Mitchard S. Principles of nidotherapy in the treatment of persistent mental and personality disorders. Psychother Psychosom. 2003;72(6):350-6.
93. Tyrer P, Bajaj P. Nidotherapy: making the environment so the therapeutic work. Advances in Psychiatric Treatment. 2005;11:232-8.
94. Sledge WH, Lawless M, Sells D, Wieland M, O'Connell MJ, et al. Effectiveness of peer support in reducing readmissions of persons with multiple psychiatric hospitalizations. Psychiatric services (Washington, DC). 2011;62(5):541-4.
95. Lawn S, Smith A, Hunter K. Mental health peer support for hospital avoidance and early discharge: An Australian example of consumer driven and operated service. J Ment Health. 2008;17(5):498-508.
96. Simpson A, Flood C, Rowe J, Quigley J, Henry S, et al. Results of a pilot randomised controlled trial to measure the clinical and cost effectiveness of peer support in increasing hope and quality of life in mental health patients discharged from hospital in the UK. BMC Psychiatry. 2014;14:30.
97. Davidson L, Bellamy C, Guy K, Miller R. Peer support among persons with severe mental illnesses: a review of evidence and experience. World Psychiatry. 2012;11(2):123-8.
98. Department of Health. Adult prevention and recovery care (PARC) services framework and operational guidelines 2010. Government of Victoria; 2010.
99. Forwood A, Reed C, Reed M, Rose D, Ryan S. Final report for Evaluation of the Prevention and Recovery Care (PARC) Service Project. Melbourne: Dench McClean Carlson; 2008.
100. Lee SJ, Collister L, Stafrace S, Crowther E, Kroschel J, et al. Promoting recovery via an integrated model of care to deliver a bed-based, mental health prevention and recovery centre. Australas Psychiatry. 2014;22(5):481-8.
101. White C, Chamberlain J, Gilbert M. Examining the outcomes of a structured collaborative relapse prevention model of service in a Prevention Recovery Care (PARC) Service. Phase Two: Research report. Gippsland: SNAP; 2012.
102. Siskind D, Harris M, Kisely S, Brogan J, Pirkis J, et al. A retrospective quasi-experimental study of a community crisis house for patients with severe and persistent mental illness. Australian & New Zealand Journal of Psychiatry. 2013;47:667-75.
103. Daly S, Kirby S. Far West Mental Health Recovery Centre: A partnership model of recovery focused mental health inpatient care. 13th National Rural Health Conference; Darwin2015
104. Wray M, Brophy L, Loh M. Prevention and Recovery Centre Exit Survey. Melbourne: Mind Australia; 2013.
105. Allison S, Bastiampillai T, Goldney R. Acute versus sub-acute care beds: Should Australia invest in community beds at the expense of hospital beds? Australian & New Zealand Journal of Psychiatry. 2014;48:952-54.
106. Dhillon R. A failed experiment: Substitution of acute inpatient beds by sub-acute community residential beds in South Australia. Australian & New Zealand Journal of Psychiatry. 2015;49:579-80.
107. Parker S, Siskind D, Harris M. Community based residential mental health services: What do we need to know? Australian & New Zealand Journal of Psychiatry. 2015;49:86-87.
108. Lloyd-Evans B, Slade M, Jagielska D, Johnson S. Residential alternatives to acute psychiatric hospital admission: Systematic review. British Journal of Psychiatry. 2009;195:109-17.
109. Hamden A, Newton R, McCauley-Elsom K, Cross W. Is deinstitutionalization working in our community? Int J Ment Health Nurs. 2011;20(4):274-83.
110. Chopra P, Herrman HE. The long-term outcomes and unmet needs of a cohort of former long-stay patients in Melbourne, Australia. Community Ment Health J. 2011;47(5):531-41.
111. Queensland Health. Rockhampton Community Care Unit (CCU). 2014. [Access Date. Available from: https://www.health.qld.gov.au/cq/ccu-rockhampton
112. Nous Group. Review of the PDRSS Day Program, Adult Residential Rehabilitation and Youth Residential Rehabilitation Services: For the Victorian Department of Health. Melbourne: State of Victoria, Department of Health; 2011. Available from: www.health.vic.gov.au/mentalhealth/reformstrategy/
113. MIND. Peer Recovery Communities. Available from: https://www.mindaustralia.org.au/need-help/mind-services-in-victoria/mind-victoria/residential-services/peer-recovery-communities.html
114. Brophy L, Roper C. Mind Australia's Peer Recovery Communities: How well is Mind doing in supporting the recovery of PRC residents? Summary. Melbourne: Mind Australia and the University of Melbourne School of Population and Global Health; 2015.
115. Center for the Advancement of Critical Time Intervention. Critical Time Intervention: Preventing Homelessness in the Transition from Institution to Community. 2014. [Access Date. Available from: www.criticaltime.org
116. Herman D, Conover S, Felix A, Nakagawa A, Mills D. Critical Time Intervention: an empirically supported model for preventing homelessness in high risk groups. J Prim Prev. 2007;28(3-4):295-312.

117. Herman DB, Conover S, Gorroochurn P, Hinterland K, Hoepner L, et al. Randomized trial of critical time intervention to prevent homelessness after hospital discharge. Psychiatric services (Washington, DC). 2011;62(7):713-9.
118. Tomita A, Herman DB. The impact of critical time intervention in reducing psychiatric rehospitalization after hospital discharge. Psychiatric services (Washington, DC). 2012;63(9):935-7.
119. Baumgartner JN, Herman DB. Community integration of formerly homeless men and women with severe mental illness after hospital discharge. Psychiatric services (Washington, DC). 2012;63(5):435-7.
120. Prince JD. Critical time intervention reduces psychiatric rehospitalisation among formerly homeless individuals with psychotic diagnoses [ABSTRACT]. Evid Based Ment Health. 2013;16(2):38.
121. Tomita A, Lukens EP, Herman DB. Mediation analysis of critical time intervention for persons living with serious mental illnesses: assessing the role of family relations in reducing psychiatric rehospitalization. Psychiatr Rehabil J. 2014;37(1):4-10.
122. Tomita A, Herman DB. The role of a critical time intervention on the experience of continuity of care among persons with severe mental illness after hospital discharge. J Nerv Ment Dis. 2015;203(1):65-70.
123. Department of Health and Ageing. Partners in Recovery: Coordinated support and flexible funding for people with severe and persistent mental illness with complex needs. Factsheet. Australian Government; 2012
124. Australian Government Department of Health. A White Paper on Partners in Recovery in Victoria. Systems change and strategic partnerships to improve mental health outcomes. Melbourne: Larter Consulting Pty Ltd; 2016.
125. Cheverton J, Janamian T. The Partners in Recovery program: mental health commissioning using value co-creation. Medical Journal of Australia. 2016;204(7 Suppl):S38-40.
126. Hancock N, Smith-Merry J, Gillespie JA, Yen I. Is the Partners in Recovery program connecting with the intended population of people living with severe and persistent mental illness? What are their prioritised needs? Aust Health Rev. 2016
127. Butler M. Partners in Recovery: new, practical support for people living with severe mental illness. New Paradigm: The Australian Journal on Psychosocial Rehabilitation. 2012;Spring/Summer:6-8.
128. Mission Australia. The Michael Project 2007 – 2010 new perspectives and possibilities for homeless men. 2012.
129. Mission Australia. MISHA from homelessness to sustained housing 2010-2013. 2014. Available from: http://apo.org.au/resource/misha-project-homelessness-sustained-housing-2010-2013
130. Victorian Department of Health. Youth residential rehabilitation services. Available from: https://www2.health.vic.gov.au/mental-health/mental-health-services/services-by-type/mental-health-community-support-services/youth-residential-rehabilitation-services
131. MIND. Youth residential rehabilitation. Available from: https://www.mindaustralia.org.au/need-help/mind-services-in-victoria/mind-victoria/residential-services/youth-residential-rehabilitation.html
132. Assan B, Burchell P, Chia A, Coffey C, Floreani S, et al. The Adolescent Intensive Management Team: an intensive outreach mental health service for high-risk adolescents. Australas Psychiatry. 2008;16(6):423-7.
133. Baier V, Favrod J, Ferrari P, Koch N, Holzer L. Early tailored assertive community case management for hard-to-engage adolescents suffering from psychiatric disorders: an exploratory pilot study. Early Interv Psychiatry. 2013;7(1):94-9.
134. Urben S, Mantzouranis G, Baier V, Halfon O, Villard E, et al. Can the Health of the Nation Outcome Scales for Children and Adolescents predict the necessity of inpatient stay during assertive community treatment? Psychiatry research. 2016;242:345-8.
135. Urben S, Mantzouranis G, Baier V, Halfon O, Villard E, et al. Timing of Clinical Improvement in Assertive Community Treatment for Adolescents: A Pilot Naturalistic Observational Study. Arch Psychiatr Nurs. 2016;30(5):645-6.
136. State Government of Victoria Department of Health. Youth prevention and recovery care (Y-PARC) services framework and operational guidelines. Melbourne: State Government of Victoria; 2010.
137. Government of Western Australia. Youth Axis. Available from: http://www.nmahsmh.health.wa.gov.au/services/youth.cfm
138. Government of Western Australia. YouthLink. Available from: http://youthlink.perthwa.net/services.html ; http://www.nmahsmh.health.wa.gov.au/services/youth.cfm
139. Government of Western Australia. YouthReach South.
140. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, et al. Our future: a Lancet commission on adolescent health and wellbeing. The Lancet. 2016

141. Killaspy H, King M, Wright C, White S, McCrone P, et al. Study protocol for the development of a European measure of best practice for people with long term mental health problems in institutional care (DEMoBinc). BMC Psychiatry. 2009;9:36.
142. Taylor TL, Killaspy H, Wright C, Turton P, White S, et al. A systematic review of the international published literature relating to quality of institutional care for people with longer term mental health problems [Review]. BMC Psychiatry. 2009;9:55.
143. Turton P, Wright C, White S, Killaspy H, Group DE. Promoting recovery in long-term institutional mental health care: an international Delphi study. Psychiatric services (Washington, DC). 2010;61(3):293-9.
144. Killaspy H, Marston L, Omar RZ, Green N, Harrison I, et al. Service quality and clinical outcomes: an example from mental health rehabilitation services in England. British Journal of Psychiatry. 2013;202(1):28-34.
145. Kim T-W, Jeong J-H, Kim Y-H, Kim Y, Seo H-J, et al. Fifteen-month follow up of an assertive community treatment program for chronic patients with mental illness. BMC Health Serv Res. 2015;15:388.
146. Killaspy H, Bebbington P, Blizard R, Johnson S, Nolan F, et al. The REACT study: randomised evaluation of assertive community treatment in north London. BMJ. 2006;332(7545):815-20.
147. Killaspy H, Kingett S, Bebbington P, Blizard R, Johnson S, et al. Randomised evaluation of assertive community treatment: 3-year outcomes. British Journal of Psychiatry. 2009;195(1):81-2.
148. McCrone P, Killaspy H, Bebbington P, Johnson S, Nolan F, et al. The REACT study: cost-effectiveness analysis of assertive community treatment in north London. Psychiatric services (Washington, DC). 2009;60(7):908-13.
149. Killaspy H, Mas-Exposito L, Marston L, King M. Ten year outcomes of participants in the REACT (Randomised Evaluation of Assertive Community Treatment in North London) study. BMC Psychiatry. 2014;14:296.
150. Stobbe J, Wierdsma AI, Kok RM, Kroon H, Roosenschoon BJ, et al. The effectiveness of assertive community treatment for elderly patients with severe mental illness: a randomized controlled trial. BMC Psychiatry. 2014;14(42)
151. Stobbe J, Mulder NC, Roosenschoon BJ, Depla M, Kroon H. Assertive community treatment for elderly people with severe mental illness. BMC Psychiatry. 2010;10(84)
152. Gold PB, Meisler N, Santos AB, Carnemolla MA, Williams OH, et al. Randomized trial of supported employment integrated with assertive community treatment for rural adults with severe mental illness. Schizophr Bull. 2006;32(2):378-95.
153. Sytema S, Wunderink L, Bloemers W, Roorda L, Wiersma D. Assertive community treatment in the Netherlands: a randomized controlled trial. Acta Psychiatr Scand. 2007;116(2):105-12.
154. Huguelet P, Koellner V, Boulguy S, Nagalingum K, Amani S, et al. Effects of an assertive community program in patients with severe mental disorders and impact on their families. Psychiatry And Clinical Neurosciences. 2012;66(4):328-36.
155. Stuen HK, Rugkasa J, Landheim A, Wynn R. Increased influence and collaboration: a qualitative study of patients' experiences of community treatment orders within an assertive community treatment setting. BMC Health Serv Res. 2015;15:409.
156. Brugha TS, Taub N, Smith J, Morgan Z, Hill T, et al. Predicting outcome of assertive outreach across England. Soc Psychiatry Psychiatr Epidemiol. 2012;47(2):313-22.
157. Niazi A, Kelly BD, McEntee K, McDonough C. Community rehabilitation for severe enduring mental illness: a naturalistic, observational study [Letter to Editor]. Ir J Med Sci. 2007;176(4):325-6.
158. Nous Group. Care Coordination v Partners in Recovery. 2012
159. Young MS, Barrett B, Engelhardt MA, Moore KA. Six-month outcomes of an integrated assertive community treatment team serving adults with complex behavioral health and housing needs. Community Ment Health J. 2014;50(4):474-9.
160. O'Brien S, McFarland J, Kealy B, Pullela A, Saunders J, et al. A randomized-controlled trial of intensive case management emphasizing the recovery model among patients with severe and enduring mental illness. Ir J Med Sci. 2012;181(3):301-8.
161. Department of Human Services. Multiple and Complex Needs Initiative (MACNI) - Department of Human Services, Victoria, Australia. Government of Victoria.
162. Leonard A. Multiple and Complex Needs Initiative, Victoria, Australia. Outside In Conference. St John’s, Newfoundland, Canada 2009
163. Western Region Health Centre. Uncovering stories, making meaning: How the Indigo Program delivers assessment and care plan services for Victoria’s Multiple and Complex Needs Initiative (MACNI). Western Region Health Centre; 2013.
164. Hamilton M, Elford K. The report on the five years of the Multiple and Complex Needs Panel August 2009. 2009. Available from: www.dhs.vic.gov.au

165. Department of Human Services. Review of client status post termination from the Multiple and Complex Needs Initiative (MACNI) snapshot study May 2008 – July 2008. Melbourne: Victorian Government; 2009.
166. Department of Human Services. Follow-up review of the impact of the Multiple and Complex Needs Initiative (MACNI) on client progress and the service system: snapshot study, September 2011 – March 2012 -in progress. 2012
167. Department of Human Services. Multiple and Complex Needs Initiative (MACNI), Review of activity in 2011-12, internal document. 2012.
168. Department of Human Services. Evaluation of Multiple and Complex Needs Initiative. Final Report, December 2007. Melbourne: Victorian Government; 2007.
169. Kraner M, Fisher V. The Multiple and Complex Needs Initiative: a coordinated and integrated response. New Paradigm: The Australian Journal on Psychosocial Rehabilitation. 2012;Spring/Summer:34-41.
170. Stergiopoulos V, Dewa CS, Rouleau K, Yoder S, Chau N. Collaborative mental health care for the homeless: the role of psychiatry in positive housing and mental health outcomes. Can J Psychiatry. 2008;53(1):61-7.
171. Davis KE, Devitt T, Rollins A, O'Neill S, Pavick D, et al. Integrated residential treatment for persons with severe and persistent mental illness: lessons in recovery. J Psychoactive Drugs. 2006;38(3):263-72.
172. Beyond hospitalisation - Supported Community Care for Mental Health. Investigation into investment options for improving accommodation support for people with severe mental illness. Synergies Economic Consulting; 2012. Available from: http://www.smhc.org.au/assets/Uploads/2012/August-2012/FINsynergiesreport20120320.pdf
173. Meehan T. Final Evaluation Report of the Queensland Government's Housing and Support Program. Department of Psychiatry (UQ) and Service Evaluation and Research Unit The Park, Centre for Mental Health; 2010.
174. SA Health. Housing and accommodation support partnership (HASP) program: Information for consumers, families and carers. Government of South Australia; 2010
175. SA Health. Fact sheet: Housing and accommodation support partnership (HASP) program. Government of South Australia; 2010
176. SA Health. Supported accommodation. 2010. [Access Date. Available from: http://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/health+reform/mental+health+reform/supported+accommodation
177. SA Health. Housing and Accommodation Support Partnership (HASP) Program: Program Guidelines. Government of South Australia; 2010. Available from: http://www.sahealth.sa.gov.au/wps/wcm/connect/5a50278044fa8cefaa1cebcfa5ded0ab/HASP+PROGRAM+GUIDELINES+2010.pdf?MOD=AJPERES
178. SA Health. Housing and Accommodation Support Partnership (HASP) Program: Service Model. Government of South Australia; 2010. Available from: http://www.sahealth.sa.gov.au/wps/wcm/connect/b701ce0044fa94b7aa52ebcfa5ded0ab/HASP+Service+Model+2010.pdf?MOD=AJPERES&CACHEID=b701ce0044fa94b7aa52ebcfa5ded0ab
179. Health Outcomes International. Evaluation of the Housing and Accommodation Support Partnership Program: Final Report. Health Outcomes International; 2013.
180. Henwood BF, Matejkowski J, Stefancic A, Lukens JM. Quality of life after housing first for adults with serious mental illness who have experienced chronic homelessness. Psychiatry research. 2014;220(1-2):549-55.
181. Clark C, Guenther CC, Mitchell JN. Case Management Models in Permanent Supported Housing Programs for People With Complex Behavioral Issues Who Are Homeless. J Dual Diagn. 2016;12(2):185-92.
182. Carter M. From psychiatric hospital to supported housing: The Neami Community Housing Program, Melbourne, Australia, 1995–2008. Institute for Social Research, Swinburne University of Technology; 2008.
183. Tsemberis S, Kent D, Respress C. Housing stability and recovery among chronically homeless persons with co-occuring disorders in Washington, DC. Am J Public Health. 2012;102(1):13-6.
184. Meehan T, Stedman T, Robertson S, Drake S, King R. Does supported accommodation improve the clinical and social outcomes for people with severe psychiatric disability? The Project 300 experience. Australian & New Zealand Journal of Psychiatry. 2011;45(7):586-92.
185. Mental Health Commission. Supported Accommodation Program Evaluation - Final Report. Government of Western Australia; 2012.
186. Rivera JJ, Sullivan AM, Valenti SS. Adding consumer-providers to intensive case management: does it improve outcome? Psychiatric services (Washington, DC). 2007;58(6):802-9.

187. McInerney SJ, Finnerty S, Avalos G, Walsh E. Better off in the community? A 5-year follow up study of long-term psychiatric patients discharged into the community. Soc Psychiatry Psychiatr Epidemiol. 2010;45(4):469-73.
188. Health Outcomes International. Evaluation of the Individual Psychosocial Rehabilitation & Support Services (IPRSS) Program. Final Report. Health Outcomes International; 2011. Available from: http://www.sahealth.sa.gov.au/wps/wcm/connect/d03c5c004c3ed23d9066b4e408a887aa/IPRSS+Final+Report+-+for+distribution.pdf?MOD=AJPERES
189. Abelló D, Fisher KF, Sitek T. Evaluation of the Integrated Rehabilitation and Recovery Care Program. Social Policy Research Centre University of New South Wales; 2010. Available from: http://observgo.uquebec.ca/observgo/fichiers/48461_rehabilitation_recovery_report.pdf
190. Department of Human Services Victoria. An analysis of the Victorian rehabilitation and recovery care service system for people with severe mental illness and associated disability: Project report. Melbourne, VIC: Victorian Government Department of Human Services; 2007
191. Salkever DS, Gibbons B, Drake RE, Frey WD, Hale TW, et al. Increasing earnings of social security disability income beneficiaries with serious mental disorder [Abstract only]. J Ment Health Policy Econ. 2014;17(2):75-90.
192. Salkever D, Gibbons B, Ran X. Do comprehensive, coordinated, recovery-oriented services alter the pattern of use of treatment services? Mental health treatment study impacts on SSDI beneficiaries' use of inpatient, emergency, and crisis services. Journal of Behavioral Health Services & Research. 2014;41(4):434-46.
193. Healthcare Planning and Evaluation. Evaluation of Support for Day to Day Living in the Community: A structured activity program: Final Report. South Australia: Department of Health and Ageing; 2010.
194. Barr W, Brown A, Quinn B, McFarlane J, McCabe R, et al. How effective is high-support community-based step-down housing for women in secure mental health care? A quasi-experimental pilot study. J Psychiatr Ment Health Nurs. 2013;20(1):41-9.
195. Sato S, Ikebuchi E, Anzai N, Inoue S. Effects of psychosocial program for preparing long-term hospitalized patients with schizophrenia for discharge from hospital: randomized controlled trial. Psychiatry Clin Neurosci. 2012;66(6):474-81.
196. Bredski J, Watson A, Mountain DA, Clunie F, Lawrie SM. The prediction of discharge from in-patient psychiatric rehabilitation: a case-control study. BMC Psychiatry. 2011;11:149.
197. Killaspy H, Cook S, Mundy T, Craig T, Holloway F, et al. Study protocol: cluster randomised controlled trial to assess the clinical and cost effectiveness of a staff training intervention in inpatient mental health rehabilitation units in increasing service users' engagement in activities. BMC Psychiatry. 2013;13:216.
198. Killaspy H, Marston L, Green N, Harrison I, Lean M, et al. Clinical effectiveness of a staff training intervention in mental health inpatient rehabilitation units designed to increase patients' engagement in activities (the Rehabilitation Effectiveness for Activities for Life [REAL] study): single-blind, cluster-randomised controlled trial. The Lancet. 2015;Psychiatry. 2(1):38-48.
199. Lean M, Leavey G, Killaspy H, Green N, Harrison I, et al. Barriers to the sustainability of an intervention designed to improve patient engagement within NHS mental health rehabilitation units: a qualitative study nested within a randomised controlled trial. BMC Psychiatry. 2015;15:209.
200. Bhanbhro S, Gee M, Cook S, Marston L, Lean M, et al. Recovery-based staff training intervention within mental health rehabilitation units: a two-stage analysis using realistic evaluation principles and framework approach. BMC Psychiatry. 2016;16:292.
201. Grinshpoon A, Naisberg Y, Weizman A. A six-month outcome of long-stay inpatients resettled in a hostel. Psychiatr Rehabil J. 2006;30(2):89-95.
202. Killaspy H, Marston L, Green N, Harrison I, Lean M, et al. Clinical outcomes and costs for people with complex psychosis; a naturalistic prospective cohort study of mental health rehabilitation service users in England. BMC Psychiatry. 2016;16:95.
203. Killaspy H, Zis P. Predictors of outcomes for users of mental health rehabilitation services: a 5-year retrospective cohort study in inner London, UK. Soc Psychiatry Psychiatr Epidemiol. 2013;48(6):1005-12.
204. Ryu Y, Mizuno M, Sakuma K, Munakata S, Takebayashi T, et al. Deinstitutionalization of long-stay patients with schizophrenia: the 2-year social and clinical outcome of a comprehensive intervention program in Japan. Australian & New Zealand Journal of Psychiatry. 2006;40(5):462-70.
205. Nemoto T, Niimura H, Ryu Y, Sakuma K, Mizuno M. Long-term course of cognitive function in chronically hospitalized patients with schizophrenia transitioning to community-based living. Schizophr Res. 2014;155(1-3):90-5.
206. Gamble K, Abate S, Seibold M, Wenzel K, Ducharme J. Promoting readiness for discharge for long-term state hospital residents. Psychiatr Rehabil J. 2011;35(2):133-6.
207. Chan H, Inoue S, Shimodera S, Fujita H, Fukuzawa K, et al. Residential program for long-term hospitalized persons with mental illness in Japan: Randomized controlled trial. Psychiatry Clin Neurosci. 2007;61(5):515-21.

208. Ribeiro RB, Tully J, Fotiadou M. Clinical characteristics and outcomes on discharge of women admitted to a Medium Secure Unit over a 4-year period. Int J Law Psychiatry. 2015;39:83-9.

209. McGrew JH, Danner M. Evaluation of an intensive case management program for transition age youth and its transition to assertive community treatment. American Journal of Psychiatric Rehabilitation. 2009;12(3):278-94.

8 Appendices

Appendix 1. Search Strategy

Below is the search strategy used for OVID MEDLINE. Based on this search, the search strategies were revised for each database in accordance with its terminology and syntax requirements.

Sub-Component 1: Mental Health Conditions

1. exp Mental Disorders/ec, ed, eh, lj, nu, pc, px, rh, st, sn, tu, th [Economics, Education, Ethnology, Legislation & Jurisprudence, Nursing, Prevention & Control, Psychology, Rehabilitation, Standards, Statistics & Numerical Data, Therapeutic Use, Therapy]
2. exp Mentally Disabled Persons/ed, lj, px, rh, sn [Education, Legislation & Jurisprudence, Psychology, Rehabilitation, Statistics & Numerical Data]
3. exp Mentally Ill Persons/lj, px, rh, sn [Legislation & Jurisprudence, Psychology, Rehabilitation, Statistics & Numerical Data]
4. exp Psychotic Disorders/ec, ed, lj, nu, pc, px, rh, sn, th [Economics, Education, Legislation & Jurisprudence, Nursing, Prevention & Control, Psychology, Rehabilitation, Statistics & Numerical Data, Therapy]
5. exp Schizophrenia/ec, eh, lj, nu, pc, px, rh, sn, th [Economics, Ethnology, Legislation & Jurisprudence, Nursing, Prevention & Control, Psychology, Rehabilitation, Statistics & Numerical Data, Therapy]
6. exp Affective Disorders, Psychotic/ec, eh, nu, pc, px, rh, th [Economics, Ethnology, Nursing, Prevention & Control, Psychology, Rehabilitation, Therapy]
7. exp "Diagnosis, Dual (Psychiatry)"/ec, mt, nu, px, st, sn [Economics, Methods, Nursing, Psychology, Standards, Statistics & Numerical Data]
8. exp Bipolar Disorder/ec, eh, nu, pc, px, rh, sn, tu, th [Economics, Ethnology, Nursing, Prevention & Control, Psychology, Rehabilitation, Statistics & Numerical Data, Therapeutic Use, Therapy]
9. exp Personality Disorders/ec, eh, nu, pc, px, rh, th [Economics, Ethnology, Nursing, Prevention & Control, Psychology, Rehabilitation, Therapy]
10. exp Psychoses, Substance-Induced/ec, eh, nu, pc, px, rh, th [Economics, Ethnology, Nursing, Prevention & Control, Psychology, Rehabilitation, Therapy]
11. exp Substance-Related Disorders/ec, ed, eh, lj, mt, nu, pc, px, rh, st, sn, th [Economics, Education, Ethnology, Legislation & Jurisprudence, Methods, Nursing, Prevention & Control, Psychology, Rehabilitation, Standards, Statistics & Numerical Data, Therapy]
12. exp Alcohol-Related Disorders/ec, eh, nu, pc, px, rh, th [Economics, Ethnology, Nursing, Prevention & Control, Psychology, Rehabilitation, Therapy]
13. exp Dementia/ec, eh, lj, nu, pc, px, rh, sn, th [Economics, Ethnology, Legislation & Jurisprudence, Nursing, Prevention & Control, Psychology, Rehabilitation, Statistics & Numerical Data, Therapy]
14. exp Intellectual Disability/ec, eh, lj, nu, pc, px, rh, sn, th [Economics, Ethnology, Legislation & Jurisprudence, Nursing, Prevention & Control, Psychology, Rehabilitation, Statistics & Numerical Data, Therapy]
15. **or/1-14**

Sub-Component 2: Models of Care and Services/Interventions

16. exp Mental Health Services/ OR exp Community Psychiatry/ OR exp Community Health Services/ OR exp Residential Facilities/ OR exp Residential Treatment/ OR exp Adolescent Health Services/ OR exp Health Services for Persons with Disabilities/ OR exp Health Services for the Aged/ OR exp Health Services, Indigenous/ OR exp Nursing Care OR Nursing Services/ OR exp Patient Care/ OR exp Preventive Health services/
17. exp Delivery of Health Care/ OR exp Delivery of Health Care, Integrated/ OR exp Patient Care Management OR exp Quality of Health Care OR exp Continuity of Patient Care/ OR exp Referral and Consultation/ OR (model* of care OR care model* OR service delivery model OR institutionali* OR de-institutionali* OR transition* OR discharge OR stepped care OR shared care OR collaborative care OR community care OR integrated care OR case management).tw.

18. exp Rehabilitation/ OR (psychosocial rehabilitation OR recovery-based OR recovery based OR recovery-orient* OR recovery orient*).tw.
19. exp Home Care Services/ OR (home based outreach OR outreach service* OR assertive community treatment).tw.
20. exp Social Work/ OR exp Social Welfare/ OR exp Social Work, Psychiatric/ OR exp Social support/
21. exp Employment, supported/ OR (supported employment OR individual placement and support OR competitive employment OR vocational rehabilitation OR employment assistance OR supported education).tw.
22. exp Housing/ OR (support* housing OR housing first OR staffed housing OR residential support OR staffed residen* OR 24 hour supported community OR twenty-four hour supported community OR residen* rehabilitation OR support* accommodation).tw.
23. exp Occupational Health Services/
24. exp Criminal Law/ OR exp Prisons/
25. exp Family/ OR family involvement.kw. OR (family psycho-education OR family psychoeducation OR family education OR multiple family groups OR family involvement OR family support).tw.
26. exp Cognitive Therapy/ OR exp Psychotherapy/ OR exp Behavior Therapy/ OR (cognitive behavioral therapy OR cognitive behavioural therapy OR CBT OR cognitive remediation).tw.
27. exp Self care/ OR (psychoeducation OR psycho-education OR self-management or personal* support* OR self-help group OR personal* assistance OR peer support* OR peer group OR peer led OR care co-ordinators OR care coordinators).tw.
28. exp Social skills/ OR exp Social adjustment/ OR (social skills OR social functioning OR social network OR social skills training OR social cognition training OR skills training).tw.
29. exp Harm reduction/ OR harm reduction.tw.
30. (early intervention OR priority intervention OR mental health triage OR illness management OR relapse prevention OR wellness recovery action plan).tw.
31. exp Adolescent Psychiatry/ OR exp Forensic Psychiatry/ OR exp Community Psychiatry/ OR exp Geriatric Psychiatry/
32. **or/16-31**

Sub-Component 3: Complex Needs

33. exp Long-term care/ OR (long term OR long-term).tw. OR (long stay OR long-stay).tw. OR medium-term.tw. OR medium-stay.tw.
34. step-down.tw. OR secure.tw.
35. severe.tw. OR severe and enduring.tw.
36. chronic.tw. OR enduring.tw.
37. (complex care or complex need*).tw.
38. ("high level" and (disabilit* OR need*)).tw.
39. **or/33-38**

Sub-Component 4: Outcome Measures

40. exp Quality of Life/ OR quality of life.tw.
41. exp Patient Readmission/ OR exp Patient Admission/ OR readmission.tw. OR readmit*.tw. OR admission.tw. OR admit*.tw.
42. exp Activities of Daily Living/ OR activities of daily living.tw.
43. exp Homeless Persons/ OR exp Homeless Youth/ OR homeless.tw.
44. exp Crime/ OR recidivism.tw. OR return to prison.tw. OR custody.tw.
45. exp Occupations/ OR exp Return to Work/ OR vocation.tw. OR return to work.tw. OR return-to-work.tw. OR back to work.tw. OR back-to-work.tw.
46. exp Health Behavior/ OR exp Risk Reduction Behavior/ OR exp Life Style/ OR exercise.tw. OR tobacco.tw. or diet.tw.
47. exp Patient Satisfaction/ OR patient satisfaction.tw. OR consumer satisfaction.tw.
48. **or/40-48**

Combined

49. **and/15,32,39.48**

Limits

50. **limit 49 to (English language and humans and yr="2006 -Current")**

Appendix 2. Study Characteristics of Included Programs

8.1.1 Intensive Case Management and Assertive Community Treatment Models

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
ACT Case Management - Suwon, Gyeonggi do, Korea • Team leader and a psychiatrist working within a multidisciplinary team approach involving team meetings, registration information, 24h availability, crisis intervention services, night services, in-field services, individualised service, and family support. • Each team consisted of 1 nurse, 1 social worker, and a team leader for individualised care. • Psychiatrist = leader of the whole program • Social worker provided information and helped participants apply for occupational rehabilitation opportunities. • Maximum case manager-patient ratio = 1:5. • Team meetings every morning for case management and treatment planning to share and discuss patient information and maintain the program. • A case manager in a designated community identified probable participants, collected patient information, and reported at the team meeting. The team then decided whether the patient was eligible for registration. After the patient was assigned to a certain team, the case manager and team leader collected more detailed information on the patient, and an individualised treatment plan with individualised objectives was compiled within 1 month.	Kim 2015 [145] **Study design** • Matched intervention trial: ACT vs. case management **Study quality** Moderate quality • Matched intervention • Small sample size • Direct comparison of psychiatric symptoms, global functioning, life satisfaction and recovery • Prospectively gathered data **Study sample** • N=64 (32 ACT; 32 age-, sex- and MI-matched controls with standard case management) • Patients at Suwon Mental Health Centre **Inclusion criteria:** • Age 18-60 years • Have complicated medication, housing, or occupational problems, or legal or familial problems; • Have diagnosis of schizophrenia, bipolar	**At 15-month follow up:** • ACT group showed a significant reduction in symptom severity, but the ACT program was not significantly more effective at reducing psychiatric symptoms from baseline to the 15-month follow-up compared to the case management approach. • ACT group showed more significant improvement than the control group in functioning (GAF Scale). • Both groups showed no significant differences in the change of life satisfaction and in the change of recovery-promoting relationships. • Control group had a significant increase in recovery-promoting relationships, but the degree of change of recovery-promoting relationships through time flow between groups was not significantly different.

---

[13] Note that the study is named as the first author and publication year of the first and/or main study report (e.g., Killaspy 2006 is a study with several publications, some of which are led by other co-researchers but the 2006 publication is considered the first and main report). This applies to all of the tables in Appendix 2.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
- This approach involved continuous case management, monitoring through team meetings, evaluations, and plan revisions as needed. All services were designed to take place in a patient's home or community and could occur on a 24 h/day, 365 days/year basis. Patients were able to contact the case management team via the personnel on night duty and could make phone contact during holidays for purposes of crisis intervention. At the time of ACT program registration, we tried to encourage the participation of family members, patients' physicians, public organisations, neighbours, and employers. Regular evaluations of the program and efforts to facilitate team core competencies through education and consultations were ongoing. As the case manager completed the scales used in this study, these data were not obtained from independent sources **Control: Case management:** - To enhance treatment compliance and provide crisis interventions, in-field services, individualised services, family support, occupational rehabilitation, and financial and legal support. → Not provided by a team; instead, 1 case manager provided short-term services on an as-needed basis. - Case manager-patients ratio = 1:45.	disorder, or major depressive disorder **Sample Characteristics** - Mean age 40.88±10.42 years for ACT group; 42.03±8.35 for control - >65% male - 87.5% with schizophrenia, 6.3% with bipolar and 6.3% with major depression	
ACT Team (REACT Study), London, UK - Total team case load: 80-100 - Maximum individual case load: 12 - Availability: Extended hours (0800 to 2000 every day) - Locations for appointments: Not office based ("in vivo"): meet client at home, in cafes, parks, etc.	Killaspy et al. 2006 [32, 146-149] **Study design** - RCT of ACT vs. CMHT **Study quality** High quality	**At 18-month follow up:** - No significant differences were found inpatient bed use (length of stay, # admissions), clinical or social outcomes between ACT and CMHT - All ratings of satisfaction were higher for clients assigned to assertive community treatment, and

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
• Contact with clients: Assertive engagement: multiple attempts, flexible and various approaches (for example, befriending, offering practical support, leisure activities) • Commitment to care: "No drop-out" policy: continue to try to engage in long term care • Case work style: Team approach - all team members work with all clients • Frequency of team meetings: Frequent (up to daily) to discuss clients and daily plans • Source of skills: Team rather than outside agencies as far as possible **Control: Community Mental Health Team (CMHT)** • Total team case load: 300-350 • Maximum individual case load: 35 • Availability: Office hours only (0900-1700 Mon-Fri) • Locations for appointments: Office based appointments and home visits • Contact with clients: Offer appointments at office or make home visits • Commitment to care: Discharge if unable to make or maintain contact • Case work style: Case management - little "sharing" of work with clients between team members • Frequency of team meetings: Weekly • Source of skills: "Brokerage": referral to outside agencies for advice (for example, social security benefits, housing)	• Non-blind RCT • Direct comparison of inpatient bed use 18- and 36-months after randomisation, symptoms, social function, client satisfaction, and engagement with services • Prospectively gathered data • Large sample size • Low possibility of reporting bias (CONSORT) **Study sample** N=251 (127 ACT; 124 CMHT) **Inclusion criteria** • Living in independent or low supported accommodation within the two London boroughs (Camden and Islington) • Under the care of the community mental health team for at least 12 months and identified as having difficulty engaging with standard community care; • Primary diagnosis of SMI (e.g. schizophrenia, schizoaffective disorder, other chronic psychosis, bipolar affective disorder) • Recent high use of inpatient care (at least 100 consecutive inpatient days or at least 5 admissions within the past 2 years or at least 50 consecutive inpatient days or at least 3 admissions within the past year) • Individuals with concurrent problems from substance misuse or personality disorder were eligible if these were secondary diagnoses. We excluded patients with organic brain damage **Sample characteristics**	total satisfaction scores were significantly greater (effect size 0.35 SD) **At 3-year follow up:** • N=237 (120 ACT vs. 117 CMHT) • Based on intention-to-treat analysis, no significant differences were found in total inpatient days • Repeat analyses excluding the 40 cross-transferred clients showed no difference in results • ACT group were more satisfied and better engaged with services than CMHT group **Cost** • While follow up costs were higher for ACT by £4,031 than CMHT, it was not statistically significantly higher than CMHT • Cost-effectiveness analysis based on satisfaction, a one-unit increase in satisfaction was associated with increased costs of £473 • Conclusion: ACT seems to be the preferred option in the absence cost differences **At 10-year follow up:** • N=203 (99 ACT vs. 104 CMHT) • No significant differences were found in any outcomes between ACT and CMHT groups.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	- 58% male - Mean age 38 for ACT and 40 for CMHT - 54% Caucasian, 36% African Caribbean, 10% Other - At 3-year follow up: - 20 of ACT were transferred back to CMHT and 20 of CMHT had been transferred to ACT team. - At 10-year follow up: - 37 remained in ACT group throughout (43 of ACT were transferred back to CMHT, 8 discharged to primary care, 4 transferred to forensic services, 4 transferred to CMHT and then back to ACT, 3 transferred to CMHT in another area) - 47 remained in CMHT group throughout (23 transferred to ACT group, 19 discharged to primary care, 2 transferred to forensic services, 7 transferred to ACT then back to CMHT, 6 transferred to CMHT in another area) - Loss to follow up: In ACT group, 20 died, 6 migrated and 2 were lost to follow up whereas in CMHT group, 17 died and 3 migrated.	
ACT-Elderly - Rotterdam, Netherlands - Based on ACT Manual for adults - Assertive engagement, a small caseload (maximum of 10 patients per clinician); shared caseload (i.e. all clinicians collaborated closely on each patient using 1 treatment plan); and community-based and assertive services on a time-unlimited basis - Staffed by a substance-abuse specialist, a rehabilitation worker, a social worker, a psychiatric	Stobbe 2014 [150, 151] **Study design** - RCT: ACT vs. TAU **Study quality** Moderate quality - RCT - Direct comparison of number of patients who had a first treatment contact within 3 months,	- 26 were lost to follow-up (10 patients in ACT and 16 in TAU). Relative to patients with TAU, more patients allocated to ACT had a first contact within 3 months (96.9 versus 66.7%). - ACT group had fewer dropouts from treatment (18.8%) compared to TAU group (50%). - Both groups had significant improvements in psychosocial functioning but did not differ between groups.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
nurse, a nurse specialised in somatic care, a community mental health nurse and a psychiatrist (the last two were both specialised in treating elderly people). **Control: Treatment as Usual (TAU)** • Provided by 3 community mental health teams for elderly patients (2 for patients with primary psychiatric disorders, and 1 for patients with cognitive disorders) • The teams provided regular mental health services, including psychiatric care on an outreach basis. Various disciplines (including community mental health nurses, a psychiatrist, and a psychologist) were individually responsible for the patients and their treatment plans (no shared caseload); their caseload was relatively high (more than 25 patients per practitioner). All clinicians were specialised in treating elderly people.	the number of dropouts (i.e. those discharged from care due to refusing care or those who unintentionally lost contact with the service over a period of at least 3 months); and patients' psychosocial functioning (HoNOS65+ scores) during 18 months' follow-up, number of unmet needs and mental health care use. • Analyses were based on intention-to-treat. • Prospectively gathered data • Small sample size • Low possibility of reporting bias (CONSORT) **Study sample** • N=62 (32 ACT-E; 30 TAU) • Adults aged 65 and older with SMIs **Inclusion criteria:** • Presumption of a mental disorder (e.g. schizophrenia spectrum disorders or major affective disorders), a lack of motivation for treatment and at least 4 suspected problems with functioning (addiction, somatic problems, daily living activities, housing etc.) • 'difficult to engage' patients managed by 1 ACT team of Bavo Europoort Centre **Sample characteristics** • 42% male, mean age 75 years • 35% with schizophrenia, 13% with mood disorder, 18% with cognitive impairment • 27% with history of psychiatric admission	• There were no differences in the other primary and secondary outcome variables. • Medication changes occurred more frequently in the ICM group (44% vs. 31% in TAU) but the difference was not statistically significant. • ISM group had substantially greater frequency of service use with an average of 12.3 contacts in ICM group vs. 4.9 contacts in TAU group
ACT-Illness Management and Recovery	Salyers 2010 [39] **Study design**	**Program Fidelity** • All four ACT teams maintained good fidelity

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
(ACT-IMR) – Indiana, USA Illness management and recovery (IMR) • IMR a curriculum-based approach to helping consumers set and achieve personal recovery goals and acquire the knowledge and skills to manage their illnesses independently. • The IMR program incorporates 5 main types of evidence-based techniques for improving illness self-management: psychoeducation, cognitive-behavioural approaches to medication adherence, relapse prevention, social skills training (e.g. to enhance social support), and coping skills training (e.g. for persistent symptoms). • Treatment sessions are provided individually or in small groups and typically last about an hour. These sessions are usually held weekly over a 10-month period and cover 10 modules, each taught sequentially. • Each module includes an educational handout that summarises the main points of the topic and includes checklists and worksheets to enhance learning. • Material is taught using a combination of educational techniques, motivational interventions, and cognitive-behavioural techniques to help consumers manage their illness. Integration of ACT and IMR • IMR was integrated by adding an IMR specialist on the team who would function like other specialists on the ACT team (i.e. substance abuse specialist, vocational specialist), working directly with interested consumers to learn and apply the IMR materials and teaching the	• RCT of ACT+IMR vs. ACT **Study quality** Low to moderate quality • 2/4 ACT Teams were randomly assigned to implement IMR • Medium sample size (N=122 for final analysis, with no explanation on the losses to follow up) • Poor implementation of interventions. **Study sample** • N= 324 (183 ACT-IMR vs. 141 ACT); data available variable across measures. **Inclusion criteria** • Clients of one of four ACT Programs included in this study. • ACT admission criteria, including having schizophrenia, bipolar disorder, or other major mood disorder (DSM-IV) • Extended or frequent hospitalisations, use of emergency services or criminal justice involvement. **Sample characteristics** • Mean age 42 years, 54% male • 8% African American, 76% Caucasian, 16% Other (*significantly higher African Americans in the ACT-IMR group -11.5% vs. 4.3%) • 17.6% affective disorder, 56% psychosis, 8% other.	throughout the study period. **2-year follow up** • No significant differences were found in any of the outcomes of interest (employment status, employment days, incarceration, homelessness, hospitalisation, hospital days, independent housing and substance abuse treatment). • The lack of impact seems to or could be due in large part to implementation and penetration issues of the IMR program. **Experiences of IMR** • Centre A hired a part-time peer specialist in August 2004 and had one other master's level clinician trained in IMR. However, the clinician lost interest so the team leader, also a master's level clinician, trained and started providing IMR. In June 2005, the original peer specialist left her position. A second part-time peer specialist was hired in August 2005 and continued to work as an ACT team member and IMR specialist past the end of the study. • Centre B hired 1 part-time peer specialist and trained 2 additional clinicians (one PhD level psychologist and 1 master's level therapist) to be the IMR specialists for the team. The original peer specialist was hired in July 2004 and continued to be a member of the team past the end of the study. Near the end of the study, the master's level clinician transferred to a different program within the agency and no longer provided IMR services.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
other ACT team members about the model so that the entire team could support the Intervention • A half-time peer specialist position was added to each of the two ACT–IMR teams. Each team also had 1 clinician receive IMR training to serve alongside the peer specialist as an IMR practitioner. • Control: ACT • Following Indian State ACT Standards which mandate teams to consist of a master's level team leader and other particular specialists (e.g. at least 1 registered nurse, a vocational specialist), and provide particular services (e.g. symptom management, crisis assessment and intervention)		**Penetration of IMR in the ACT-IMR Programs** • At Centre A, 19 (34.5%) of the participants had received at least some IMR: 12 were active, 6 had dropped out, and 1 participant had requested a ''break'' from IMR. No clients at Centre A had completed the entire IMR curriculum. Although the ACT–IMR programs had higher penetration rates than controls, rates were still quite low. • Centre B: 28 (21.9%) participants received at least some IMR services; 7 had graduated (i.e., completed the entire IMR package), 10 were currently enrolled, 5 were enrolled but not currently active in IMR, and 6 had dropped out. • Overall, 47 (25.7%) had some IMR exposure and only 7 (3.8%) completed the IMR program during the study period.
ACT-Individual Placement Support – **South Carolina, USA** • A staff profile typical of rural ACT teams: 1 psychiatrist, 1 Masters-level clinician, 2 Bachelors-level registered nurses, and 2 Bachelors level case managers. • The IPS sub-team consisted of a Masters-level social worker, who led the ACT-IPS program, and 2 Bachelor-level employment specialists. An administrative assistant handled logistics for the entire program. • To tightly integrate vocational and mental health services, the sub-team met daily together as a full program to allocate tasks to each IPS specialist and ACT staff member; formulate treatment plans emphasizing employment goals according to each participant's preferences, strengths, and weaknesses;	Gold 2006 [152] **Study design** • RCT of ACT-IPS vs. parallel vocational and mental health service. **Study quality** Moderate quality • RCT • Direct comparison of competitive work outcomes for adults with SMI. • Prospectively gathered data over 24 months • Medium sample size • Low possibility of reporting bias (CONSORT). **Study sample**	**At 24-month follow up** • More ACT-IPS participants held competitive jobs (64 versus 26) and earned more income (median [Mdn] = US$549 vs. Mdn = US$0) than comparison participants. • The competitive work outcomes of this rural ACT-IPS program closely resemble those of urban vocational rehabilitation programs.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
select a mix of services tailored for each participant's work goals; and update each participant's single unified treatment record. - The ACT sub-team operated as a ''generalist'' (i.e., interdisciplinary) team according to ACT model standards. All staff provided all services, except vocational services, which became the responsibility of the IPS sub-team, and specific services limited by licensure to specific professionals. They shared responsibility for every participant's welfare and sought to form strong working alliances between each participant and the entire ACT-IPS program. To minimise harm from acute illness episodes, the sub-team maintained a very low staff/participant ratio (1:10) and was available on call 24 hours every day. No predetermined time limits were placed on service eligibility, regardless of relapse or treatment plan non-adherence. - The IPS sub-team adhered to IPS model standards. Employment specialists assessed each participant's past work experiences, current skills, and tolerance for type and intensity of job demands. Participants chose which jobs to pursue, although specialists strongly urged competitive jobs over work-adjustment experiences in protected settings. Together participants and specialists searched for competitive job openings and/or agreed to placement into new jobs ''developed'' jointly by specialists and local employers. Specialists provided time-unlimited support before, during, and after periods of employment. Like ACT staff, they shared responsibility for meeting every participant's employment goals.	- N=143 **Inclusion criteria** - Age ≥18 years - SPMI based on diagnosis, illness duration and level of disability - Unemployed at study entry - Current and/or future interest in competitive employment. **Sample characteristics** - 77% African American - 69% schizophrenia	

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
Control: Traditional Vocational Rehabilitation (VR) - Parallel traditional vocational rehabilitation program and mental health/case management services - To reduce difference with ACT-IPS group, 2 Bachelor level case managers were allocated to this group to service only the VR group, at a staff-participant ration not to exceed 1:30.		
ACT– Netherlands - Conducted in a small town (rural setting) in north-eastern Netherlands. - ACT Team comprised of staff from each of the units providing mental health care in the setting (see TAU) working in the ACT Team 50% of the time and the other 50% continuation in usual responsibilities. Team leader was the only person working full time on the ACT Team. - Available during office hours only (which is usual in rural ACT Teams). - The central 24-h service is available for ACT patients when necessary and operates in close collaboration with the ACT team according to an emergency protocol. - Two key mandates of ACT: treat SMI in need of	Sytema 2007 [153] **Study design** - RCT of ACT vs. TAU **Study quality** Moderate quality - RCT - Direct comparison of sustained contact; housing stability and admission days - Prospectively gathered data over 24 months - Medium sample size - Low possibility of reporting bias (CONSORT). **Study sample** - N= 118 (59 ACT vs. 59 TAU) **Inclusion criteria**	**Patient outcomes – (Comparison of 1 year prior to study entry vs. end of study period – range 15-24 months depending on date of entry)** - ACT group had significant increase in the mean number of face-to-face outpatient contracts per month (2.2 contracts pre-ACT vs. 4.8 after ACT) and had significantly greater increase than the control group (2.2 contracts at baseline vs. 1.8 at follow up in TAU group). - Similarly, ACT group significant increase in the mean number of home-based outpatient contracts per month (0.5 contracts pre-ACT vs. 4.3 after ACT) and had significantly greater increase than the control group (0.1 contracts at baseline vs. 0.6 at follow up in TAU group). - No differences were found over time or between groups in mean number of inpatient days per

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
intensive treatment and stabilised SMI patients with less intensive care is sufficient. - Fidelity: Good fidelity on both team structure and team organisation. - Daily team meetings for those available on the day and weekly meetings for all team members to discuss clients. - All contacts with patients occur outside office where the client is – home, clubhouse, in town). **Control: TAU** - Standard community mental health care: inpatient clinic with open and closed wards, sheltered housing, outpatient clinic, community mental health teams and 24-h crisis intervention services	- SPMI [Health of the Nation Outcome Scales (HoNOS) total score ≥ 15] **Sample characteristics** - Mean age 41 years; 67% male - Mean years in treatment 8.3 years - 52% with schizophrenia, 14% delusional disorder, 8% psychosis not otherwise specified, 3% bipolar affective, 14% with major depression - 45% living alone, 27% with family or partner, 17% in sheltered home, 3% in long-term inpatient care, and 7% homeless.	month or admission rates. - ACT was therefore significantly better in sustaining contact with patients, but not in reducing admission days. - No differences in housing stability, psychopathology, social functioning or quality of life were found. - ACT group had a significantly reduction in psychiatric symptoms than TAU group (Brief Psychiatric Rating Scale) and improvements in unmet needs (Camberwell Assessment of Needs), but not on quality of life (Manchester Short Assessment of Quality of Care), alcohol or drug abuse risk (Dartmouth Assessment of Lifestyle Instrument) or client satisfaction (Client Satisfaction Questionnaire).
Assertive Community Treatment - Geneva, Switzerland - Fidelity to the ACT model was assessed using the Dartmouth index with a score of 3.82 corresponding to a moderate degree of implementation. - The multidisciplinary team comprises 3 FTE nurses, 1 FTE social worker, 1 FTE psychologist and 0.5 FTE psychiatrists. - Key characteristics: home-based interventions, a 1:10 caseload ratio, 5 working days per week, individual caseloads with team backup, assertive outreach and focus on engagement, and systematic contact with relatives and other caregivers.	Huguelet 2012 [154] **Study design** - Pre-post evaluation of ACT treatment **Study quality** Moderate quality - Low possibility of reporting bias (STROBE) - Direct assessment of symptoms, social functions, quality of life, work alliance, drug use and recovery from mental illness. - Prospectively gathered data - No comparison group - Small sample size **Study sample**	**Patient outcomes (pre- vs. post treatment period)** - Mean number and time of intervention per individual was 80.9 interventions and 3700 minutes, respectively, for the whole follow-up period. - Significant improvements were seen in psychiatric symptoms (BPRS – global and all subscales), social functions (HoNOS & MCAS), quality of life (WHOQoL), work alliance (Work Alliance Inventory), drug use (Drug Use Scale), and recovery from mental illness (RAS). - Younger age was associated with greater improvements on psychiatric symptoms. Older patients, most of whom were suffering from delusional disorders, showed no improvement or even deterioration in outcome in some cases.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	• N=55 **Inclusion criteria** • Patients with SPMI (heavy use of psychiatric care, repeated hospitalisation or failure to link with outpatient psychiatric care) • Emphasis on frequently hospitalised patients (‘revolving-door’ patients), patients living with their parents, persistent symptoms but not acute enough to warrant involuntary admission and who are not generally reached by care providers and homeless patients. • Receiving ACT treatment for ≥3 months **Sample characteristics** • Mean age 41 years, 44% female, • 32% non-Swiss; 14.6% non-Caucasian • 30.9% paranoid schizophrenia, 12.7% schizophrenia (undifferentiated type), 25.5% other psychotic disorders, 7.3% schizoaffective, 23.6% bipolar and major depressive disorder. • 32.7% with one Axis I or II comorbidities, 20% with two, and 27.3% with current comorbid substance abuse/dependence. • Mean age at disorder onset was 24 years • Mean # hospitalisations pre-ACT was 6.9. • Mean LoS pre-ACT was 211 days; mean LoS in preceding year was 55.4 days. • Family characteristics (n=21) • 77% women; 64% was the parent, mean age 51 years.	• But not for alcohol use (Alcohol Use Disorder), medication compliance (Medication Adherence Rating Scale) **Family Outcomes** • Significant reduction workshop seen in financial burden and costs to the family during the treatment period. • The frequency and level of inconvenience of assistance in daily life was also significantly less after treatment. • Family psychiatric symptoms (Psychiatric Symptoms Index) were also significantly less for family members after the ACT intervention.
Assertive Community Treatment programs - Norway	Clausen 2016 [13, 14, 155]	**Comparison of high vs. low inpatient service use**

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
• ACT fidelity measured using the Tool for Measurement of Assertive Community Treatment (TMACT) at 12 and 30 months after the team was established. • On a scale of 1 (not implemented) to 5 (fully implemented), meant TMACT scores ranged from 2.7-3.7 at 12 months (low – moderate fidelity) and 3.1-4.1 (moderate to high fidelity) at 30 months. • At sub-scale level at 30-months, level of implementation fidelity was: ○ Low for specialist team (including substance use, vocational and peer specialists) ○ Moderate for core practice, evidence-based practice and person-centred planning and practices ○ High for organisation and structure and core team (including team leader, nursing staff and psychiatric care provider)	**Study design** • Naturalistic observational study of 12 ACT programs **Study quality** Low-to-moderate quality • Low possibility of reporting bias (STROBE) • Direct assessment of symptoms, social functions, quality of life, work alliance, drug use and recovery from mental illness. • Prospectively gathered data • No comparison group • Medium sample size • Clinician-rated and self-reported questionnaires • Hospitalisation data from Norwegian Patient Register 2 years pre- and post-enrolment. **Study sample** • N=142 (74 high users, 68 low users) • Patients from 12 different ACT teams throughout Norway (of whom 74 (52 %) were high users of inpatient services before ACT) **Inclusion Criteria** • 18 years or older, SMI (schizophrenia, schizoaffective, other psychotic disorder, bipolar affective disorder), impaired level of functioning, and need for long-term, comprehensive follow-up by mental health and social welfare services. • Patients with co-occurring substance misuse were included if this was not the primary diagnosis	**prior to ACT** High users defined as ≥5 psychiatric admissions in mental health hospitals or ≥100 consecutive inpatient days during the last 2 years, or ≥3 admissions or ≥50 consecutive days in the last year • At the time of enrolment, high users were younger, more likely to be subject to involuntary outpatient treatment, more likely to live in supported accommodations, be in prison or homeless, and less likely to live alone compared to low users. • At 2 year follow up, all patients had significantly fewer days in hospital • High user group had greater reduction in total number of inpatient days as well as involuntary inpatient days • More severe negative symptoms were also associated with reduction in both total and involuntary inpatient days. **Comparison of with or without problematic substance use prior to ACT** • In the 2 years after ACT enrolment both participants with and without problematic substance use experienced a reduction in total inpatient days. • Those with problematic substance use also had fewer involuntary inpatient days. ACT seems effective in supporting people with complex mental health needs who 1) are high- and low-inpatient service users; and 2) have problematic substance use.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	• Received ACT for at least 2 years **Sample Characteristics** • 84 (59%) participants had problematic substance use at enrolment into ACT Teams	
Assertive Outreach - England **AO Team characteristics** • Months of operation: 14% less than 12 months, 28% less than 24 months, 31% less than 36 months, 31% less than 36 months • 5% spends majority of the time spent serving patients in rural settings, 62% in suburban settings and 33% in urban • Mean staff size 10.4 (range 2-23) • Mean caseload per team: 50 • 69 (73%) offered specialist psychological interventions on a regular, planned basis. • These teams served 817 (75%) of the total 1,096 clients. However, only 186 (23%; 17% of the total sample) of those 817 clients were actually receiving any intervention. • Interventions offered: • Cognitive behaviour therapy (CBT) (59% of the 69 teams offering any intervention) • Family therapy (45%) • Family intervention (32%) • Substance misuse programme (26%) • Anger management (16%) • But in the 41 teams offering CBT, only 73 (39%) of the 186 clients receiving any intervention, are receiving CBT	Brugha 2012 [156] **Study design** • Pre-post evaluation of AO of the full sample of 1,096 clients as well as ethnic minority sub-sample **Study quality** Moderate quality • Low possibility of reporting bias (STROBE) • Direct assessment of hospital use • Prospectively gathered data over 3 years • No comparison group • Small sample size. **Study sample** • Participants were sampled from 100 of the 186 standalone AO Teams in England based on systematic stratified sampling to be representative of: length of established program (≥2 years vs. less, ≥1% rural clients vs. none. 8 geographical regions. From each of the 100 AO Teams, 12 clients were systematically sampled. **Inclusion criteria** • Functioning for at least 6 months	**Outcomes (At 1 year)** • Time spent in hospital decreased significantly after entry into AO. • Pre-AO hospital days were significantly associated with post-AO hospital days. • Pre-AO hospital admissions were significantly associated with post-AO admissions during the first year of AO. • There were 23% more admissions in the first year of AO in clients with a history of violence than those without. • There were 19% fewer admissions of black and ethnic minority clients in the first year of AO than 'white British' clients. • Black and ethnic minority clients were more likely to be on compulsory orders only on jointly managed teams. • The proportion of hospital days in the 2 years before AO was positively associated with hospital days on compulsory order, voluntary inpatient days in the first year. • Female clients 3% more hospital days as a voluntary inpatient in the first year of AO than male clients. • Clients living on the street or in secure accommodation had 4% fewer hospital days as a voluntary inpatient than those living in other

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
- Of clients in teams offering specialist psychological interventions, barely 9% (73/817) were receiving CBT; - Of the whole study sample, barely 7% (73/1,096) of clients were receiving CBT.	**Sample characteristics** - N=1,096 (from 94 AO Teams) - 66% Male, median age 35 years - 82% White British, 18% Other (White Other, Black African, Black Caribbean, Black Other, Indian, Pakistani, Bangladeshi, Oriental/Chinese, Mixed and Other) - 16% with history of homelessness - 80% in independent housing - 4% in street, prison or secure unit - 91% psychosis, 44% history of drug/alcohol abuse, - 43% history of violence - Within the 10 years prior to AO, 9% had no admission, 26% had 1-2 admissions, 24% had 3-4 admissions, 16% had 5-6 admissions, 8% had 7-8 admissions, 17% had ≥9 admissions. - Mean number of admissions 4.5 (range 0-39)	accommodation. **Outcomes at 3 year follow up (~half of clients remained this long)** - The proportion of hospital days in the 2 years before AO was positively associated with hospital days in the third year of AO. - Fewer clients accepted into AO at an older age were receiving specialist psychological interventions compared to those entering into AO at younger age. **Team characteristics and outcomes in relation to patient outcomes** - Clients in teams with high proportion of support workers had significantly higher hospital days during the first year of AO (3.1% more hospital days in the full sample and 6.2% in the black and ethnic minority sub-group) Clients of teams offering specialist skills had marginally significantly fewer hospital days. - For the black and ethnic minority sub-sample, clients of teams offering out of hours working had 20% hospital days. - For the full sample, a client was more than twice as likely to receive an intervention if the AO team was multidisciplinary, but a client was half as likely to receive an intervention if the team employed out of hours working – and less than half as likely in the black and ethnic minority sub-sample. - Clients of AO teams with high caseload per team member were less likely to receive an

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		intervention.
Assertive Outreach (AOT/ISIS) – London, UK - Delivered by a Black-only voluntary organisation (Family Health – ISIS), >20-staff of whom 5 have assertive outreach training. - Average caseload: 10-12 - Additional contribution by 10 volunteers and 6 tutors/facilitators of Black British origin to the organisation. **Control: TAU - Community Mental Health Team (CMHT)**	Bhugra 2011 [38] *** Although this does not meet the long-stay criteria for this review, it meets the other criteria. This was kept due to the small number of studies focusing on CALD communities.* **Study design** - RCT of AO vs. TAU **Study quality** Moderate quality - Low possibility of reporting bias (CONSORT) - Direct comparison of frequency of admissions, duration of admissions, symptom severity and client satisfaction with clinical interventions - Prospectively gathered data - Small sample size - Complete data was not available for all 83. **Study sample** - N=83 **Inclusion criteria** - Black (African, African Caribbean or Black British) - SMI (clinical diagnosis of schizophrenia, schizo-affective disorder or bipolar affective disorder (ICD 10) - Have a history of poor engagement with local CMHT services (a majority of clinical appointments missed in the preceding year)	**Patient outcomes at 1-year follow up** - No statistically significant difference was found in mean length of admission and mean number of admissions at follow-up. - AOT/ISIS group showed a significantly greater improvement in symptom severity compared to the CMHT group (56.34 v. 63.62 on the Mean Brief Psychiatric Rating Scale ratings). - AOT/ISIS group was also significantly more satisfied with their treatment than CMHT group who received generic services (83% vs. 15%). **Observations / speculations by authors on cultural issues** - Symptoms that showed the most reduction, especially in the AOT/ISIS group, were hostility, suspiciousness and uncooperativeness. Authors report that "as these symptoms are not essentially attributable to the clinical condition alone but are commonly related to and attributed to race and ethnicity, this reduction may reflect engagement with the voluntary agency only. The AOT/ISIS care model also included provision of care and support based on Black ethnic identity and ideologies. An acknowledgement and acceptance of such a model may have led to a greater reduction in suspiciousness and hostility and may have contributed to better levels of engagement and treatment adherence. The improvement in appearance and reduction of self-neglect as

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	- Have had ≥4 admissions in the preceding 3 years. - Does not have a significant learning disability or organic brain damage **Sample characteristics** - 53% male, 100% Black - 78% schizophrenia, 8% schizo-affective disorder, 13% bipolar affective disorder - Mean number of admissions = 1.4 - Mean length of admissions = 77.5 days	identified by BPRS may also be a result of increased availability and access to culturally appropriate grooming materials and skin care products in these settings. The CMHT services did not provide such culturally specific interventions."
Assertive Outreach Teams as part of the Community Rehabilitation Teams - Ireland - Provides individualised care programmes for clients with severe and enduring mental illness and their carers, based on identified needs and implemented as much as possible in a non-institutional settings. - Provides specialised services for people disadvantaged by a range of problems that can develop with SMI, and which cannot be adequately met by generic mental health services. - Using the Camberwell Assessment of Need, CRT addressed all 16 areas of health and social needs. - Psychotic symptoms (100%); Psychological distress (100%); Information (100%); Safety to self (59%); Food (54%); Self-care (54%); Physical health (54%); Accommodation (50%); Looking after home (50%); Daytime activities (45%); Company or socialising (45%); Safety to others (41%); Basic education (41%); Benefits (41%); Money (36%); Alcohol (23%)	Niazi 2007 [157] **Study design** - Naturalistic observational study - Pre-post evaluation **Study quality** Moderate quality - Low possibility of reporting bias (STROBE) - Direct assessment of symptoms, social functions, quality of life, work alliance, drug use and recovery from mental illness. - Prospectively gathered data - No comparison group - Small sample size. **Study sample** - N=24 **Inclusion criteria** - Patients selected from the case-load of Community Rehabilitation Teams in Cavan, Ireland	**At 3 year follow up** - Participants had a significant reduction in the mean number of admissions/year from 0.93 at baseline to 0.18 at 3 year follow up - Average hospital length of stay was also significantly reduced from 49.53 days to 3.37 days per year.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	- Receiving intensive case management at time of enrolment. **Sample characteristics** - 0.93 mean admissions per year in the 3 years	

Care Coordination (CC) – Australia
- CC is intended for people with SPMI and multiple needs, delivered through selected PDRSS (was part of a 2009-10 State Budget reform package). It aimed to address priority pressures, risks and opportunities associated with high risk/high need adult clients (16-64 years) of the specialist public mental health service system.
- CC introduced 20 dedicated non-clinical care coordinator roles to free up clinical services from coordination and management tasks to focus on providing clinical treatment and treatment planning, review and medical monitoring of high need clients (to improve efficiency and effectiveness of services).
- Case coordinator: client ratio=1:15 (budget A$2 million per annum)
- Care Coordination provides the practical support to access and remain engaged with the range of mental health, general health, community and social support services they need. Key function of the Care Coordinators (and distinct from case managers) are:
  ○ Service system coordination - Operates more like ‘service coordination’ or ‘service hub’ - works with, and guides, the service team process and tasks while building collaboration with all parties
	Nous Group 2012 [158]
	Study design
	- Mixed methods:
	  ○ Document review (for models of care)
	  ○ Service provider survey (for information on intake, referral and discharge criteria and processes, engagement model, local delivery arrangements, enablers and challenges)
	  ○ Service provider interviews (for changes in roles, staffing, etc. since the last interview, client and carer experience and involvement, system impacts)
	  ○ Case studies
	  ○ Service provider supplementary data (for information on clients’ housing type, employment type, interaction with other services)
	  ○ CMI/ODS[14]
	The Nous evaluation has 2 components:
	- The formative evaluation component – this examines issues related to implementation. The key question is: “Is the initiative being
		System Outcomes
		- All services have established governance structures to monitor the Care Coordination that include pathways for receipt of referrals and consideration of client eligibility.
		- Care Coordination caseloads vary and referral processes have been problematic (range 8-10; plan was for 15). Average case load = 8.75
		- Reasons for fewer case load:
		- clients require more time due to complexity of needs
		- insufficient referrals from providers
		- Waitlists are not used (except for one provider). Providers stated that caseloads could increase if referral process improves
		- Eligibility is tightly managed with government criteria being followed by providers. Some eligible clients not enrolled due to concerns about workload and level of complexity, and under-appreciation of the benefits of CC.
		- CC intake, referral and discharge processes took over 18 months to mature, but works well once working relationship is established between AMHS and PDRSS. Components include:
		  ○ Area mental health staff understanding the

---

[14] CMI/ODS = Client Management Interface/Operational Data Store

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
involved with the client ○ Long-term focus - Takes a long-term planning focus. Supports the care team, coordinates the broader community-level service plan, provides guidance around service delivery and may help to coordinate crisis intervention activity ○ No direct engagement – Care Coordination does not include the provision of psychosocial supports and the Care Coordinator does not engage in direct day to day work with the client. Client engagement is through assessment or review of the care plan and focus on how the client perceives the services to be working. Typically only meets the client with one of their direct support workers, Case Manager or in a case conferencing environment • Intended system outcomes: ○ Improved service coordination and strengthened accountability at the local level ○ Increased capacity of specialist (clinical and PDRSS) mental health services to manage service demand ○ Reduced repeated contacts with other service systems i.e., hospital, corrections, homelessness, and emergency contacts (policy and ambulance) • Intended client outcomes: ○ Improved self-management of illness, medication and treatment compliance, relapse prevention and symptom stability ○ Improved physical health and engagement with GP services ○ Decreased psychiatric crisis, suicide, self-harm and other ○ Sustained engagement with health, drug and	implemented as planned?" This covers: ○ Overall governance ○ Client intake, referral and discharge ○ Service models ○ Staffing arrangements ○ Key enablers/ challenges ○ Local delivery arrangements ○ Involvement in care. • The summative evaluation component – this assesses whether the intended client and system outcomes have been achieved. The key question is: "Has the initiative produced the planned client and system outcomes?" **Study quality** Low to Moderate quality • Possibility of reporting bias uncertain (STROBE) due to limited information about methodological details • Direct assessment of frequency of model implementation, service use, housing, employment. • Prospectively gathered data • Sample size not reported. **Study sample** • Detailed information about study participants not available.	role of CC staff ○ Clinical governance structures to support delivery of this initiative ○ Referral protocols within each AMHS ○ Joint planning and decision making ○ The AMHS sharing client information with your agency ○ Common tools with our AMHS ○ Joint service delivery protocols • Reported set-up challenges include: poor history between providers; AMHS not referring to PDRSS; client complexity; staff turnover and lack of systems approach; and overlap between CC and Clinical Case Managers. • Housing providers were found to be the most important provider of non-mental health services (followed by other primary health care providers, drug and alcohol services, disability services, forensic mental health services, educational providers, employment agencies, and policy). • Clients increasingly used private housing but housing status did not seem to change. • Establishment of a range of social support services/networks to meet client needs takes time due to the relationships the Case Coordinators are required to establish with the greater number and range of services/providers. • Carers are increasingly involved in client care but have expressed views on specific challenges: actively increase carer involvement; strengthen links to family support services; conduct carer forums; deliver information sessions. • Provider-suggested improvements include:

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
alcohol, primary mental health and medical services as appropriate ○ Improved client and carer experience of care, improved client and carer input into treatment care planning ○ Sustained stable housing ○ Increased social and community engagement/connectedness ○ Improved social relationships, including with significant others ○ Engagement in educational and vocational training and employment.		understanding the mental and community health systems; finding contact points with service system; carer fatigue due to inadequate support available; disjointed and inconsistent service delivery; managing the behaviour for the person they care for. • With regards to client involvement: ○ Providers use different recovery models (e.g. Collaborative Recovery Model and Recovery Star Models as important aspects of client engagement)
Integrated ACT + Integrated Dual Diagnosis Treatment (ACT-IDDT) – New York, USA • IDDT is an evidence-based, manualised intervention for integrated treatment of individuals with COD. It embraces the principles of proactive and empathetic outreach; continuity of care; optimism; stage-specific treatment; and education and engagement of family members. IDDT's core philosophy is to replace exclusion with inclusion. Intoxicated clients are not automatically asked to leave treatment sessions unless their behaviour is disruptive, and relapses are viewed as occasions to benefit from new experiences rather than viewing them as failures. • ACT-IDDT Program staff includes 5.5 full-time positions with a team leader (1.0), psychiatrist (0.2), advanced registered nurse practitioner (0.2), substance abuse specialist (1.0), employment and housing specialist (1.0), peer specialist (1.0), program assistant (0.5), and peer transporter (0.2). Program staff also includes a project coordinator (0.15), contract	Young [159] **Study design** • Pre-post evaluation of ACT-IDDT program **Study quality** Low-to-moderate quality • Low possibility of reporting bias (STROBE) • Direct assessment of residential stability, mental health symptoms, and substance use • Small sample size • Prospectively gathered data • No comparison group **Study sample** • N=60 (51 completed 6 month follow up) **Inclusion criteria** • Chronic homelessness	**Housing outcomes at 6 month follow up** • A significantly greater proportion of participants reported being in stable housing at 6-month follow up (39.2 %) compared to baseline (17.6 %) • Significantly smaller proportion (37.3 %) was classified into literal homelessness at follow-up compared to baseline (56.9 %). **Mental health outcomes at 6 month** • Participants reported significant improvements in mental health symptoms (Brief Symptoms Inventory) at 6 months and on all 9 domains: somatization, obsessive–compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. • Significant improvements were also seen in psychological functioning (Client Evaluation of Self and Treatment Scale): self-esteem, depression, anxiety, and decision-making,

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
manager (0.1), and medical records technician (0.15). • Program services are integrated according to guidelines consistent with IDDT. • Ongoing rent subsidies for supportive housing were not available and most participants had no income to support their housing (e.g. 30 % required for HUD Housing Choice Vouchers). As such, staff invested significant effort trying to access entitlements (e.g. SSI, Medicaid) and locate available, affordable housing. • High fidelity to ACT principles ~4.5/5 on all components and high fidelity on IDDT fidelity scale: 85 points (exceeded threshold of 79 for full implementation).	• Comorbid mental health and substance use problems **Sample characteristics** • Mean age 43.1 years • 55% male • 2% African American, 7.8% Native American • 89% unemployed at study entry • Average monthly income US$368 • High homelessness: 6.3 homeless episodes in their lifetime • Duration of homelessness: 39% for 2-5 years, 29% >5 years. • 41% and 28% used alcohol and drugs in the previous month, respectively.	medication compliance. • No significant changes were found for self-efficacy or any of the social functioning scales (e.g. hostility, risk taking, social consciousness), alcohol or substance use • 78% of participants were satisfied or very satisfied with the program in terms of its quality and treatment services. • 80% and 61% reported that the program was helpful in dealing with their drinking and drug use problems respectively. • 82.4% reported that staff treated them with respect and that they would recommend the programme to others. • Employment assistance was reported as being the least helpful (satisfaction in only 20% of clients)
Intensive Case Management – Ireland • The ICM process was developed over an initial 12-week period involving weekly multidisciplinary meetings to establish its principles, discuss the process and create networks. The programme was tailored according to feasibility within existing resources and ongoing service activities (outside of ICM). Likely acceptability was also informed by consultation with patients and carers during their usual service contacts. • Individual case managers were allocated to each patient and ten were selected from all disciplines within the multidisciplinary team. • Case manager to patient ratio did not exceed 1:5. • The ICM process involved detailed formalised care	O'Brien 2012 [160] **Study design** • RCT of ICM vs. TAU **Study quality** Moderate quality • Low possibility of reporting bias (CONSORT) • Direct comparison of psychiatric symptoms and general functioning • Small sample size • Prospectively gathered data. **Study sample** • N=80 (40 ICM vs. 40 TAU)	**Patient outcomes at 9 month follow up** • At baseline, ICM group was significantly younger, with fewer previous admissions, greater severity of difficulties on the social subscale of Health of the Nation Outcome Scale (HoNOS), higher scores on the Brief Psychiatric Rating Scale (BPRS), and higher frequency of service attendance in the 3 months prior to the study. • After statistically controlling for baseline differences, ICM group had significantly greater improvement in psychiatric symptoms (BPRS, How are you? Scale) cognitive, symptoms and interpersonal relationship functioning (Functional Analysis of Care Environments, FACE). • Additional analysis looking at 'clinical'

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
planning with multidisciplinary team input in weekly team meetings that were specific to the ICM construct and individualised case managers who met at least weekly with patients to develop comprehensive collaborative care plans addressing needs, stated goals, strategies for crisis management and availability of vocational training and other socio-adaptive supports. In line with recovery principles, the process emphasized patient participation and a focus on strengths, self-management, autonomy and empowerment. • ICM program was integrated into the weekly programme and delivered in a complementary fashion alongside usual care activities. **Control: TAU** • Attendance at the generic community mental health service provided by a well-resourced multidisciplinary care team	**Inclusion criteria** • Aged 18-64 years • Have schizophrenia, schizoaffective disorder, bipolar affective disorder or recurrent depressive disorder with psychosis (ICD-10) • Have been attending the service for ≥ 1 year • Have outstanding socio-adaptive problems (as defined by a score of ≥2 on at least one social subscale item of the HoNOS). • Does not have a co-morbid diagnosis of substance misuse was not an excluding factor. **Sample characteristics** • Mean age 44.4 years, 60% male • Number of previous hospitalisations: 1-12, with the majority (70%) having experienced at least 1 involuntary admission • Frequency of service attendance in the 3 months prior to study: 1-22, with 6 or more attendances in over half of participants (51%).	significance of change in psychiatric symptoms (where <20% improvement on the BPRS was considered minimal, 20-50% moderate, and ≥50% significant improvement) found that significantly greater proportions of people in the ICM groups experienced moderate to significant changes compared to the TAU group. • ICM group had significantly higher proportion of participants with changes in structured daily activities and engagement with psychological interventions than TAU, but not for substance use patterns, domestic relationships or accommodation, alterations in finances and medications. While a trend towards greater changes in diet/exercise and physical health was seen (36% vs. 17% and 56% vs. 29%, respectively), these differences were not statistically significant.
Intensive Home- Based Outreach Service (IHBOS) - Victoria, Australia • All providers used a patient-centred model of care (mainly the Collaborative Recovery Model or Recovery Star), which seeks to involve patients in all treatment and support decisions and helps the patient to develop individualised care plans and identify their own recovery and treatment goals. • MSTs and CCTs provided clinical treatment and care, and the PDRSS provided psychiatric disability rehabilitation support. Sub-contracting by the	Bowser 2013 [57] **Study design** • Pre-post evaluation of IHBOS **Study quality** Low-to-moderate quality • Medium/large sample • Direct assessment of functioning and life skills using standardised measures • Prospectively gathered data • No control group	• Assessments involved patient records, patients, carers and service providers • Patient outcomes (1-2 years) • 45% decrease in inpatient bed days, and 34% increase in ambulatory service hours per year • HoNOS and the LSP revealed no significant change • Costs • The IHBOS client group reduced its usage of the specialist public clinical mental health system and achieved an average quarterly gross cost saving of A$7,378 per patient

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
Psychiatric Disability Rehabilitation and Support Services (PDRSS) was not widely used. - Other services included primary health, and housing, and corrections and community services may also be involved in the service model. The support focused on building the patient's skills in all aspects of life, including domestic, emotional, health, employment, advocacy, leisure and social capabilities. - There was also provision for a pool of flexible brokerage funds to address issues such as rental arrears, methadone arrears, material goods, and transport. - Patients were expected to receive support for up to 18 months when the majority of patients were expected to transit to moderate and standard Home-based Outreach Support, although an estimated 20-30% of patients were expected to need the intensive level of support over the long-term.	- Observational study - Low possibility of reporting bias (STROBE) - Unable to assess data or study quality using standardised measures. **Study sample** - N=197 (Not all were long-stay inpatients) **Inclusion criteria** - Registered patients of the specialist clinical mental health service system (16-64 years) who have severe and enduring mental illness and high-level psychiatric disability - Require intensive, sustained support to exit bed-based clinical rehabilitation services, or who are living in the community and have high level psychiatric disability with a history of repeated hospitalisation, high daily living support needs, and initial limited capacity for self- management. **Sample characteristics** - SPMI with high-levels of psychiatric disability - Often with a dual disability including substance use, intellectual disability or borderline intellectual functioning, Acquired Brain Injury or Autism Spectrum Disorder - High levels of dysfunction across multiple life areas and a limited capacity for self-management - High to very high daily living support needs (e.g. shopping, food preparation/diet, medication, budgeting, making appointments, cleaning, and accessing community services)	- Feedback and recommendations - It took between 6 and 12 months for the initiatives to achieve full utilisation - Half of the patients rated their overall experience of care as 'excellent', with all other respondents rating it as 'good' or 'very good', welcoming the recovery-centred models. - Providers indicated spending somewhere between 2 and 8 hours per patient per week. - Building and maintaining relationships. Also maintaining contact and building relationships with other services (including clinical partners, primary health care, housing, police, and drug and alcohol services), attending service meetings, writing and creating agreements via shared care plans, undertaking team-based patient supervision, planning and facilitating case meetings, promoting and exploring approaches to working together, working with a range of networks, partnerships and alliances, and sharing information with local service providers. - The key enabler to successful implementation was effective collaboration between the Area Mental Health Service (AMHS) and PDRSS. Also having staff with experience of both clinical and PDRSS services. - Key challenges were: access to housing, patient complexity, and recruiting staff. - Key local services important to the success of IHBOS were identified by providers as housing services, primary health care, and drug and alcohol services.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	- Limited social networks and family connectedness, and minimal community participation - Imposition of a Community Treatment Order or an Involuntary Treatment Order - A history of repeated hospitalisation - A history of reoccurring homelessness and/or interactions with the correctional system.	- Patients focused on long-term goals, such as employment and education, while providers focused on the importance of establishing the early, foundational elements of recovery in terms of stable housing, management of drug and alcohol issues, and development of independence in community activities of daily living. - Carers welcomed the increased support that gives patients an opportunity to live their lives without depending heavily on the carer, and this often leads to the carer and patient having an opportunity to establish a healthier relationship. - There is a need for more formal governance structures, including written service level agreements, formal housing nomination rights for providers, placing other service providers on the selection committee, and consortia between Mental Health Services and housing or drug and alcohol service providers. - Draw support services funded from outside the health sector together to integrate support services. - Assessment of impact for future initiatives should consider a 5 year time period, and incorporate other assessment tools (such as the Camberwell Assessment of Need Short Appraisal Schedule, CANSAS).
Mental Health Nurse Incentive Program (MHNIP) - Australia - Program objectives were to improve levels of care for people with SPMI, reduce the likelihood of	Healthcare Management Advisors 2012 [48] **Study design** - Situation analysis consisting of review of key	- External evaluation of the program showed that psychosocial outcomes were: increased involvement in social and educational activities, improved family interactions, positive flow on

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
unnecessary hospital admissions and readmissions, assist in keeping people with severe disorders feeling well and connected with the community, and alleviate pressure on privately practicing GPs and psychiatrists. • A Commonwealth-funded program to support mental health nurses located in primary care health services to provide psychosocial support and coordination to consumers and their carers, beyond the treatment these people receive from general practitioners. A key feature of MHNIP is the access afforded to people in rural and remote settings where primary care is the main or only local service model. • MHNIP provides payments to community-based general practices, private psychiatric practices and Aboriginal Medical Services (AMS) to engage mental health nurses to assist in the provision of coordinated clinical care for people with severe mental health disorders. • Mental health nurses work in collaboration with psychiatrists and general practitioners to provide services such as monitoring a patient's mental state, medication management and improving links to other health professionals and clinical service providers. These services are provided in a range of settings, such as clinics or patients' homes and are provided at little or no cost to the patient • The intensity of MHNIP packages of care varies widely, but the per patient average cost was A$2,674 for patients in metropolitan areas to A$3,343 in non-metropolitan areas.	MNHIP documentation, stakeholder consultations, interviews, modelling of program demand, service provider surveys, 18 case studies and cost analysis. **Study quality** Low-to-moderate quality • Medium/large sample • Direct assessment of functioning and life skills using standardised measures • Prospectively gathered data • No control group • Low possibility of reporting bias (STROBE). **Study sample** • N=142 individuals (39 from Medicare local/division of general practice, 58 from general practice, 39 from private psychiatry practice, and 6 from Aboriginal Medical Service) • Patient details obtained for 267. **Inclusion criteria** • Service providers or users of MHNIP **Program eligibility criteria for organisations and nurses** • Community-based organisations with a GP or a psychiatrist with a Medicare provider number e.g. general practices, private psychiatry practices, and Aboriginal and Torres Strait Islander primary health care services funded through the Office for Aboriginal and Torres Strait Islander Health.	benefits to some carers of MHNIP patients and some evidence of increased patient employment. Overall mental health hospital admissions decreased by 13.3% for a sample of MHNIP patients in the 12 months following their involvement in the program. This was not true for all conditions: bipolar disorders showed a slight increase in the number of admissions. Based on analysis of a sample of patients, there was on average a reduction in individual admission days by 58% and the average length of stay fell from 37.2 days to 17.7 days. • The number of emergency department presentations MHNIP patients was also reduced. • Key Findings regarding Appropriateness • There is a sizeable group of people in the community with SPMI. Expert advice suggests this is in the order of 1.2% of the adult population aged 18 to 64 years. It is estimated that a little under half of this group is the size of the MHNIP target population - 0.6% of the adult population with SPMI primarily reliant on assistance from GPs and psychiatrists in the private sector. • The target group will always be bigger than realised demand under MHNIP e.g. some people will have exited the program because their condition has stabilised. Allowing for this, there is evidence demand exceeds the services currently available under MHNIP – an estimated 49,800 people in 2011-12. • There is a high level of support from medical practitioners for the model of care embedded in

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	• Credentialed mental health nurses with specialist qualifications and training in mental health. **Program eligibility criteria for patients** • Have SPMI as determined by GP with diagnosis of ICD 10 or DSM-IV criteria of mental disorder • Is significantly impacting their social, personal and work life • Has been to hospital at least once for treatment of their mental disorder, or they are at risk of needing hospitalisation in the future if appropriate treatment and care is not provided • Is expected to need ongoing treatment and management of their mental disorder over the next 2 years • The GP or psychiatrist treating the patient will be the main person responsible for the patient's clinical mental health care, and • The patient has given permission to receive treatment from a mental health nurse. • A patient is no longer eligible for services under the program when: ○ their mental disorder no longer causes significant disablement to their social, personal and occupational functioning, or ○ they no longer need the clinical services of a mental health nurse, or ○ the GP or psychiatrist, employed to treat the patient is no longer the main person responsible for the patient's clinical mental	MHNIP whereby mental health nurses, working in conjunction with GPs and psychiatrists, provide treatment and support to people with severe and persistent mental illness living in the community. • Patients, carers and relevant peak bodies were also supportive of the model of care underlying MHNIP. • *General Practices* and *Medicare Locals (formerly Divisions of General Practice)* accounted for the largest proportion of MHNIP services delivered (80.9%) and mental health nurses employed (76.4%) between 1 July 2009 and 30 June 2011. • There was evidence that medical practitioners are triaging patients to different Commonwealth funded programs supporting people with mental illness, based on clinical need. This included utilising MHNIP for patients with severe and persistent mental illness, and referral of patients with lower levels of disability to support from other appropriate services. • Until the application of session caps in May 2012, realised demand under MHNIP was driven by supply-side factors – the number of eligible providers and credentialed nurses. These program design features were not sustainable in a period of budget restraint. • Access to MHNIP services varies by jurisdiction. The supply-side driven design characteristics of MHNIP meant that service growth was not always linked to geographic areas where there was higher relative need for new services. • Key Findings regarding Effectiveness

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	health care. **Sample characteristics** - N/A	- Patients being supported under MHNIP are benefitting from improved levels of care in the form of greater continuity of care, greater follow-up, timely access to support, and increased compliance with treatment plans. - Examination of a sample of MHNIP patients in the evaluation cost analysis showed a downward trend in their HoNOS scores, a measure of mental health and social functioning. This statistically validates qualitative perceptions that the treatment and support provided by mental health nurses improves the mental health and wellbeing of patients receiving support under the program. - Based on an examination of a sample of MHNIP patients, the HoNOS scores of patients using state and territory mental health services were on average at similar levels to the scores of MHNIP patients, affirming that the program is providing support to people with severe mental illness. - Quantitative evaluation evidence showed overall mental health hospital admissions decreased by 13.3% for a sample of MHNIP patients in the 12 months following their involvement in the program. This was not true for all conditions: bipolar disorders showed a slight increase in the number of admissions. - For the same sample of patients, when they were admitted to hospital following their engagement in MHNIP, there was on average a reduction in their total number of admission days by 58% and the average length of stay fell from 37.2 days to

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		17.7 days. • There was some evidence of increased patient employment by MHNIP patients. • MHNIP has encouraged and facilitated patient's increased involvement in social and educational activities. • MHNIP has had positive flow on benefits to some carers of MHNIP patients. • MHNIP has had other positive impacts on patients, including improved family interactions and reductions in the number of emergency department presentations. • MHNIP has had a positive impact on medical practitioner workloads by increasing their time available to treat other patients and improve patient throughput. • Key Findings regarding Efficiency • Based on the de-identified patient data provided by case study organisations (N= 267 patients), the cost analysis suggests that savings on hospital admissions attributable to MHNIP could on average be around A$2,600 per patient per annum. This was roughly equivalent to the average direct subsidy levels of providing MHNIP, which ranged from an average of A$2,674 for patients in metropolitan areas to A$3,343 in non-metropolitan areas. • There are a large number of uncosted and intangible benefits associated with MHNIP including the impacts of improved patient outcomes, enhanced relationships with carers and family members, and the effects on carer social security outlays. Examination of these

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		impacts would require an extensive enhancement to existing data collection processes. The evaluation findings suggest a comprehensive economic analysis would find these benefits to be positive. • Overall Evaluation Findings • Based on the commentary provided in the evaluation assessment we provide the following overview of our evaluation findings: Healthcare Management Advisors Helping create better health services • Appropriateness**:** MHNIP is providing support to a sizeable group in the community – people with severe and persistent mental health illness who are primarily reliant for their treatment on GPs and psychiatrists in the private sector (around 0.6% of the adult population). There are still large levels of unmet need from this group. The model of care involving clinical treatment and support provided by credentialed mental health nurses working with eligible medical practitioners received strong endorsement. This came from patients, carers and medical practitioners using the program, along with relevant peak bodies. • Effectiveness**:** the evaluation found that patients receiving treatment and support under the program benefitted from improved levels of care due to greater continuity of care, greater follow-up, timely access to support, and increased compliance with treatment plans. This was evidence of an overall reduction in average hospital admission rates while patients were

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		being cared for, and reduced hospital lengths of stay where admissions did occur. There was also evidence that patients supported by MHNIP had increased levels of employment, at least in a voluntary capacity, and improved family and community connections. MHNIP has had a positive impact on medical practitioner workloads by increasing their time available to treat other patients and improve patient throughput. • Efficiency**:** based on the de-identified patient data provided by case study organisations (N= 267 patients), the cost analysis suggests that savings on hospital admissions attributable to MHNIP were on average around A$2,600 per patient per annum. This was roughly equivalent to the average direct subsidy levels of providing MHNIP, which ranged from an average of A$2,674 for patients in metropolitan areas to A$3,343 in non-metropolitan areas. There are a large number of uncosted and intangible benefits associated with MHNIP, including the impacts of improved patient outcomes, enhanced relationships with carers and family members, and the effects on carer social security outlays. Examination of these impacts would require an extensive enhancement to existing data collection processes. The evaluation findings suggest a comprehensive economic analysis would find these benefits to be positive. • Although the model of care underpinning MHNIP is well regarded and has positive outcomes, other design features of the program

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		could be re-examined. This is particularly true of the current purchasing arrangements. These provide limited capacity to manage demand in line with program resource
Multiple and Complex Needs Initiative (MACNI) – Victoria, Australia - Regional coordination mechanisms (within government): A Multiple and Complex Needs (MACN) Panel determined eligibility from referrals made by MACNI Regional Coordinators, oversaw the development and execution of care plans for individuals, and allocated brokerage funds where appropriate. - A legislative framework [45] to ensure appropriate service delivery for the target population - A Multidisciplinary Assessment and Care Planning Service with NGOs funded to conduct comprehensive assessments and care planning with the individual and relevant services. A care plan coordinator then works in partnership with the individual and the services identified in the care plan to achieve the aims documented in the plan. - An Intensive Case Management Service provided by a care plan coordinator if no care services are available (in the funded sector) - Time limited - Client attached dollars	MACNI 2003 [44, 45, 161-163] Note: Original evaluation reports not available [164-168]. Outcomes based on other reports [46, 169]. **Study design** - Pre-post evaluation **Study quality** Weak according to Nous report [46] - Size of sample <100 **Study sample** **Inclusion criteria** - Aged 16 years or older with 2 or more of the following: mental disorder, intellectual impairment, acquired brain injury, alcohol- or substance-use problem - Has exhibited violent or dangerous behaviour that caused serious harm to self or others OR exhibiting behaviour which is reasonably likely to place self or other at risk of serious harm - Is in need of intensive supervision and support and would derive benefit from receiving coordinated services. **Sample characteristics (Kraner and Fisher 2012)** 247 individuals with "multiple and complex" needs: - 44% aged 18 to 35 years	**The Nous publication reported the results of the 2007 external evaluation by KPMG:** Of the "56 consumers with a MACNI care plan, around half demonstrated behavioural improvements and a quarter demonstrated greater engagement with care managers and other community supports. Overall functional improvements were not seen across the population and for almost one quarter there had been deterioration in behaviour. Improved outcomes for many consumers were dependent on lower substance abuse. The evaluation also noted limited cost-effectiveness, reflecting the significant set-up costs and relatively small trial population. It was suggested that, over time, cost-effectiveness should increase. MACNI services continue to be available in Victoria, drawing on the networks and infrastructure developed for the initial trial. Ongoing evaluation of the initiative will be needed to establish a firmer evidence base." Kraner and Fisher (2012) [169] report: **Client costs:** - On average - A$248,000 pa - Highest cost package in 02/03 was A$643,000 - Produces positive client outcomes: The two

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
	• 2:1 ratio of men to women • Major presenting problems: combinations of mental disorders, intellectual impairment, acquired brain injury, substance abuse • High risk behaviours to community, staff and self • 71% with current or past contact with criminal justice system • High volume users of emergency services • Significant accommodation issues – 35% homeless, short term or crisis accommodation • 91% socially isolated, little family contact • 55% chronic health problems.	snapshot studies confirm that for the majority of individuals determined eligible to receive a MACNI response, improvements across all four MACNI platforms of accommodation, health and wellbeing, social connectedness and safety were evidenced by the service providers working with them at the time of care plan closure. • Contributes to capacity building of services: feedback from service providers indicates an increased willingness and commitment to working collaboratively and holistically with other providers including the sharing of risk. The majority reported feeling more confident and better equipped to engage with individuals with multiple and complex needs as a result of their experience with MACNI. Improvements in collaboration beyond the MACNI client group was identified as one of the outcomes of being a service provider involved with MACNI. • These studies also identified a number of critical success factors identified by service providers, including: ○ coordinated care plans ○ care plan coordination ○ provision of training and secondary consultation for the care team as part of the care plan ○ access to a reflective space, ○ access to brokerage funds that can be used flexibly. • The ongoing challenges remain of working across differing legislative and cultural boundaries, with the most significant being

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		maintaining impetus once MACNI is no longer involved. In more recent years, the nomination of a coordinator or key leader to continue beyond MACNI has been encouraged as a way of addressing this challenge; however, we are learning that this must be accompanied by regional oversight and some access to flexible funds for continued success.
Personal Helpers and Mentors Initiative (PHaMs) – Australia - The PHaMs service is a complimentary initiative to Mental Health Nursing Incentives Program managed by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA). The PHaMs service aims to provide non-clinical community-based one-on-one team-based support for people with severe mental illness using a strengths-based, recovery approach. PHaMs Team - PHaMs team structure is determined by service providers according to local need, the needs of participants, the availability of staff, and worker profile. All team members have distinct roles that must be filled within each team: a team leader, a peer support worker, and general caseworkers. PHaMs services providing specialist services also include specialist workers such as a cultural broker in Remote Services, or employment specialists in Employment Services. - Standard PHaMs service has a team of 5 members	Courage Partners 2011 [49-51] **Study design** - Mixed methods evaluation of PHaMs program including stakeholder consultations, provider surveys, site visits, interviews and focus group discussions. - Client outcomes evaluate in one rural PHaMs service (Moree) in NSW [51] – retrospective longitudinal study - Descriptive analysis of longitudinal data, uncontrolled pre-post caseworker ratings, and retrospective pre-post self-ratings and feedback comments **Study quality** - Low possibility of reporting bias (STROBE) - Direct assessment of symptoms, social engagement, service use, functioning. **Study sample** - N=22 services, state and territory government representatives, peak bodes and survey of	**Based on client perspectives:** - PHaMs is highly effective in engaging clients, generating their trust and empowering clients to achieve goals due to the recovery approach. - Goal setting and planning was useful in focusing efforts. - Ability to work at their own pace makes the process of recovery less intimidating. - Outreach services are preferred, as many express feeling intimidated by institutional settings. The ability to meet their counsellor in a familiar setting and on their own terms was found to be a much more positive experience. Clients found that they established trust in the process more quickly. For many it also avoided difficulties accessing transport and coping with unfamiliar settings, especially at the outset of their program. - Clients report being able to do a range of things they couldn't do previously, such as establishing daily routines, taking public transport, cooking their own meals, conversing with other clients

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
with varied backgrounds, academic qualifications, work experiences and knowledge. Some team members may have professional backgrounds as social workers and psychologists, which helps to build the capability of the team. However, team members are employed as personal helpers and mentors, not to undertake specified professional roles such as social workers or psychologists. • All PHaMs services employ at least 1 peer support worker with lived experience of mental illness. The role of the peer support worker within the PHaMs team can vary and be tailored to the particular service. • The team must be designed to: ○ provide a diverse knowledge base among workers that can be shared to benefit the whole team ○ allow for team support, ongoing training and development, and direct supervision, debriefing and shared learning experiences and opportunities ○ offer choice for participants (around the gender and culture of their worker where possible) as well as who they might prefer to build a long-term relationship with. PHaMs Services • PHaMs services assign a worker to each participant to: ○ help participants better manage their daily activities and reconnect to their community ○ connect participants to outreach services if needed e.g. coordinate support services and assistance in navigating the mental health and community sector supports ○ liaise and work with other stakeholders to make and receive appropriate referrals and links with	PHaMs services. • N=54 PHaMs providers also completed a survey. • 150 interviews with individual clients, telephone discussions and focus groups during service visits. • Analysis of case studies service reports and ~300 cases published by Mental Health and Autism Branch. **Program eligibility criteria** • Aged ≥16 years with a history of mental illness • Are experiencing severe functional impairment because of their mental illness • Willing to participate in the service voluntarily and able to make an informed decision to participate. • Willing to comply with health and safety policies of the service, agree to address any dual-diagnosed/comorbid drug and alcohol issues during the course of participation in PHaMs and reside in the coverage area of the PHaMs service where they are seeking support • Not be restricted in their ability to fully and actively participate in the community because of their residential settings (e.g. prison or a psychiatric facility), or be receiving or entitled to receive non-clinical community support similar to PHaMs through state or territory government programs. **Moree PHaMs Study** • N=76	and looking after their room or house. • Learning to recognise symptoms of problems before total relapse of a condition, to learn and apply management strategies like returning to a GP or psychiatrist, or applying what had been learned about self-management was highly valued. • Clients also reported that they now realised the value of being re-engaged with the health system and that it had an important role even if they found it confronting, uncomfortable or disagreed with treatment. They especially appreciated the support of their 'worker' when they wanted a medication review, or needed someone to help them express what they wanted. • Clients were also connected to a range of services they were not utilising, for example, Centrelink, housing, public transport, libraries and support groups. • Social isolation was reduced. For many, participation in interest groups such as gardening, art, drama and music gave them a sense of connection with people who had similar interests, could understand their perspectives and helped reduce their sense of isolation. They were an important first step for many in developing skills, building on their own talents, and restoring skills in working with others. • Clients expressed appreciation about the involvement of peer support workers. Clients have a sound understanding that while they don't have to progress at a pace beyond their

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
appropriate services, such as clinical, drug and alcohol, employment and accommodation services ○ work with participants to develop and carry out Individual Recovery Plans which focus on their goals and recovery journey such as assisting participants to make and attend appointments, manage daily tasks, facilitate transport, address barriers to social and economic participation, finding employment, secure stable housing, improve personal, parenting or vocational skills, improve relationship with family and friends, managing everyday tasks such as using public transport and housekeeping, etc. ○ engage and support family, carers and other significant people in participants' lives ○ monitor and report progress against participants' Individual Recovery Plans. • PHaMs providers are expected to consider the particular needs of indigenous people and people of CALD background, both of whom are under-represented in the client-base in most services. • Caseload: 10-12 clients per staff member. Base funding for non-specialist PHaMs services provides for a minimum service caseload of 45 participants at any point in time. • By 2013, there were 175 PHaMs services operating across Australia (95 in metropolitan, 69 in non-metropolitan and 11 in remote sites). • PHaMs Employment Services provide support for those receiving Disability Support Pension or other government income support payments who are engaged or willing to engage, with employment services and who have economic participation as a	**Inclusion criteria** • All current and past clients of the NSW PHaMs service Moree **Sample characteristics** • Mean age = 37.78 years • 45% male • 63% Aboriginal • 41% with psychotic disorder and 61% mood disorder, 8% personality disorder • 45% with comorbid substance use disorder.	capacity, there is an expectation that they will comply with their recovery plans to the best of their ability and that they will need to exit the initiative when they are well enough. They appreciated the flexibility approach. • Overall clients reported improved confidence, more knowledge about their condition, more connectedness with family members, with a range of services such as Centrelink, housing, employment, and social and community inclusion. They reported increased ability to manage their lives, a sense of achievement in what they had achieved and hope in the future. Overall they reported more resilience, problem solving skills, healthier lifestyles, improved quality of life, improved security, improved family and community relationships. • The carers and relatives of PHaMs clients also reported significant progress, more understanding of mental health conditions, how to pick up signs of deterioration, how to live and relate more effectively to them and understand recovery principles and processes. They reported improved health and wellbeing. The recovery approach gives them more hope for improvement and confidence in the future. **Service provider perspectives** • Services believe that the recovery approach results in clients generally achieving pleasing results, often well beyond their own expectations. They appreciate that there is a sound evidence base supporting the philosophy. • Staff report that the recovery approach is also

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
primary goal in their Individual Recovery Plan. They provide specialist support and work with employment services, such as Disability Employment Services, Job Services Australia, state-funded services and social enterprises, to assist PHaMs participants to address non-vocational issues that are barriers to finding and maintaining employment, training or education. • PHaMs Remote Services also undertake community development, leadership and training. While the focus of PHaMs is on improving outcomes for individuals with mental illness, it is recognised that this may require intensive work with family members and the community in which a participant lives, particularly in small and isolated communities with limited resources. Community development works as an adjunct to intensive assistance to individuals and families. Services are also expected to deliver assistance in ways that are locationally and culturally appropriate, safe and relevant. The training for participants, family and community members aims to increase their knowledge of mental illness and how to manage it, to increase their personal skills and self-confidence, develop leadership skills and to improve the overall resilience and capacity of the community. • PHaMs services are required to work collaboratively with PIR arrangements established at the local level.		highly respected because it gives them the flexibility to offer the most effective approach to clients. For many the use of the model was a key factor in their deciding to join PHaMs. **In relation to collaboration across services** • The PHaMs service relies very strongly on referral and case management relationships with other providers. The establishment of these relationships takes time. While a broad range of relationships have been established (e.g. health, correctional, alcohol and drug, employment, housing, financial, welfare services), more time is needed to strengthen these relationships. Areas requiring work to strengthen relationships include: better understanding of psychosocial recovery and what PHaMs can provide, differences in beliefs about treatment approaches, lack of familiarity with psychosocial rehabilitation approaches, and lack of respect for community-based services. • The time intensive nature of collaborative work, establishing trust and maintaining good communication and interaction was also perceived as a challenge. • 53% of services also indicated recruitment of appropriate staff was an ongoing challenge (e.g. availability of suitable staff, salary levels, rural locations, low status of community services, gender balance) **In relation to peer support workers (PSWs)** • 87% of services included PSWs in their team (range 1-11 PSWs; 54% with 1 PSWs, 37% with 2

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		PSWs and 2% each for 4, 5, 10 and 11 PSWs). • Nearly all PSWs were paid with only 2 services each having 1 PSW. • PHaMs Services reported that successful services require: clear guidelines on how PSWs are deployed; sound training and preparation and effective supervision; and vigilance about the health status of the PSWs. **Demand for PHaMs** • All except 4 services are not able to meet the demand for PHaMs services and therefore are having to refer many to other services **In relation to Aboriginal and Torres Strait Islander Australians** • Most services reported great difficulty in attracting Aboriginal and Torres Strait Islander clients and not feeling competent to provide appropriate services (e.g. limited understanding of how to provide appropriate service). Main challenges included engagement and trust from clients, families and communities. • Nevertheless, attempts such as the following are providing effective in addressing these challenges: ○ building networks with Indigenous organisations and communities e.g. Land Councils, Aboriginal Medical Services and Indigenous training organisations; ○ using opportunities such as NAIDOC week celebrations, dinner, sports days, awards, service stall with the local community and other service providers;

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		○ employing Indigenous staff and providing Indigenous trainee positions; ○ undertaking cultural awareness training for other staff in the service. **In relation to CALD communities** • Challenges were greater with CALD than Aboriginal and Torres Strait Islander communities, particularly in rural areas (e.g. lack of familiarity with the culture, different cultural norms associate with the care of family members, deep seated stigma about MI influencing treatment seeking/disclosure, need for translators or workers with appropriate language competency). Interpreters were difficult to access due to costs and use of same interpreters for continuity was also challenging. • Strategies to address this included: ○ promoting CALD communities through other organisations providing services to CALD groups and through community-based cultural organisations ○ transcultural training for service staff ○ networking and collaborative relationships with CALD organisations and organisations from which referrals might come ○ using interpreters and translators. • Use of service called EthnicLink which has workers who speak ~40 languages have been very successful as these workers are trained as language workers as opposed to translators and they work in a very culturally sensitive way. This has enabled modification of assessment

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		approaches and ensuring appropriate support services. **Consumer outcomes at Moree PHaMs service** • The ten most frequent types of goals set by clients (from most frequent to least) included: attending counselling/psychological services, improve accommodation, increase social/community involvement, medication compliance, staying 'out of trouble', increase practical skills, address drug and alcohol issues, improve relationships, gain employment and attend appointments. • Caseworkers pre-post PHaMs rating of client functioning showed significant difference adaptive functioning at case closure than at commencement (Role Functioning Scale) from moderately effective to adequate levels of functioning. • Self-ratings of recovery by clients found that all participants reported improved functioning in household activities (e.g. cooking, cleaning, shopping, and finances); 81% reported receiving help with relationships and 100% reported benefiting from assistance with transport. 68% reported help with accessing clinical services and 63% described improvements in the management of medications; 63% also reported a change in accommodation and greater satisfaction with their living arrangements; 97% reported that they were unemployed and not participating in education or training, but 37% indicated that they would like to be involved in voluntary or paid work; and 32% expressed a

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		desire to participate in education. • Clients provided high satisfaction with PHaMs. Mean scores out of 11 included: 8.7 for overall satisfaction, 8.4 for confidence in services and 8.5 in likelihood to recommend to others. Relationships with caseworkers were rated on average 8.5 out of 10. • PHaMs has strong engagement of Aboriginal clients – 65% of the total service participants and 63% of the study participants, 12/19 who had completed the PHaMs program were of Aboriginal background. 4/7 PHaMs staff identified as Aboriginal
The Integrated Service Program (ISP) - Sydney, Australia • A specialist service that coordinates a cross agency response to adults who have been identified from across the NSW government human service agencies as having complex needs and challenging behaviour. The ISP is a time-limited (18-month) intensive service based in the Sydney metropolitan area which includes: ○ Multidisciplinary comprehensive assessment ○ Individual case planning and case coordination ○ Range of accommodation models including 24 hour supported group homes to drop in support in either private or subsidised housing ○ Building of support networks ○ Identification of a sustainable long-term service option ○ Planned and systematic withdrawal and handover of support to relevant agencies. • The ISP is administered by ADHC in partnership with	McDermott 2010 [47] **Study design** • Pre-post evaluation of ISP program **Study quality** Moderate quality • Low possibility of reporting bias (STROBE) • Direct assessment of hospital use, behaviour, functioning, quality of life, social engagement and healthcare cost • Small sample size • Prospectively gathered data • No comparison group. **Study sample** • N=38 **Inclusion criteria** • In need of coordinated, multiple-agency	**Client Outcomes** • Changes in challenging behaviours were measured by using the Overt Behaviour Scale (OBS) which showed that, upon Project entry, the most common challenging behaviours exhibited by clients were inappropriate social behaviour (100%), verbal aggression (91%), physical aggression against objects (80%) and physical aggression against others (80%). • There were mixed results in relation to the global measures of challenging behaviour: the levels and severity of challenging behaviours decreased between baseline and Phase 1 of the evaluation but, between Phases 1 and 2, the levels and severity of challenging behaviour increased. However, the data shows that the frequency and impact of some behaviour decreased significantly over the course of the Project.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
Mental Health and Drug and Alcohol Office (MHDAO) of NSW Ministry of Health and Housing NSW. The Program is overseen by a Management Committee consisting of officers from the major partner agencies and is advised by a broader Interagency Reference Group. • People in the ISP are over the age of 18 years and identified as having multiple and complex needs which place themselves and or others at high risk. They have had significant barriers accessing coordinated cross-agency responses. These clients may have one or more of the following; intellectual disability, brain injury, mental illness, personality disorder, and/or issues with alcohol and other drugs. Most people using ISP have experienced insecure housing prior to entry into the Program. • Structure: ○ ISP Project Management Committee with 3 key agencies (ADHC, Health, Housing) plus director ○ Interagency Reference Group (Consultation stakeholders, NSW Health, ADHC, Police, DJJ, Housing NSW, DOCS, CID) ○ Clinical Reference Group to provide resources regarding system responses to various illness or disorders ○ 2 senior project officers for project management and liaison work ○ Supportive Living Manager: manages 48 full time equivalent staff at accommodation units ○ Accommodation staff (managers and administration) ○ Accommodation staff (site based) ○ Clinical support services staff by: 4 clinical	response • Live in insecure accommodation • Have been denied access to essential services due to high-level challenging behaviour **Sample characteristics** • 55% male, median age of 35 years, 95% never married • 8% Indigenous, 29% from CALD background • 55% in jail or in hospital without stable housing to return to. 45% in supported housing (n=10), with family (n=5) or were homeless (n=2) • 37 (98%) had at least 2 of the following disabilities: mental illness, intellectual disability, substance abuse, acquired brain injury and physical disability. One (2%) had only one. • 96% had mental illness (86% had 2 diagnosed mental illness); 34% had physical disability; 68% had intellectual disability; 58% had alcohol or drug use disorder; 34% had acquired brain injury.	• There was a remarkable decrease in the number of hospital services used per year; in particular, there was a 90% decrease in the number of days spent as an inpatient, an 83% decrease in the number of days spent in psychiatric units, and an 82% decrease in the number of hours spent in emergency. • This translated into a 60% decrease in cost burden for NSW Health; the provision of hospital services for clients 1 year prior to ISP cost about A$1,261,392 per year compared with A$517,673 per year during ISP. • Clients also demonstrated a considerable decrease in contact with Corrective Services: there was a 94% decrease in the number of days spent in custody 1 year prior to ISP and clients' second year in the Project. • Clients became more independent in some activities of daily living, particularly budgeting, cleaning, bathing and dressing. In most other areas, minimal change was registered. This shows that ISP clients will likely require continuing support with daily living skills even after they have exited from the Project. • At January 2009, three quarters of ISP clients rated their health as excellent, very good or good. These scores did not change between Phase 1 and 2 of the research, which indicates that clients experienced stable health conditions between the two phases of the research. • ISP clients experienced an improved quality of life since becoming involved with the Project. Clients were particularly positive about their

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
consultants, 2 clinical support workers, 0.5FTE senior specialist psychologists, occupational therapist, vocational trainer, 2 administrative staff.		achievements in life, future security, standard of living and life as a whole. • At January 2009, 58% had regular contact with parents, 70% had regular contact with siblings, and 72% had regular contact with friends. This was reported by stakeholders to be an increase on baseline measures. • ISP encouraged clients to become involved in social and other community participation activities as appropriate. The majority of clients (81%) had become involved in social and community activities since becoming a client of ISP. Some clients had also become involved in volunteering (14%), work (28%) and education (31%). • Although the Project is set up to provide support for 18 months, as of January 2009, the average time current clients had spent in the ISP was 21 months, while the 18 former clients had spent an average of 25 months before exiting the Project. • Exited clients did not differ from clients in ISP in regards to OBS results, independence in living skills, and economic participation, indicating that many of the changes made by clients in ISP were sustained after transitioning out of the Project. • However, personal wellbeing and involvement in community activities decreased for clients who had exited, which suggests that the transition out of ISP may be problematic for clients. • More data is needed to determine conclusively whether the changes experienced by clients in ISP are sustainable after exiting from the Project.

Model of Care	Study / Evaluation Characteristics[13]	Outcomes
		Cost • Based on expenditure data, the cost of providing ISP services over a one-year period was approximately A$6,417,604. • Direct service provision accounted for 80% of total expenditure. • The average annual cost per client was A$207,000, and it cost approximately A$140,000 to support clients after they have exited from the ISP. The average cost per client prior to entry to the ISP was A$376,000 as reported by nominating agencies but this figure should be viewed with caution as it was based on 18 clients and the method for determining costs across the group was unclear. • Outcomes for clients included: ○ some reduction in the frequency and impact of challenging behaviours ○ decreased hospital use and reduced contact with corrective services ○ increased independence in activities of daily living ○ access to stable housing ○ increased wellbeing ○ increased involvement in social and community activities.

8.1.2 Supported Housing Models

Model of Care	Study / Evaluation Characteristics	Outcomes
At Home/Chez Soi Project – All Five Sites, Canada **Housing First + ACT (High needs sub-group)** • Based on Pathways to Housing approach • Key distinguishing feature from other Housing First Programs = providing as much choice as possible to clients over place or residence. The vast majority choice scattered site, private-market apartments. • Rent supplements were provided so that participants' housing costs did not exceed 30% of their income. • Housing coordinators provided clients with assistance to find and move into housing (identify potential housing units, accompany client to visit available apartments, negotiate lease agreements with landlords, assistant moving into and setting up apartment, provide assistance in adapting to new living situation, serve as mediator between landlord and tenant if necessary). • Support services were provided by using ACT, a multidisciplinary team approach with a 10:1 client-to staff ratio. At a minimum, study participants agreed to observe the terms of their lease and be available for a weekly visit by program staff. An assessment of fidelity conducted 9-13 months after the beginning of the study found the programs at all 5 sites showing on average a high level of fidelity to the Pathways Housing First model. Fidelity assessment entailed site visits by 3	Aubry 2015 [66] **Study design** • Multisite non-blind parallel group RCT: • Housing First vs. TAU • Five sites: Vancouver, Toronto, Montreal, Moncton & Winnipeg **Study quality** High quality • Low risk of reporting bias (CONSORT) • Direct comparison of symptoms, housing, quality of life, and community functioning • Large sample size • Prospectively gathered data. • Study sample • N=950 (469 HF; 481 TAU) Response rate: 90% (856; 450 of HF group, 406 of TAU group) **Inclusion Criteria** • Legal adult status (age 18 or older, except 19 or older in Vancouver) • Absolute homelessness (no fixed place to stay) or precarious housing (living in a rooming house, single room occupancy housing, or hotel or motel with 2 episodes of absolute homelessness in past year) • SMI as determined by DSM-IV criteria on the MINI 6.0 (23) at the time of entry	**One-year outcome of 'high-need' subgroup** • "High need" was defined as a score of less than 62 on the Multnomah Community Ability Scale (MCAS), assessment of bipolar disorder or psychotic disorder on the Mini International Neuropsychiatric Interview 6.0 (MINI 6.0), at least 2 hospitalisations in 1 year of the past 5 years, a comorbid substance use disorder, or arrest or incarceration in the past 6 months. Individuals were referred to the study by health and social service agencies in the 5 cities. ** But for Moncton, sample size too small also included moderate need group Psychiatric symptoms [Colorado Symptom Scale] and Substance use [Global Appraisal of Individual Needs-Short Screener] • Both groups reported decreases in severity of psychiatric symptoms and substance use problems, but the differences between the groups over time were not significant. Housing [Residential Time-Line Follow-Back Inventory] • 73% (N=316) of Housing First participants and 31% (N=124) of treatment-as-usual participants resided in stable housing (mean score 0.39 at baseline vs. 0.14 at 1 year follow up). • HF participants were 6.35 times more likely to have stable housing at 12-month follow up after controlling for age, sex and ethnicity.

Model of Care	Study / Evaluation Characteristics	Outcomes
individuals knowledgeable about Housing First, who rated the programs on 38 Housing First standards related to housing choice and structure, separation of housing and services, service philosophy, service array, and program structure **Control: Treatment as Usual** • Access to the existing network of programs (outreach; drop-in centres; shelters; and general medical health, addiction, and social services) and could receive any housing and support services other than services from the Housing First program. The vacancy rate of rental housing was 0.7% in Winnipeg, 1.6% in Toronto, 2.5% in Montreal, 2.8% in Vancouver, and 4.1% in Moncton.	• Legal status as a Canadian citizen, landed immigrant, refugee or claimant • No receipt of ACT at study entry. **Sample Characteristics** • Mean age 39.40±11.03; 68% male • 55% Caucasian, 19% Aboriginal, 11% Black, 3% Asian, 13% Other • 59% with lifetime homelessness of <24 months • 51% with longest period of homelessness of >1 year • 52% psychotic disorder, 73% substance-related problems, 27% PTSD, 43% major depression, 16% manic or hypomania, 21% panic disorder, 20% mood disorder with psychotic features • 53% with ≥2 hospitalisations for mental illness in past 5 years • 33% arrested in past year • 59% victimisation in past 6 months • All had 'high needs'	• Among those not in stable housing at 12-month FU: • HF: 21/161 (18%) were in shelters, 17 (15%) were in prison or jail, 14 (12%) were in the hospital, and 8 (7%) were living on the street • TAU: 54/270 (20%) were in shelters, 16 (6%) were in prison or jail, 26 (10%) were in the hospital, and 25 (9%) were living on the street • Mean % time spent in stable housing: 69% for HF and 23% for TAU. Quality of Life (QoL) [Quality of Life Interview (QOLI-20) Scale] • Both groups reported significant improvements in QoL overall. • Improvements were significantly greater for HF group overall and for subscales: living situation, personal safety and leisure activities. • Both groups significantly improved on subscales: social relations, family relations and finances but there was no group differences. Community Functioning and Health [Multnomah Community Ability Scale] • Both groups significantly improved in community functioning. • Amount of improvement was significantly greater for HF group. • Subscales: HF group has significantly greater improvements in social skills (social effectiveness, size of social network, and participation in meaningful activity) and behaviour (cooperation with treatment providers, substance use, and impulse control).

Model of Care	Study / Evaluation Characteristics	Outcomes
At Home/Chez Soi Project – Moncton Site **Housing First (Subsidised Housing) + ACT (HF-ACT)** - See Aubry 2015 study **Control: TAU - Housing First (Subsidised Housing) + Intensive Case Management (HF-ICM)**	Aubry 2014 [65] **Study design** - RCT of Housing First + ACT vs. TAU **Study quality** High quality - Low risk of reporting bias (CONSORT) - Direct comparison of service use, housing, quality of life, community functioning, and cost - Large sample size - Prospectively gathered data - Loss to follow up at 2 years: 17% (10% from HF and 25% of TAU groups). **Study sample** - N=201 (100 HF vs. 101 TAU) - Inclusion criteria - See Aubry 2015 study **Sample characteristics** - 65% male, 67% over age 35 years, 99% Canada-born; 66% never married - 4% Aboriginal, 3% reported another ethno cultural status - 91% unemployed at the time of study entry (69% have worked steadily in the past) - 56% homeless, 44% precariously housed - 23% with psychotic disorder, 86% with non-psychotic disorder, 73% with substance-related problems	**Housing outcomes at 2 years** - >85% of HF group remained in stable housing throughout the 2 years (compared to ~45% of TAU group) - 73% of HF group were housed all of the time between 18-24 month follow up compared to 31% in TAU group. **Service use outcomes** - HF group showed a significant decrease in the use of most types of health and homelessness services during the course of the study. - Use of food banks was higher in HF group compared to TAU at 12 months (3.49 vs. 2.23 visits) and 18 months (3.50 vs. 3.00 visits). - Phone contacts with health care providers were more than twice as frequent in the HF group at 6 months (2.61 vs.. 0.81 contacts per month on average per participant), and 12 months (1.74 vs.. 0.74 contacts), but were similar for both groups by 18 months and 24 months. - Both groups made the same number of visits to outpatient clinics early in the study, but by the end (12 to 18 months and 18 to 24 months); there were twice as many visits by the TAU group (0.70 vs. 0.37, and 0.70 vs. 0.34 visits, respectively). - Calls to crisis lines decreased significantly in both groups. - Visits by crisis teams increased in the TAU group and were significantly more frequent over the course of the 12 to 18 month period (this difference was maintained from 18 to 24 months).

Model of Care	Study / Evaluation Characteristics	Outcomes
	- >60% presented with mental health and substance use problems - >50% with serious physical health condition and 74% reported prior traumatic brain injury - 37% reported learning problem/ disability - 4% with history of psychiatric hospitalisation for >6 months in the past 5 years. <u>Rural sample</u> - N=43 (24 ACT and 19 TAU) - 72% male, 79% francophone - Mean age 38 years - 67% unemployed at enrolment - 30% with psychotic disorder, 35% with substance related problems, 30% with alcohol related problems.	- Visits to service providers and outpatient clinics were higher for TAU group at 24 months. **Health and Social Outcomes** - HF group had significantly greater quality of life throughout the study period. - HF group showed significantly greater improvements in QoL related to their living situation, leisure activities, finances and sense of safety. - Both groups showed significant improvements in community functioning (observer rating of a client's ability to adapt and live independently in the community, based on mental health, social effectiveness, engagement in treatment and adaptive behaviours). - No differences were found between HF and TAU groups for: problems associated with substance misuse or physical or mental health scales. **Cost** - At Moncton site: C$20,771 per person per year on average (including salaries of all frontline staff and their supervisors, additional program expenses such as travel, rent, utilities, etc. and rent supplements. - Over the follow up period, HF group had an average cost reduction of C$16,089 compared to the TAU group for service costs. → A C$10 investment results in average savings of C$7.75. - The main cost offsets were office visits in community health centres and with other community-based providers (C$8,473 per person per year), hospitalisations in medical units in general hospitals (C$4,220 per person per year) and stays in detox

Model of Care	Study / Evaluation Characteristics	Outcomes
		facilities (C$2,731 per person per year). Other cost offsets and increases were all less than C$1,000 per person per year
At Home/Chez Soi Project – Montreal Site **Housing First (Subsidised Housing) + ACT (HF-ACT)** - See Aubry 2015 study **Housing First (Subsidised Housing) + Intensive Case Management (HF-ICM)** **Control: Treatment as Usual**	Latimer 2014 [68] **Study design** - RCT of - HF+ACT vs. TAU for high needs group - HF+ICM vs. TAU for moderate needs group - Specific to Montreal site: - Supported employment vs. vocational services within HF-ICM group - Impact of HF model on families - Comparison of the 2 ICM clinical teams - Qualitative study on impact of peers within clinical teams. **Study quality** High quality - Low risk of reporting bias (CONSORT) - Direct comparison of service use, housing, quality of life, community functioning, and cost - Large sample size - Prospectively gathered data. **Study sample** - N=469 - 163 high needs (81 HF+ACT vs. 82 TAU) - 306 moderate needs (204 HF+ICM vs. 102 TAU).	**Housing** - Almost all 285 participants in HF group were housed within 3 months of recruitment in apartments of their choice. - ~75% of HF groups remained in stable housing over the 2 year follow up compared to 29% in TAU group. - Proportion of participants housed all of the time during the 19-24 month period: - 85% of HF-ICM, 72% of HF-ACT group, 38% for high need TAU group, <38% for moderate need TAU group - HF-ACT group spent about 60% of their nights in permanent housing from the time of study entry until the end of follow-up, compared to 18% for the TAU group. The corresponding percentages for moderate need participants were 79% (HF-ICM) and 31% (TAU). - In the last 6 months of the study, 60% of HF group were housed all of the time, compared to 31% for TAU group; - 21% of HF group were housed none of the time, compared to 59% for the TAU group. - In the last 6 months of the study, the differences were larger among moderate need participants: 72% were housed all of the time, compared to 29% for the TAU group; and 7% were housed none of the time, compared to 52% for the TAU group. **Cost**

Model of Care	Study / Evaluation Characteristics	Outcomes
	Inclusion criteria • See Aubry 2015 study **Sample characteristics** • 68% male, mean age 44 years (76% over 35 years) • 2% Aboriginal • 94% unemployed at the time of study entry (78% have worked steadily in the past) • 96% homeless, 4% precariously housed • 34% with psychotic disorder, 60% with non-psychotic disorder, 61% with substance-related problems • >90% with serious physical health condition and 59% reported prior traumatic brain injury • 32% reported learning problem/ disability • 40% had 2+ hospitalisations for mental illness in any 1 year in the previous 5 years • 29% with involvement with criminal justice system in previous 6 months (arrested, incarcerated or served probation) • High victimisation: 22% reported being robbed or threatened to be robbed, 28% were physically assaulted, 30% threatened with physical assault.	• On average, the intervention cost C$22,482 per person per year for high need participants and C$14,029 for moderate need participants. • This cost is almost completely offset by savings in costs of other services, notably hospitalisations, shelters, and other types of housing. • Over the 2-year period following participants' entry into the study, every C$10 invested in HF services resulted in an average savings of C$8.27 for high need participants and C$7.19 for moderate need participants. **Employment among HF-ICM Group:** • 34% of participants receiving IPS supported employment obtained competitive employment compared to 22% in comparison group, which only received normally available vocational services. **Service use outcomes** • Declines in emergency room visits were reported in both HF and TAU groups for both high and moderate need groups, with generally lower levels among HF groups. • HF group also reported significantly fewer visits to hospitals for outpatient care (between 1-2 visits after 6 months compared to over 3 in TAU group throughout the study). • Use of drop-in centres for meals and other services was lower in HF group compared to TAU group. • Use of food banks increased for HF groups. • Phone contacts and provider visits increased for HF group but not for TAU group. Phone contacts peaked at 6 months for HF group and gradually decreased to

Model of Care	Study / Evaluation Characteristics	Outcomes
		same level as TAU group by 24 months. • Health and Social Outcomes • HF-ICM group reported greater improvement in quality of life (QoL Index-20) over the 2-year period compared to TAU group. • HF-ACT and HF-ICM both showed greater improvement in community functioning compared to their respective comparison group. **Justice Services** • Both groups had reduction in involvement with justice system or victimisation but no between group differences were found except that in the high need group, HF-ACT group had greater reductions in charges laid and being victim of assaults.
At Home/Chez Soi Project – Toronto Site **Housing First (Subsidised Housing) + ACT (HF-ACT)** • See Aubry 2015 study **Housing First (Subsidised Housing) + Intensive Case Management (HF-ICM)** • For moderate needs group not from an ethno racial group **Housing First Ethno-Racial Intensive Case Management (HF-ER-ICM)** • Ethno-racial defined as including persons who are racialised but not First Nations People. Also referred to as "people of colour" or "visible minorities". • An agency with extensive anti-racism/anti-	Stergiopoulos 2014 [37, 69] **Study design** • RCT of ○ HF+ACT vs. TAU for high needs group ○ HF+ICM vs. TAU for moderate needs group • Specific to Toronto site: ○ Stratified moderate needs group by ethno racial status ○ Program implementation evaluation and narrative interviews. **Study quality** High quality • Low risk of reporting bias (CONSORT)	**Housing outcomes** • At study end, HF participants had been stably housed for 80% of the time compared to 54% among TAU participants. Largest improvement was seen in the HF-ACT group compared to the corresponding TAU group. • HF-ACT vs. TAU: ~70% vs. ~45% of days in stable housing • HF-ICM vs. TAU: ~80% vs. ~50% of days in stable housing • HF-ER-ICM vs. TAU: ~80% vs. ~60% of days in stable housing • In the last 6 months of the study, 72% of HF participants were housed all of the time, 16% some of the time, and 12% none of the time. Corresponding rates for TAU group were 36%, 25%,

Model of Care	Study / Evaluation Characteristics	Outcomes
oppression (AR/AO) principles was selected to lead and implement the service model. • HF ER-ICM clients offered rent supplements to access furnished scattered site apartments in the neighbourhood of their choice, in conjunction with intensive case management support. • AR/AO principles are also embedded in program structure and management (e.g. hiring practices and regular staffing) • Services are provided in an environment that is inclusive and welcoming to ethno-racial communities, offering linguistic and culturally accessible programming and services onsite. • In addition to ICM, HF ER-ICM agency offers a variety of unique services including art therapy, community kitchen, computer program, creative expression, life skills, music therapy, traditional Chinese medicine, yoga, as well as Women's and Men's support groups. • Staff explicitly address oppression and mental health together, adapting delivery of service to clients' pace and recognizing variety in healing approaches. • The program involves families and peer networks early in the recovery process. • No conditions of housing readiness or acceptance of psychiatric treatment in the program, Criteria for eligibility into the program: • Weekly face-to-face meeting with their case manager, typically in their residence • <30% of their income will be used directly for rent • A maximum of C$600 monthly subsidy is paid directly to landlord, which in conjunction with	• Direct comparison of service use, housing, quality of life, community functioning, and cost • Large sample size • Prospectively gathered data. **Study sample** • N=575 (97 to HF-ACT vs. 102 HF-ICM vs. 102 HF-ER-ICM vs. 207 TAU) • 197 high need (97 ACT vs. 100 TAU) • 378 moderate need (102 HF-ICM vs. 102 HF-ER-ICM vs. 107 TAU) **Inclusion criteria** • See Aubry 2015 study **Sample characteristics** • 68% male, 64% over age 35 years, 54% born in Canada • 5% Aboriginal, 59% other ethno cultural • 95% unemployed at the time of study entry (68% have worked steadily in the past) • 37% with psychotic disorder, 65% with non-psychotic disorder, 58% with substance-related problems • 54% with prior traumatic brain injury. • 32% reported learning disability • 43% had 2+ hospitalisations for mental illness in any 1 year in the previous 5 years and 5% had been hospitalised for mental illness at least once for >6 months • 38% with involvement with criminal justice system in previous 6 months (arrested,	and 39% respectively. • Housing quality was similar across all groups. **Service use outcomes** • Both HF and TAU groups showed reductions in use of family physicians as well as medical specialists (psychiatrists, mental health workers such as case managers and other service providers) and outpatients' visits to hospitals. HF group showed more rapid decline compared to TAU group. • Both groups had reduction in emergency department visits; the degree of reduction was sharper in HF group. • General trend for reduction in arrests were seen during the study period, with greater reduction in HF group compared to TAU group. **Health and social outcomes** • Quality of life and community functioning improved in both HF and TAU groups, and, in some cases, there was no significant difference in the degree of improvement in these groups. • However, moderate needs participants from ethno racial backgrounds in the 2 HF-ICM teams saw a marginal improvement in quality of life over the span of the study, compared to their TAU counterparts. • In the high needs group, community functioning improved in the HF-ACT group compared to the TAU group. In addition, the final visit community functioning scores were significantly higher in the ACT group compared to the TAU group. • Similarly, ethno racial moderate needs participants had significantly higher community functioning

Model of Care	Study / Evaluation Characteristics	Outcomes
<30% of participant's income (typically from social services) is used to cover the rent cost. • Study budget also includes allowance for furnishing and moving costs. **Control: Treatment as Usual** • Provided with information about the availability of such services in the community and were directed to both mainstream and homeless-specific health services for care.	incarcerated or served probation). **Program Evaluation** • N=38 in 5 focus groups: ○ HF ER-ICM Team (N=7) ○ Staff from Housing Team (N=4) ○ Members of consumer caucus (N=12) ○ HF ER-ICM participants (N=10) ○ Control group participants (N=5) ○ N=5 (key informants): ○ Toronto site principle investigator ○ Toronto site program coordinator • Representative of City of Toronto and its Housing Team • Director of HF ER-ICM Team • HF ER-ICM Team lead	scores at the final study visit and saw an improvement in community functioning over the study period, compared to the TAU group. **Cost outcomes** • HF cost C$21,089 per person per year on average for high needs participants, and C$14,731 per person per year for moderate needs participants. • Program costs included staff salaries and expenses such as travel, utilities, and rent supplements. HF for high needs participants is more costly mainly because of the higher staff-to-participant ratio. • Over the 2-year period, HF services resulted in average reductions of C$31,747 in service costs for high needs and C$4,274 for moderate needs participants. • Every C$10 invested in HF resulted in an average savings of C$15.05 for high needs participants and C$2.90 for moderate needs participants. • For high needs participants, the main cost offsets were psychiatric hospital stays, home and office visits to health or social service providers, and jail or prison stays. For moderate needs participants, the main cost offsets were shelter stays and stays in single room accommodations with support services. For moderate needs participants, cost increases were seen in general hospital stays in psychiatric units.
At Home/Chez Soi Project – Vancouver Site **Housing First (Subsidised Housing) + ACT (HF-ACT)** • See Aubry 2015 study	Currie 2014 [64, 67] **Study design** • RCT of • HF+ACT vs. TAU for high needs group	**Service use outcome** • One-year after study entry, HF-ACT participants had significantly lower ED use, compared to TAU. Reductions were also observed in the HF-CONG

Model of Care	Study / Evaluation Characteristics	Outcomes
Housing First-Congregate setting with onsite supports (HF-CONG) - CONG intervention was unique to the Vancouver site - Provided with a private room and bathroom, daily meals, and a 24- our staffed reception desk with access to a range of health and social support services. **Control: TAU**	- HF+ICM vs. TAU for moderate needs group - Specific to Vancouver site: - Housing in congregate setting. **Study quality** High quality - Low risk of reporting bias (CONSORT) - Direct comparison of service use, housing, quality of life, community functioning, and cost - Large sample size - Prospectively gathered data. - Study sample - N=497 - 297 high needs (90 HF-ACT scattered site vs., 107 HF-Congregate site vs. 100 TAU) - 200 moderate needs (100 HF-ICM vs. 100 TAU) **Inclusion criteria** - See Aubry 2015 study **Sample characteristics** - 72% male, 66% over age 35 years, 87% born in Canada - 15% Aboriginal, 23% other ethno cultural - 92% unemployed at the time of study entry (65% have worked steadily in the past) - 53% with psychotic disorder, 62% with non-psychotic disorder, 71% with substance-related problems - 66% reported prior traumatic brain injury - 53% had 2+ hospitalisations for mental illness	group compared to the high need TAU group but these reductions were not statistically significant. - HF, particularly in the scattered-site model, leads to significant reductions in ED use among adults experiencing homelessness and mental illnesses. **Housing outcome** - HF participants were stably housed significantly more of the time than TAU participants. - In the final 6 months of the study, HF participants were housed 59% of the time, while TAU participants were only stably housed 26% of the same time period. - 42% of TAU participants had no stable housing, while only 14% of HF participants had no stable housing during the last 6 months of the study. - Housing quality was significantly higher for HF residences compared to TAU residences. Housing quality was also significantly more consistent (less variable) for residences procured for HF participants compared to residences that TAU participants were able to get on their own or by using other housing programs and services for those housed for at least 2 months over the study period. **Health and social outcome** - Participants randomised to any HF group (ACT, CONG, or ICM) reported significantly greater quality of life after 1 year compared to the respective TAU group, regardless of specific intervention type (based on more positive perceptions of their safety and living situations). - All HF groups had significantly greater improvements

Model of Care	**Study / Evaluation Characteristics**	**Outcomes**
	in any 1 year in the previous 5 years and 12% had been hospitalised for over 6 months • 81% with serious physical health conditions • High victimisation: 36% reported being robbed or threatened to be robbed, 36% were physically assaulted, 48% threatened with physical assault. • High general distress (34% with moderate to high suicide risk)	than TAU at 24 month follow up on community functioning. • The majority of the sample (67%) had been involved in the criminal justice system with a mean of 8.7 convictions per person in the decade prior to recruitment. Property crimes (mean 4.09) were the most common category of crime among participants. Post-randomisation, HF-ACT was associated with a significantly lower number of sentences compared to the high needs TAU group. HF-CONG group was associated with marginally significant reductions in sentences as compared to TAU. **Cost outcome** • The HF-ACT scattered site intervention cost C$28,282 per person per year on average for high needs participants, and C$15,952 per person per year for moderate needs participants. • These costs include salaries of all front-line staff and their supervisors, additional program expenses such as travel, rent, utilities, etc., and rent supplements provided by the Mental Health Commission of Canada (MHCC) grant. The HF-ACT intervention was more costly mainly because of the higher staff-to-participant ratio. • Over the 2-year follow-up period, receipt of HF services resulted in average reductions of C$24,190 per person per year in the cost of services for high needs participants, but an overall increase of C$2,667 for moderate needs participants. • Every C$10 invested in HF services resulted in an average savings of C$8.55 for high needs participants.

Model of Care	Study / Evaluation Characteristics	Outcomes
		• For moderate needs participants, the intervention did not result in any cost offset when differences between the groups at study entry are taken into account. Every C$10 invested in HF services resulted in an increase in spending of C$1.67. These differences in costs arose from a combination of decreases in the costs of some services (cost offsets), and increases in the costs of others. • For high needs participants, the main cost offsets were hospitalisations in psychiatric hospitals ($15,646 per person per year), hospitalisation in medical units of general hospitals ($9,740 per person per year), hospitalisations in psychiatric setting ($5,487 per person per year), overnight stays in emergency shelters ($4,066 per person per year), office visits in community health centres and other community providers ($3,016 per person per year), occupation of single rooms with support services ($1,331 per person per year), ED visits ($1,183 per person per year), drugs or alcohol treatment or residential recovery program ($1,172 per person per year), stays in detox facilities ($1,059 per person per year), and stays in nursing homes and long-term care facilities ($1,007 per person per year). One cost in particular increased: stays in a residential program for psychiatric rehabilitation ($2,920 per person per year). • For moderate needs participants, the main cost offsets were visits at day centres ($1,910 per person per year), occupation of single rooms with services ($1,376 per person per year), stays in nursing homes and long-term care facilities ($1,100 per person per year), and ED visits ($1,025 per person per year). At

Model of Care	Study / Evaluation Characteristics	Outcomes
		the same time, several costs increased significantly: office visits in community health centres and to other community providers ($4,531 per person per year), incarceration in jail or prison ($2,234 per person per year), and hospitalisations in a medical unit in a general hospital ($1,862 per person per year). Other cost offsets and increases were less than C$1,000 per person per year.

At Home/Chez Soi Project – Winnipeg Site
Housing First (Subsidised Housing) + ACT (HF-ACT)
- See Aubry 2015 study
Housing First (Subsidised Housing) + ICM
- Details not provided
Housing First (Subsidised Housing) + AB-ICM
- The Ni Apin Program offered by the Aboriginal Health and Wellness Centre in Winnipeg, this program is a "medicine Wheel"/ICM model with the additional day program and provides housing alternatives to its constituents at first point of entry into the program.
- Delivered by Aboriginal partners, this model incorporates the Indigenous notions of home, health and place, and based on the evidence indicating the therapeutic importance of connection to land, community and family.
- HF-AB-ICM responds to the unique Aboriginal housing needs
	Distasio 2014 [35, 36]
	Study design
	- RCT of
	  ○ HF+ACT vs. TAU for high needs group
	  ○ HF+ICM vs. TAU for moderate needs group
	- Specific to Winnipeg site:
	  ○ HF+AB-ICM vs. TAU
	- Qualitative assessment of the experience of Aboriginal participants.
	Study quality
	High quality
	- Low risk of reporting bias (CONSORT)
	- Direct comparison of service use, housing, quality of life, community functioning, and cost
	- Large sample size
	- Prospectively gathered data.
	Study sample
	- N=513
		Housing Outcomes
		- In the last 6 months, 45% of HF participants were housed all of the time, 28% some of the time, and 27% none of the time. Corresponding rates for TAU group were 29%, 18%, and 52%.
		Health and Social outcomes
		- All HF intervention groups showed significant improvements in community functioning compared to TAU groups.
		- A representative sub-group of participants who shared life stories indicated that having both decent housing and a trusting relationship with an At Home/Chez Soi (or other) worker enabled them to gain control over their social relationships, reconnect with previous positive relationships such as children and family, and begin to establish new ones.
		- Quality of life improved significantly at final follow-up in the ICM-open group vs. TAU, while substantial improvement in overall community functioning and social skills over the entire study period was observed amongst people in the ICM AB group compared to those in the ICM-open and TAU groups.

Model of Care	Study / Evaluation Characteristics	Outcomes
	- 199 high need (100 HF-ACT vs. 100 TAU) - 314 moderate need - 260 Aboriginal (60 HF-ICM vs. 100 HF-AB-ICM vs. 100 TAU) - 80 Non-Aboriginal (40 HF-ICM vs. 40 TAU). **Inclusion criteria** - See Aubry 2015 study **Sample characteristics** - 64% male, 63% over age 35 years, 97% born in Canada - 71% Aboriginal, 5% other ethno cultural - 91% unemployed at the time of study entry (52% have worked steadily in the past) - 28% with psychotic disorder, 86% with non-psychotic disorder, 77% with concurrent disorders such as substance-related problems or PTSD - 82% with prior traumatic brain injury - 41% reported learning disability - 22% had 2+ hospitalisations for mental illness in any 1 year in the previous 5 years - 35% with involvement with criminal justice system in previous 6 months (arrested, incarcerated or served probation) - High victimisation: Had on average 6 different categories of child abuse before age 18, 49% reported history of foster care, 41% reported being robbed or threatened to be robbed, 51% were physically assaulted, 55% threatened with physical assault. - High general distress (40% with moderate to	- There was no difference in these outcomes between HF-ACT group compared to the High Needs TAU group. **Cost outcomes** - The HF intervention cost C$18,840 per person per year on average for high need participants, and C$12,552 per person per year for moderate need participants. - These costs include salaries of all front-line staff and their supervisors, additional program expenses such as travel, rent, utilities, etc., and rent supplements provided by the Mental Health Commission of Canada (MHCC) grant. The HF-ACT intervention is more costly mainly because of the higher staff: participant ratio. - HF services resulted in average reductions of C$17,527 in the cost of services for high need participants, and C$4,838 for moderate need participants. - Every C$10 invested in HF services resulted in an average savings of C$9.30 for high need participants, and C$3.85 for moderate need participants. - For high need participants, the main cost offsets were hospitalizations in the medical units of general hospitals (C$7,056 per person per year), hospitalisation in psychiatric settings (C$4,181 per person per year), office visits in community health centres and other community providers (C$3,752 per person per year), incarceration in jail or prison (C$2,282 per person per year), outpatient consultations (C$1,417 per person per year), living in transitional housing settings (C$1,203 per person per

Model of Care	Study / Evaluation Characteristics	Outcomes
	high suicide risk).	year) and drug or addiction treatment or residential recovery programs (C$1,067 per person per year). One cost in particular increased: visits at day centres (C$1,816 per person per year). - For moderate need participants. the main cost offsets were hospitalisations in medical units in general hospitals (C$3,321 per person per year), living in transitional housing settings (C$1,720 per person per year), office visits in community health centres and other community providers (C$1,296 per person per year), and drug or addiction treatment or residential recovery programs (C$1,184 per person per year). One cost in particular increased: hospitalisations in psychiatric settings (C$3,161 per person per year). Other cost offsets and increases were all less than C$1,000 per person per year.
Fusion of Care (shelter-based collaborative mental health care for the homeless) - Toronto, Canada - Developed at Seaton House, one of Canada's largest homeless shelters for men (560-bed capacity) in partnership with St Michael's Hospital in Toronto - Includes a client support worker, a nurse, 2 counsellors, all full-time shelter employees as well as a family physician and a psychiatrist, both from St Michael's Hospital, who offer concurrent clinics at the shelter, half a day weekly. - Team provides in-house integrated medical care and case management and has the capacity to serve 40 clients at any given time.	Stergiopoulos 2008 [170] **Study design** - Chart review of clinical and hostel databases (including physician and counsellor notes). **Study quality** Low quality - Not intervention study - Cross sectional chart review - Assessment of hospital use and treatment compliance - Small sample size.	**At 6-month follow up:** - 35.3% had improved clinically and 48.5% had secured housing - <u>Number of visits</u> to a psychiatrist was associated with approximately 60% greater likelihood of both clinical improvement and secured housing at 6 months (OR=1.59; 95%CI 1.21-2.10 and OR=1.56; 95%CI 1.17-2.10, respectively). - <u>Treatment adherence</u> of greater than 80% was associated with 8 times greater likelihood of clinical improvement (OR=7.97; .64-38.76) and 16 times greater likelihood of secured housing (OR=16.24; 2.73-96.46) at 6 months compared to those with less than 80% treatment adherence.

Model of Care	Study / Evaluation Characteristics	Outcomes
- Targets clients whose health needs exceed the hostel's resources and who are unable to access community-based services. - Team meets weekly to discuss treatment plans for clients. - Physicians collaborate closely through direct and indirect consultations.	**Study sample** - N=73 **Inclusion criteria** - All clients referred to the program between Mar 2004 and Feb 2005) - Assessment available at both baseline and 6-month follow up (N=68; the other 5 had left the shelter – presumably to another shelter or to the streets) **Sample characteristics** - Men, mean age 38.9 years - 52 (78%) never married, 7 (10%) separated, 8 (12%) divorced - 48 (71%) Caucasian, 17 (25%) Black, 1 (2%) Asian, 2 (3%) Aboriginal - 67 (99%) unemployed - 27 (43%) no high school diploma - 55% had previous psychiatric hospitalisation - 61% had history of incarceration. - 76.5% with SPMI, 48.5% with substance use disorders. 24% with personality disorder - 41.1% with schizophrenia - 48% with comorbid mental illness and alcohol or other substance use disorders	- Number of visits to family physician* and having a personality disorder were not associated with clinical and housing outcome. - The presence/absence of a substance disorder was not associated with clinical outcome but the absence of a substance use disorder was associated with positive housing outcomes (OR=0.13; 0.02-0.79). - * Number of visits to family physician and housing outcome OR=1.43, 95%CI 0.99-2.07. This is likely to be significant with greater sample size.
Grais Apartments, an Integrated Residential Treatment - Chicago, USA The Apartment - An economically and ethnically diverse neighbourhood with easy access to mass transit.	Davis 2006 [171] **Study design** - Longitudinal follow up study and retrospective case-control study of <1-year vs. 24-month care in Integrated Residential	**Program Retention** - 11 moved out of the residence over the course of the 24-month period - Mean number of days among the 11 people was 222.33 days.

Model of Care	Study / Evaluation Characteristics	Outcomes
Security, staff offices and common spaces are at street level, with 3 co-ed residential floors above. Each apartment has a private bath, fully equipped kitchen, furniture and linens. Many residents lack fully developed independent living skills needed to maintain an apartment, and the program design facilitates maintaining a pleasant living environment. • For admission, clients must commit to goals that will help sustain their motivation to recover and agree not to use substances in the building. While relapses are anticipated, persistent use of drugs in the building will be asked to leave. Otherwise they may stay as long as they feel the need. Treatment Components • Intensive case management model informed by ACT • The Team makes frequent visits to work on substance use-relate issues and helps with practical needs (representative payee, medication management, shopping, budgeting etc.). • Caseload: 5 – small ration to ensure immediate response to critical needs of residents or of collateral contacts (family, friends, neighbours or community consumers) and ensures longer and more frequent contact time. • Two formal weekly visits (more if needed) from 1 residential staff, typically in consumers' apartments to discuss - and sometimes advise and coach on - recovery issues in the context of day-to-day problems, education, health care and job issues to ensure that residents get to school, training	Treatment **Study quality** Low quality • Pre-post and group comparison analyses • Observational study • Primarily a descriptive study • No comparison group • Group comparison analyses basic and somewhat unclear. **Study sample** • N=38 **Inclusion criteria** • Residents of Grais Apartments • Criteria for GA eligibility: ○ With co-occurring disorders (e.g. at least 2 DSM-IV Axis I MI and substance use disorder) ○ No history of violence ○ Documented history of homelessness. **Sample characteristics** • 79% male, mean age 47.7 years • 35.5% African American • all residents received Social Security disability payments • 68% schizophrenia, 95% substantial substance dependency diagnosis, 5% substance abuse disorder • 100% had history of homelessness and	**Patients outcomes** Pre-post evaluation (one-year prior to intake vs. 24-month follow up period) • Residents showed significant reduction in both drug and alcohol use between intake and 18 months • Significant reduction in: ○ Hospitalisation rates (26% pre-intake vs. 7% at 24 months) ○ Hospital Days Over The 24 Months (196 Days Vs. 35 Days) ○ # Psychiatric episodes (19 vs. 2).

Model of Care	Study / Evaluation Characteristics	Outcomes
classes, doctor appointments etc. • The apartment acts as representative payee for most residents to address problems with money being one of the biggest triggers for substance abuse. • Integral to residents is the weekend services (all clinical staff work 1 weekend shift so that the full scope of care is provided by the same provider). Regular recreational activities are organised together for both staff and residents: camping trips, ball games, theatre, walks/picnics etc. • Treatment decisions are made with residents. • Each staff member is accessible for and encourages informal, drop-in visits from residents and each leads groups and community meetings, both of which increases contact time. • Medication supervision is conducted only for those on community treatment orders or who, if non-compliant, are unable to function effectively to live peacefully with other residents. Urine/breath tests are used to inform planning, with no impact on staying at the residence. • Residents have a choice of individual counselling and/or stage wise group counselling. • Each resident, with staff, make a personal recovery plan and if a resident relapses, a recovery intervention plan is developed which logs situations, events and/or moods that trigger relapses.	multiple psychiatric hospitalisations.	
Housing and Accommodation Support Initiative (HASI) - NSW, Australia • HASI is based on a three-way partnership between	Bruce 2012 [75, 76] **Study design**	**Assessments involved patients, families, mental health professionals, and accommodation support providers**

Model of Care	Study / Evaluation Characteristics	Outcomes
NSW Health, the Department of Housing and the non-government sector (NGO). • NSW Health is responsible for providing ongoing clinical care through local health districts and for funding accommodation support provided by NGOs, with a recovery framework. • Long-term housing is provided by Housing NSW and community housing providers, and stage 3B involved the purchase of 50 properties for high-support patients. • Patients living in properties which they own or rent privately can also receive HASI support. • Tenancy management services are provided by public, community and private providers. • NGO support works within a recovery framework and involves help with accessing the community, developing skills in personal self-care, counselling and advocacy. They work with patients to identify and achieve the goals that patients set for themselves in their individual service plans. • Different stages of HASI were targeted to meet the different needs of patients, from low support (up to 5 hours a week) to high support (up to 8 hours a day). • Priority for higher support is given to patients who are in hospital due to difficulties in accessing high-levels of accommodation support, homeless people or people at risk of homelessness, those whose current housing is at risk due to lack of care and support, or those who are unlikely to be able to maintain a mainstream tenancy agreement without HASI-type support.	• Pre-post evaluation HASI **Study quality** Low-to-moderate quality • Large sample • Direct assessment of mental health, life skills and behaviour using standardised measures • Prospectively gathered data • No control group • Observational study • Unable to assess data or study quality using standardised measures. **Study sample** • N=895 **Inclusion criteria** • Psychiatric patients >16 years old requiring support services • Ability and desire to live in the community. **Sample characteristics** • Not all were long-stay patients • 65% schizophrenia, 28% comorbid substance use disorder, 12% medical comorbidity, 10% comorbid intellectual disability • Average age 41 years, 53% male • 9% Aboriginal or Torres Strait Islander • 8% English as a second language • 98% of the sample needed housing; 72% of higher support patients and 26% of lower support patients.	<u>Patient outcomes (2 years)</u> • 24% reduction in hospitalisations and 59% reduction in length of hospitalisation • Greatest decreases in length of hospitalisation were experienced by men and younger patients (<44 years), and a trend for higher support patients vs. lower support patients in the first year, but not by year 2 • Significant improvement in mental health (Kessler 10, K10), life skills (LSP16) and behaviour (HoNOS) • 90% successfully maintained their tenancies; they paid rent on time, maintained their property, and were good neighbours. • Small improvement in independence in daily living skills (significant only for cooking and cleaning), social participation, community activities and involvement in education and voluntary or paid work. • Patients reported improved quality of life (no scale reported). • Physical health remained lower than the general population. • Initial increase in community mental health services use, then more frequent use of psychiatrists and allied health professionals, and less frequent use of community mental health services. • Patients receiving higher HASI support services used community mental health and psychiatric services more frequently than those on lower support, but used GP or allied health services less frequently. • Patients who were most willing and motivated to engage benefited the most, and those with drug or alcohol use and/or low motivation benefited the

Model of Care	Study / Evaluation Characteristics	Outcomes
		least. Costs • The annual cost per person was estimated for a start-up of approx. A$110,340 and a recurrent annual cost of between A$11,000 and A$58,000, plus project management costs of between A$200 to A$500, depending on the level of accommodation support and the method of calculating the annual unit cost. • Note that costs do not include clinical services. **Feedback and recommendations** • Demand exceeds supply in all areas of the service model because of the finite number of HASI packages and the limited availability of clinical mental health services and social housing. • The processes for referring and selecting patients into HASI generally conformed with the procedures set out in the HASI Resource Manual, although locations with multiple referral forms created confusion and obstacles to referral; it would be worthwhile reviewing whether to standardise the referral processes within these locations. • Factors contributing to effective selection meetings were: regularity of meetings, joint agreement by local partners about the role of housing providers in selection processes, and discussion about the needs of current patients. • The effectiveness of HASI support is assisted by strong internal risk assessment and management processes, good communication and coordination strategies, and confidentiality procedures. • The provision of accommodation support works well

Model of Care	Study / Evaluation Characteristics	Outcomes
		when staff are highly professional, understand the personal recovery approach and have the opportunity to continually develop new skills. • Regular training and information for staff and managers of the HASI partners is needed. • Better coordination with related services to facilitate transitions and integration is needed. • Clearer articulation of effective pathways to secure housing is needed. • HASI patients are generally satisfied with the tenancy management of their dwellings, although they criticised the maintenance processes.
Housing and Accommodation Support Partnership (HASP) – Queensland, Australia • HASP is a cross-departmental initiative involving the collaboration of Queensland Health, Department of Communities and Disability and Community Care Services. • Disability and Community Care Services provides non-clinical disability support, and clinical care is provided by Queensland Health specialist mental health services, and long-term, secure and affordable housing is provided by existing social and community housing providers. • Has a recovery framework with the following components: ○ Patient nominations are presented to a local coordination panel to verify eligibility and non-clinical support requirements. ○ A case manager assists the individual to select a suitable NGO and together they work to	Meehan 2010 [172, 173] **Study design** • Pre-post evaluation of HASP **Study quality** Low quality • Direct assessment of functioning using standardised measures Prospectively gathered data • Small sample • Only 52% of the discharged sample participated in the evaluation • No control group • Observational study • Unable to assess data or study quality using standardised measures. **Study sample**	**Assessments involved patients, case managers, support workers and facilitators, and housing services staff** Patient outcomes (1 year) • Average time spent in inpatient care decreased significantly from an average of 227 days in the 12 months prior to HASP, to an average of 18.9 days in the 12 months post- HASP. • The proportion of patients on Involuntary Treatment Orders decreased from 46% to 22%. • Over half the patients improved in general functioning and over 40% improved in their clinical functioning (HoNOS and LSP16). • Patients reported a good quality of life (average score of 7 out of 1-10, scale not reported). • Patients worked an average 18.06 hours per week in paid work and 8.15 hours per week in volunteer work, and 10% participated in training programs. • 40% of patients reported wanting more work

Model of Care	Study / Evaluation Characteristics	Outcomes
develop a support plan. ○ Department of Housing and Public Works assesses the person's housing and tenancy management needs and identifies a suitable property to meet those needs. ○ All stakeholders work together to collaboratively develop and implement a plan to transition the person to the community ○ Time and method of transitioning is directed by each patient. **Control: NA**	• N=153 (80 participated in the evaluation) **Inclusion criteria** • Psychiatric inpatients >18 years who were Australian citizens or permanent residents living in QLD who are currently or repeatedly housed in an inpatient care facility • Unable to be discharged due to homelessness or risk of homelessness • Do not own a home, or rent privately • Have a current Housing and Homelessness Services home or able to meet Housing and Homelessness Services eligibility criteria • Committed to maintaining stable housing • Have ongoing clinical needs that can be met by community mental health services • Require non-clinical support to live successfully in the community • Willing and ready to transition to the community with the appropriate level of support • Willing and able to provide informed consent. **Sample characteristics** • Not all were long-stay patients • 88.7% schizophrenia • 76.2% male • 87.5% born in Australia • 10% Aboriginal or Torres Strait Islander.	involvement. • Significant reduction in the amount of support provided to patients over time, although level of support remained high (average 27.6 hours per week to 20.4 hours per week). Costs (projected costs are from Synergies Economic Consulting data) • 2010: A$183 per person per day in HASP, including non-clinical and clinical services vs. A$670 per person per day in an inpatient unit • $670 per person per day in an inpatient unit • Projected costs per person per day; 2020: A$342 vs. A$1268, 2030; A$552 vs. A$2049. **Feedback and recommendations** • HASP provides an efficient and effective model. • Patients appreciated the holistic approach and noted that collaboration between the agencies involved was integral to the success of the program. • 82.2% of patients indicated that involvement in HASP had helped them (or was currently helping them) to achieve their goals; 90% expressed a high-level of satisfaction with housing. • Demand far exceeds the number of packages available, so needs to be expanded. • Support workers need more training and clinical supervision to enable them to deal more effectively with patients. • More information needs to be provided to the staff of all agencies concerning the selection criteria and the characteristics of patients most suitable for the program.

Model of Care	Study / Evaluation Characteristics	Outcomes
		• Reduce the burden placed on staff to nominate patients for HASP; a brief application (one or two pages) could be reviewed at the district level and when a patient or patients have been selected for that district, a more complete application could then be developed by the state-wide HASP panel. • Continue to provide information sessions by members of the HASP Operational Partnership to keep staff informed of developments in the program. • Clarity is required around the role and the level of involvement that Service Integration Coordinators should have in HASP; a single point of contact within each district is required. • A regular review of patient support packages is required. • The use of a diary (kept in patients' homes) to keep a record of appointments and other activities arranged/carried out by each visitor enables improved communication and an audit trail of interventions carried out. • The block funding model needs to be reviewed to ensure that there is sufficient flexibility within the model to enable patients to move more freely between agencies if they so desire. • The current model of service delivery needs to be more closely aligned to the principles of recovery. • Implementing strategies to reduce cigarette-smoking should be considered. • Link more patients into training or other activities such as volunteer work. • A system of ongoing evaluation is needed.

Model of Care	Study / Evaluation Characteristics	Outcomes
Housing and Accommodation Support Partnership (HASP) – South Australia, Australia [174-178] • Provision of new, furnished housing with security of tenure; 20 high support places at Burnside, and 59 medium to high support places in Adelaide metropolitan areas. • Patients living in rural areas can also receive HASP support. • Provision of use of existing clinical mental health care which is individualised and recovery focused. • Support during transition from facility based services to home and community living and development of individual support plans. • Allocation of care coordinator NGO with up to 24-hour psychosocial rehabilitation and support services that are flexible and responsive to the person's needs. • Living skills support and training to enable day to day living in the community, assistance with maintenance of housing, assistance with community engagement, strengthening relationships, and employment. **Control: NA**	Health Outcomes International 2013 [179] **Study design** • Pre-post evaluation of HASP **Study quality** Low quality • Direct assessment of mental state, life skills and functioning using standardised measures • Prospectively gathered data • Small sample • No control group • Observational study • Unable to assess data or study quality using standardised measures. **Study sample** • N=87 **Inclusion criteria** • Psychiatric inpatients who have non-existent, lost or limited independent living skills and require significant support to develop skills in the management of housing, finances, relationships, activities of daily living, social integration and/or parenting • Are eligible for housing with the housing provider • Have an identified mental health contact person (commonly a care coordinator from a Community Mental Health Service) or are in the process of being allocated one • Are homeless or at risk of homelessness,	**Assessments involved patients, families, carers, mental health professionals, housing support providers** Patient outcomes (up to 3 years) • Average transition time from hospital was 53 days. • 45% decrease in emergency department presentations for mental health issues. The use of inpatient services for mental health issues decreased by 64% and the average length of hospital stay decreased by 42%. • 31% of patients had an improved HoNOS score, 40% of patients had an improved LSP score and there was an overall improvement of 9% in K10 scores. • Patients have demonstrated an overall improvement in the development of independent living skills, community participation, engaging in activities, quality of life and health and wellbeing (scales not reported). • A small proportion of patients were engaging in education, training and employment. • The majority of patients were able to maintain their property in good condition (passing tenancy inspections) and were able to meet the commitment of paying rent. Costs • The average cost of providing the program was calculated to be A$169 per day for a metropolitan HASP and A$382 per day for the more intensive Burnside HASP, including both clinical and non-clinical services in 2012-2013. This was significantly less than the cost of A$1,017 for an occupied bed day

Model of Care	Study / Evaluation Characteristics	Outcomes
	which includes being housed in inadequate, unsustainable or inappropriate housing (for example: being housed in a facility, living with elderly carers who are unable to continue caring for their family member and a range of other potentially unacceptable situations) • Have the capacity to benefit from the provision of accommodation and support services • Give informed consent to participate in the program. **Sample characteristics** • Not all were long-stay inpatients, 52.6% came directly from hospital • 61% aged between 30-50 years • 66% schizophrenia • 87% Australian, including 6% Aboriginal (no Torres Strait Islanders)	for mental health acute care in South Australia. The availability of brokerage funds was also considered essential in assisting patients with establishing themselves in the program. **Feedback and recommendations** • The support delivered is considered to be a high quality service, and the HASP program partnership was effective in improving patient outcomes through a coordinated service delivery. • Refine HASP program operational guidelines to include a definition and description of the patient transition process. • Streamline referral and allocation processes, particularly from inpatient and forensic facilities. • Expansion of housing stock, particularly more places for 24/7 support. • Larger houses are required for patients with children. • There is a need for access to appropriate housing to meet the cultural needs of Aboriginal and Torres Strait Islanders. • There is a need for more individual housing arrangements. • Establish formal linkages with disability services and primary health care services to address physical health and domestic needs. • Patients needed more opportunities to participate in social activities with other HASP program patients as a stepping stone to engaging in community activities. • Provide the HASP program partners with increased detail/guidance in delivering the HASP program, particularly medication management and case management to ensure that roles and responsibilities

Model of Care	Study / Evaluation Characteristics	Outcomes
		are clear for all parties involved, and to ensure all partners have an equal responsibility in the partnership. • Establish and maintain a centrally managed unmet needs list to provide a mechanism for identifying the patients with the most need, to improve the efficiency of the referral and allocation processes, and to provide SA Health with a measure of unmet need to support future service planning. • The psychosocial support services provided to patients should be more assertive in cases where patient engagement is challenging. • Need for increased transparency in the number of support hours provided by Community Mental Health Services and the NGOs. • NGO psychosocial support workers considered that they did not have sufficient information on the patients' care requirements to provide the essential support required.
Housing First – Philadelphia, USA • Housing First approach • The PSH program utilised scatter-site housing rented from private landlords along with multidisciplinary teams that delivered assertive community treatment. • Immediate access to housing came in the form of apartments that were generally one-bedroom units subleased to the tenant through the agency. • The average number of days between admission to the agency's HF program and move- in was 29 days. • Choice of apartment and location was based on	Henwood 2014 [180] **Study design** • Pre-post evaluation of Housing First **Study quality** Moderate quality • Low risk of reporting bias (STROBE) • Direct assessment of service use, housing, client satisfaction, symptom severity, quality of life, community functioning • Small sample size • Prospectively gathered data over 1 year	**At 1-year follow up:** • Community activities engaged by participants, from most frequently to least are: visit with close friends, relatives or neighbours; visit a grocery store; go to a restaurant go to a place of worship, go to bars, taverns, etc.; go to a bank; go to a movie; go to a park or playground; go to a theatre/cultural event (e.g. local school or club events); go to a meeting of some organisation or social group; go to a post-office; go to a library; go to or participate in a sports event; go to a health or exercise club, recreational centre, participate in volunteer work; attend a social or political group, and use public transportation.

Model of Care	Study / Evaluation Characteristics	Outcomes
availability and affordability. Tenants were expected to contribute 1/3 of their income for rent; the program assumed responsibility for the remaining portion of rent, paid security deposits, and initially furnished the apartments.	follow up **Study sample** - N=80 **Inclusion criteria** - Participants of the Supportive Housing program **Sample characteristics** - 61% male, mean age 46 - 87.5% Black - 51% psychotic disorder, 49% major mood disorder - Days of drug/alcohol use 30-days prior: 6.2 days. -	- Among these activities, only two and very minor increases were seen in two activities: go to a place of workshop and to a post-office. - Participants' subjective satisfaction with their living situations, family relations and finances were all significantly increased at 1-year. - Satisfaction with family and financial situations also increased significantly at 1-year follow up, albeit at a more modest level. - Participants' frequency of contact with non-family members and adequacy of financial resources were also significantly increased at 1-year. - Time in independent housing was significantly associated with several domains of quality of life: satisfaction with living situation, with family situation and financial adequacy. - Symptom severity was also significantly and negatively associated with quality of life domains: general life satisfaction, satisfaction with family, financial adequacy. - Community participation was significantly related to frequency of non-family contacts.
Housing First + Critical Time Intervention – USA - Program staff met with staff at a short-term diversion centre and preliminarily engaged with participants there. - Criteria for program participation included a history of chronic homelessness, a history of offenses such as public inebriation, and co-occurring substance use and mental health disorders.	Clark 2016 [181] **Study design** - Pre-post evaluation of two programs - Housing First + ACT - Housing First+ CTI **Study quality** Low-to-moderate quality	**Patient outcomes at 6 month follow up** - Both programs operated at high levels of fidelity. - Despite similar criteria for participation, there were significant differences between groups. CTI participants were older, were more likely to be male, were more likely to be homeless, and reported greater psychiatric symptoms and higher levels of substance use (see sample characteristics for details). - Both group had significant reductions in

Model of Care	Study / Evaluation Characteristics	Outcomes
- Once enrolled in the program, the primary goal for participants was to find permanent housing. - While the CTI model limits treatment goals to 3, staff were responsive to participants' choices and needs. - The CTI model does not define the types of services; the emphasis rather is on timing and structure of services. - All staff were trained in harm reduction and motivational interviewing and this approach was used to connect participants to primarily outpatient substance abuse treatment services at a collaborating agency. - While housing for the CTI program was financed by different models (e.g. HUD Shelter Plus, HUD Permanent Supportive Housing, and independent landlords), most participants lived in their own scattered site apartments with voucher support as needed. **Housing First + ACT** - The ACT program in the first evaluation was established to serve individuals who had long histories of homelessness and hospitalisations for serious mental illnesses. - They may or may not have co-occurring substance use disorders. Upon intake, individuals were given comprehensive assessments. If there was any issue with substance use or abuse, they were offered individualised substance abuse treatment by a substance abuse specialist who was part of the team and dual diagnosis treatment groups. These interventions could be continued once the	- No randomisation - No direct comparison of outcomes - Low risk of reporting bias (STROBE) - Direct assessment of psychiatric symptoms, drug and alcohol use, homelessness - Prospectively gathered data - Medium sample size. **Study sample** - N=234 (144 CTI vs. 90 ACT) **Sample characteristics** - Mean age 40.9 years in ACT vs. 46.4 years in CTI ($p<0.01$) - BSI Global Severity Index 0.79 in ACT vs. 1.68 in CTI ($p<0.01$) - Use of alcohol in past month: 1.7 days in ACT vs. 11.9 in CTI ($p<0.01$) - Use of illicit drugs in past month: 0.99 days in ACT vs. 4.83 days in CTI ($p<0.01$) - 69% male in ACT vs. 88% in CTI - 36% African American, <1% Asian, 0% Native Hawaiian/Alaska Native, 1.3% American Indian, 13.3% Hispanic/Latino, 6% multiracial - 15.6% Housed in ACT vs. 7.6% in CTI ($p<0.01$).	homelessness at 6 months (88.6% at baseline vs. 30% at 6 months for ACT group; 91.3% at baseline vs. 44.3% at 6 month for CTI group). - Participants in the CTI program also showed significant decreases in alcohol use, drug use, and psychiatric symptoms (BSI Global Severity Index). - The preliminary results suggest that each case management model is helpful in assisting people with complex behavioural health needs and chronic homelessness to move to stable housing. Conclusions: Permanent supported housing seems to be an effective way to end homelessness among people with co-occurring disorders. Further research is needed to determine which case management models work most effectively with supported housing to help policy makers, and program directors make informed decisions in developing these programs.

Model of Care	Study / Evaluation Characteristics	Outcomes
individuals were housed. Housing was offered in a housing first model— sobriety or participation in mental health treatment was not a requirement—and came primarily in the form of Shelter Plus Care apartments. This is a Department of Housing and Urban Development (HUD) program that provides a variety of permanent housing choices in connection with a range of supportive services funded through other sources. In this case, the services were provided by the program agency and funded by Substance Abuse and Mental Health Services Administration (SAMHSA).		
Neami community housing program – Victoria, Australia • Provision of furnished, non-cluster housing: rent was 25% of the Disability Support Pension plus A$5 per week for maintenance or furniture replacement. Tenure was ongoing and did not depend on engagement with a specific program of rehabilitation or other support. • Properties were purchased in locations dispersed throughout the north-eastern suburbs of Melbourne located within walking distance to shops and transport. • Patients would select housemates from a pool of possible candidates, interviewing and choosing the ones they would prefer. • No more than 2 tenants per property • Home-based outreach support was provided (MSTs and Treatment Teams composed of staff from the hospital where patients were discharged)	Carter 2008 [182] **Study design** • Pre-post evaluation of Neami community housing program **Study quality** Low quality • Direct assessment of life skills using standardised measures • Prospectively gathered data • Small sample • Only 64% of the discharged sample participated in the evaluation • No control group • Observational study • Unable to assess data or study quality using standardised measures.	**Assessments involved patients, families, and case workers** **Patient outcomes (1 year, N=28)** • 1 patient had a 'significant' readmission to hospital **Patient outcomes (12 years, N=18)** • 14 patients remained in contact with Neami; 12 were in community housing, 1 in supported residential services (for a physical health problem), and 1 leased a property from Office of Housing and was no longer in need of Neami support. • 10 patients continued to receive home-based outreach support, 9 received Neami support. • 14 patients were not in contact with Neami, 5 moved to independent housing, 2 were in supported residential services, 3 received support from other PDRSS services, 4 had no information. • LSP scores reflected relatively low levels of disability. Greatest levels of disability were reported for:

Model of Care	Study / Evaluation Characteristics	Outcomes
- The Neami workers' role was to support patient empowerment, encouraging patients to form goals, then helping to break large goals into small, achievable steps. - Each patient had a primary Neami worker as well as contact with the whole team, so they can contact a familiar person if their primary worker not available. - Support workers have contact with patients' family members and other people where patients wish this. - Support plans are developed in co-operation with clinical case managers. - The nature of support provided changed as the patients' needs changed. - In addition to in-house training, Neami staff had access to resources and training through the PDRSS peak body VICSERV. The PDRSS sector in Victoria works from an explicit focus on rehabilitation and recovery, and attracts workers with qualifications in a broad range of disciplines.	**Study sample** - N=28 (18 participated in follow-up interviews) **Inclusion criteria** - Long-stay psychiatric inpatients **Sample characteristics** - Inpatient for 10-20 years - Most were in their 40s and 50s - Most were born in Australia - Most had a schizophrenia spectrum disorder.	working, making and keeping friends, keeping active, attending social functions, not neglecting physical health, maintaining adequate diet. Lowest levels of disability were reported for: adherence to medication, destruction of property, offensive behaviour, invasion of others' space, violence and trouble with police. - 1 patient was in part-time paid work, 9 patients attended Neami day programs. **Feedback and recommendations** - Staff from both clinical and non-clinical services said outcomes for the patients had exceeded their expectations. - Most patients said the experience of leaving hospital had been better or much better than expected, and that they were happy with their Neami workers, even though most patients reported feeling that they had no choice about joining Neami. - Some patients expressed unhappiness with the 'policing' of medication, and especially with clinical workers' practice of arriving at homes unannounced. - Hospital staff and Neami staff had different views about which patients would be suitable for discharge to the program; Neami wanting the more difficult patients, hospital staff wanting to send the 'easy' patients - Tensions existed between Neami and the MSTs, reflecting differences in philosophy and expectations about their work in that the clinical role is defined by the professional status of the worker and carries with it an authority acknowledged by the patient group while the support workers begin from a different starting point; the authority for their role is vested in

Model of Care	Study / Evaluation Characteristics	Outcomes
		the relationships they form with patients, which have an emphasis on patient control and choices. • There remains a clear desire by the MSTs that Neami support workers give greater weight to their clinical judgement. They suggest Neami workers should use 'stronger intervention' in relation to house cleaning, diet and personal hygiene. Neami workers felt that support should focus on areas which patients identified as a priority for them and, if patients did not identify these areas as a priority, 'stronger intervention' was appropriate only if the situation was placing their health and safety at risk. • In relation to housing, key factors in the success of the model include the location and condition of properties, managing issues around sharing or living alone, a commitment to providing ongoing tenure, arrangements for automatic payment of rent, and practices around tenancy management. Several said they would have liked to have more choice about who to share with, and more time to decide.
Pathways Housing First: Housing and Urban Development Program - Washington DC, USA • HUD is 1 of 10 program sites across the US. • Client-centred psychiatric rehabilitation and harm reduction approach to engage, permanently house, and provide Assertive Community Treatment rehabilitative services • 10:1 ration of client to providers, which includes psychiatrists, nurses, addiction and employment counsellors and peer support specialists. • Community-based services with service	Tsemberis 2012 [183] **Study design** • Pre-post study of Housing First – HUB Program **Study quality** Low quality • No comparison group • Small sample size • Low risk of reporting bias (STROBE)	**Clinical and housing outcomes at 1 year follow up** • Based on client self-reports and Brief Symptom Inventory and Global Severity Index, highly distressed individuals showed significant reduction in psychiatric symptoms within the first year. • Average spending on alcohol reduced from US$63 at baseline to US$49 at 1 year follow up. • 32 (90%) housed with ACT services and 1 (3%) discharged to non-program housing; 1 (3%) incarcerated; and 2 (4%) deceased

Model of Care	Study / Evaluation Characteristics	Outcomes
coordinator always on call for emergency needs • Enrolled on first-found, first service basis and starts with intake, psychiatric assessments and initiation of public benefit applications (e.g. Medicaid, Social Security Disability Insurance, food stamps) • Immediate housing in affordable, scattered site apartments of their choice that meet federal housing quality standards. • Rent subsidy • 30% of total disability income to go towards rent • Client choice determines type, intensity and frequency of treatment and support services provided. • Weekly visit by team • Client must fulfil the responsibilities of the standard lease.	• Prospectively gathered data • Year 2 clinical assessment are not reliable due to systematic loss of those who moved into less intense (and therefore better) housing. **Study sample** • N=36 (N=23 for clinical outcomes at 2 year follow up) **Inclusion criteria** • Clients presenting with co-occurring disorders (alcohol addiction and psychiatric disorders) who have been homeless for at least 5 years **Sample characteristics** • 36% were aged 25 to 45 years and 64% were aged 46 to 63 years at intake. • 83% were male • 58% were Black and 31% were White • 72% were diagnosed with schizoaffective disorder or schizophrenia and 25% with bipolar disorder; 100% were alcohol dependent.	**Clinical and housing outcomes at 2 year follow up** • 2 year clinical and behavioural outcomes are unreliable as only individuals still in housing with ACT were assessed (thereby missing those who recovered and moved to less intense care). • 18 (50%) housed with ACT services; 5 (14%) housed with community support, 1 (3) discharged to long-term care facility, 3 (8%) discharged to non-program housing; 4 (11%) incarcerated; 1 (3) moved away); and 4 (11%) deceased. • Community support services are much less intensive and costly than ACT services. • Incarcerations were all linked with drug charged • The 4 deaths were due to trauma, natural causes, suicide and unintentional overdose. **Cost** • $1035 subsidy per client towards fair market monthly rent • $55 per client toward monthly housing support service costs • The remainder of housing and treatment services delivered were paid by Medicaid and other local funding. • The remainder of housing and treatment costs are thought to be offset through savings of high cost public services that would otherwise be consumed by this population.
Project 300 – Queensland, Australia • Priority access to existing community housing • 24-hour in home disability support provided by	Meehan 2011 [184] **Study design**	**Assessments involved health data and financial reports, patients, case managers and support agencies** **Patient outcomes (up to 7 years)**

Model of Care	Study / Evaluation Characteristics	Outcomes
the NGO sector who work in collaboration with mainstream mental health services • Disability support centres on the provision of practical assistance with budgeting, personal hygiene, building social networks, promoting links to family/friends, providing psychological support, advocacy, advice, and linking to local services.	• Pre-post evaluation of Project 300 **Study quality** Moderate quality • Low possibility of reporting bias (STROBE) • Direct assessment of functioning and life skills using standardised measures • Medium/large sample • Prospectively gathered data • No control group • Observational study • Unable to assess data quality using standardised measures (CIs not reported). **Study sample** • N=194 (181 participated in the evaluation) **Inclusion criteria** • Long-stay psychiatric inpatients identified as being potentially ready for discharge **Sample characteristics** • Inpatients for an average of 15.6 years, minimum 2 years • 80% male • 80% schizophrenia • 22% forensic history	• 31% were readmitted to an acute inpatient unit within the first 6 months of discharge, increasing to 60% by 7 years. 4.9% were readmitted to long-term hospital or community care over the 7-year study period. 4 went to nursing homes and 2 went to prison • 10.5% died over the 7-year study period, 2.2% in the first year of discharge, the majority from cardiovascular or lung disease • Total scores on Life Skills Profile (LSP16) and behaviour (Health of the Nation Outcomes Scale; HoNOS) improved over time, indicated improved functioning, behaviour and life skills, but the improvements were not statistically significant • Higher scores on the 'impairment' sub-scale of the HoNOS was a significant predictor of support hours • There was a small improvement in quality of life between 6 months and 36 months with little change after that, although scores indicated the overall quality of life was rated as moderately high (scale not reported) • 5.52% were engaged in paid employment at 6 months, 7.7% at 36 months and 3.3% at 7 years. The proportion of patients with no structured activity (defined as no job, volunteer work, study, or hobby) decreased significantly from 60.6% at 6 months to 38.7% at 7 years • 2.7% committed offences following discharge • The average number of hours of direct disability support provided each week decreased significantly from 6 months to 7 years, although use remained high (26.3 hours to 21.5 hours per person per week). The allocation of support hours was driven by

Model of Care	Study / Evaluation Characteristics	Outcomes
		impaired functioning (cognitive and physical) rather than symptoms. **Costs** - Overall estimated cost per patient per year = A$61,580 including: ○ $43,680 for 20 hours per week of direct disability support and agency overheads ○ $7,900 for GP and/or case management services ○ $10,000 for one acute 14-day inpatient admission **Feedback and recommendations** - Overall, the cohort was generally satisfied with the service, with no significant changes over time. Patients were least satisfied with intimacy and most satisfied with their non-clinical support workers. - The provision of disability support actively contributed to successful community tenure as many of these patients were unsuccessfully discharged in the past when they were not provided with disability support. - Stronger focus on rehabilitation and recovery.
Supported Accommodation Program - Provides supported accommodation for people with SPMI who are homeless, at risk of homelessness, living in unsuitable accommodation or residing for long periods of inpatient units.	Mental Health Commission 2012 [185] **Study design** - Qualitative interviews and with service staff, stakeholders, and clients - Survey of residents and families. **Study quality** Low quality - No comparison group	**Ability to meet client needs - Good** - Based on the rubric developed for KEQ 1, the Program overall was rated 'good' at understanding and meeting residents' clinical and non-clinical needs and hopes for the future. Residents reported receiving good clinical and non-clinical care and feeling comfortable and well supported at their accommodation. Feeling safe was one of the aspects they most liked about their Service. - The evaluation found that generally NGOs are fully

Model of Care	Study / Evaluation Characteristics	Outcomes
	• Small sample size • Low risk of reporting bias (STROBE) • Prospectively gathered data • No control group. **Study sample** • N=20 Services operated by 9 NGOs and 1 public sector organisation delivering 10 service models. • Interviews with 37 residents and 15 families • N=126 residents and 47 families for a paper-based survey • Case managers and other contacts at the 10 community mental health services, the Office of the Chief Psychiatrist, Council of Official Visitors, Licensing and Accreditation Regulatory Unit, Department of Housing, Department of Child Protection and the Department of Health's Strategic Business Unit.	aligned with the values and principles of person-centred care and the recovery approach, both in terms of philosophy and stated values, and operationally. • The evaluation concludes that there is essentially just one service model. Specialist Residential Services is not a model but, rather, funding for extra staff to manage extreme behaviours associated with mental illness. The other nine 'models' address needs that can be remediated – provision of a home and developing or restoring functional capacity in an enabling environment – and take a recovery approach, recognising that both medical treatment and psychosocial support are important. Differences between these service models, however, are simply those of intensity, reflected in hours of support per day and length of stay. • Two limitations were identified, affecting the extent to which the Program could be successfully implemented. One concerned inappropriate or incomplete referrals, in which critical information, such as recent forensic history, is not disclosed by the hospital, MHS, GP or other person making the referral. This is of considerable concern to NGOs and community mental health services as it may expose other residents, recovery workers and clinical staff to unacceptable risk and, if a resident has to leave through eviction or return to hospital, this disrupts the person's recovery and potentially heightens their mental distress. The second limitation, said by NGOs to be the biggest single problem they face, is that a lack of affordable housing is preventing residents from transitioning to more independent living when

Model of Care	Study / Evaluation Characteristics	Outcomes
		they are ready to do so. • Including service providers in designing and planning supported accommodation infrastructure is likely to result in building designs that better support achievement of Program aims. **Effectiveness of Coordination - Poor** • The evaluation identified a number of good partnerships between NGOs and community mental health services, marked by mutual respect, ease of communication and a focus on joint care of residents. The evidence suggests that partnerships between some NGOs and mental health services are still to be established and there are many issues to be resolved before fully productive ways of working together are achieved. • Differences in the organisational cultures of NGOs and mental health services are a barrier to the delivery of coordinated services. In some Services there are no formal mechanisms to clarify and underpin the working relationship. • While case managers based at mental health services coordinate mental health multidisciplinary teams, generally there is no integration of mental and physical health care. Any coordination (such as with private psychiatrists, GPs or other health professionals) is undertaken by the NGO or the resident's family. Some NGOs and families expressed concern about poor communication between health professionals and the effects of this on residents. • There is a widespread view among community mental health clinicians and other stakeholders that patients with SMI are being discharged from hospital

Model of Care	Study / Evaluation Characteristics	Outcomes
		too early and that this is straining the resources of community mental health services. This has implications for the Program as some mental health services report having to ration resources by limiting caseloads and casework. **Program outcomes** • NGOs are heavily regulated and are required to spend a large amount of time reporting on relatively small numbers of residents. There is scope to reduce this administrative burden. • Staff turnover has been an issue for most of the Services, but seems to have stabilised. Contributing factors are a 15% increase in funding resulting from the Component 1 funding (targeted at not for profit organisations delivering community services) that was part of the 2011-12 WA Government Budget, together with the maturing of newer Services. There are clearer understandings about how best to manage residents' issues and a more developed capacity to support and train staff. • Factors affecting occupancy are largely beyond the control of NGOs and include gate-keeping by mental health services in order to manage caseloads and casework. **Client outcomes - Excellent** • The Program has enabled many residents to obtain employment, including those whose families did not consider this possible. Residents reported significant improvements relating to engaging in meaningful activity, being more independent, managing everyday life, ability to socialise, ability to lead a good

Model of Care	Study / Evaluation Characteristics	Outcomes
		life and overall wellbeing. - Clinical and non-clinical service providers agree that knowing residents well is fundamental to moving them towards recovery. - Reports from NGOs, mental health services, residents and families indicate the Program is effective in reducing hospital re-admissions. It was beyond the scope of the evaluation to obtain objective data substantiating this finding.

8.1.3 Other Strengths-based / Recovery-Orientated Models of Integrated Care

Model of Care	Study / Evaluation Characteristics	Outcomes
Consumer-Assisted Case Management • Same as control group plus consumer/peer enhancement. • One full-time social worker and one half-time social worker supervised 4 half-time consumer-providers (peers). Peers matched the demographic characteristics and treatment profile of participants to maximise affinity with the consumers. • Peers had a history of multiple hospitalisations for mood or psychotic disorders, were eligible for disability benefits, and relied on medication for stability. Peers typically had 3-8 years of sobriety and stability in the community and were recruited from vocational training and peer advocacy programs. They participated in the same orientation and training as professional staff, with modifications to address their specific roles. • They were supervised by the full-time social worker, who met with them individually and in groups to solve problems with the engagement of clients and to plan activities. • The peers engaged clients in social activities and developed supportive social networks among clients. They planned one-on-one and group social activities in and around clients' homes and other community locations. E.g. a peer might regularly meet a client for coffee to develop a relationship. Later, that client might be invited to a group activity or to come with the peer to visit another client. Ideally, the peer would facilitate independent relationships between the clients.	Rivera 2007 [186] **Study design** • RCT of Consumer-assisted and non-consumer-assisted case management vs. standard clinic-based care **Study quality** Moderate quality • Low risk of reporting bias (CONSORT) • Medium to large sample size • Prospectively gathered data • Direct comparison of symptoms, client satisfaction, quality of life, social behaviour. **Study sample** • N=255 (203 completed 12-month assessment; 70 Peer assisted, 66 standard, 67 Clinic based) **Inclusion criteria** • Aged 18 years and over • Have a diagnosis of a psychotic or mood disorder on Axis I • Have had 2 or more psychiatric hospitalisations in the previous 2 years. **Sample characteristics**	• All three programs yielded the same general pattern of improvement over time for symptoms, health care satisfaction, and quality of life. • All three groups showed similar but small changes in measures of social network behaviour. • Consumer-assisted case management was unique in its use of peer-organised activities. • Non-consumer-assisted case management made greater use of individual contacts with professional staff. • Standard clinic-based care relied more on group and on individual therapy. • Despite these variations in the pattern of services over a 12-month period, no one program emerged as categorically superior to the others.

Model of Care	Study / Evaluation Characteristics	Outcomes
• As instructed, peers took extensive advantage of natural community resources such as libraries, churches, civic associations, museums, and a rich array of cultural events available in our community to build relationship around the interests of participants. • Peers were instructed not to provide routine case management services. Peers also contributed to treatment planning and provided valuable information about participants during weekly team meetings. **Clinic-based** • A doctoral-level psychologist and a clinical social worker provided clinic-based care by using the same strengths-based treatment approach that was used in standard and peer-based care. All services were provided in the clinic, and 24-hour telephone coverage was not available to this group. **Control: Non-consumer assisted** • All professional services in the standard care condition were provided by 2 licensed clinical social workers who were supervised by program directors with extensive experience in providing psychiatric rehabilitation services. • Staff received 40 training hours and competency testing before working with clients. Staff also received 1 hour of individual supervision, 1 hour of group supervision, and 1.5 hours of training weekly for the duration of the project. Services were organised along the strengths model. • Care was provided individually with use of natural community resources and with backup from a team member.	• Mean age 38.3 years, 51% male • 17% African American, 31% Hispanic, 24% Other • 29% schizophrenia 20% schizoaffective disorder 3% other psychotic disorder 26% bipolar disorder 22% depression.	

Model of Care	Study / Evaluation Characteristics	Outcomes
• Caseloads were limited to 20 persons. • Strong emphasis on respecting the client's autonomy, focusing on the client's wants, and treating the client as a person rather than a case to be managed. • The personalistic focus deemphasizes the role relationship and professional distance. The provider may self-disclose more, socialise with the consumer, and spend more effort on building the relationship. • 24-hour coverage was telephone-based and all clients were encouraged to participate in cognitive-behavioural group therapy structured on a social skills model.		
Discharge into community – Ireland • All patients at Our Lady's Hospital were discharged into community due to hospital closure in 2000. All patients were discharged without any intensive rehabilitation prior to discharge. • No details on where they were discharged.	McInerney 2010 [187] **Study design** • Cohort study **Study quality** Low quality • Moderate risk of reporting bias (STROBE) • Small sample size • Prospectively gathered data • Direct comparison of living situation, employment status, community engagement, self-care, social functioning, and day-to-day functioning. **Study sample** • N=87	**1- and 5-year follow up** • Patients reported being satisfied in their new community environment - 71% had no desire to leave their current environment at 1 year follow up and 59% at 5 year follow up (Patient Attitude Questionnaire (PAQ). • No changes were seen with respect to employment • Significant increase was seen in the rate of active interests at 1 year follow up (21% to 42%) but then declined by year 5 (21%) • Self-care and social functioning had significantly improved in the first year but the improvement was sustained by year 5 (Basic Everyday Living Skills, Social Behaviour Schedule, Community Placement Questionnaire). • No improvements were seen in patient's domestic skills, community skills or activity and social relations levels. • Weekly occupation levels increased after 5 years in

Model of Care	Study / Evaluation Characteristics	Outcomes
	Inclusion criteria - Long-stay patients (>1 year) - Does not have dementia, primary diagnosis of learning disability or later life psychiatric patients. **Sample characteristics** - 85% male, mean age at baseline 57 years - Mean length of stay: 12 years - 72.4% schizophrenia, 12.6% affective disorders, 9.2 mild mental handicap, 3.5% alcohol dependence, 2.3% personality disorder.	the community and their level of interests in things increased over the first year but not after 5 years in the community.
Individual Psychosocial Rehabilitation & Support Services (IPRSS) - South Australia, Australia - Assistance with transition from facility based services to home and community living - Individual support plans reviewed every 3 months or updated as required with each patient and carer or significant other - IPRSS NGO providers and government Mental Health Services work in partnership with other key stakeholders including housing, to provide structured, goal focused and individually tailored recovery focused services at a level of intensity and duration appropriate to patients' needs. - An important component of individual psychosocial rehabilitation is community capacity building (up to 24-hours in limited circumstances). - Service types include: assist patients to engage in	Health Outcomes International 2011 [188] **Study design** - Pre-post evaluation of IPRSS Program **Study quality** Low-to-moderate quality - Large sample - Direct assessment of mental health, life skills and behaviour using standardised measures - Prospectively gathered data - No control group - Observational study - Unable to assess data or study quality using standardised measures.	**Assessments involved patients, families, carers, mental health professionals, housing support providers** Patient outcomes (1 year) - Average length of stay in the program was 11 months. - The average hours of service per patient per month was 18.6 hours. - Average time from referral to first contact was 16.9 days. - Average length of stay in mental health institutions reduced by 16% and readmissions reduced by 39%. - Significant decreases in HoNOS mean scores: adult score improved by 14.3%, 65+ for older persons score improved by 11%, K10 adult score improved by 8.7%, K10 older persons score improved by 12.2%, LSP 16 adult score has improved by 9.1%, older persons score improved by 19.4%.

Model of Care	Study / Evaluation Characteristics	Outcomes
meaningful daytime activity and employment, housing and support programs provided the service is not facility based, promote community engagement and social connectedness, independent living skills. **Control: NA**	**Study sample** - N=936 **Inclusion criteria** - Any psychiatric patient registered as a patient of the public mental health system - Have undergone an assessment by adult mental health services to establish eligibility for public mental health services and to establish which component of the mental health system is most appropriate to respond to the patients' mental health needs - Have a current care plan and risk assessment determining that individual psychosocial rehabilitation support services is recommended to meet the identified needs - Have an identified government Mental Health Services worker or contact person. **Sample characteristics** - Not all were long-stay inpatients - 73% aged between 20-49 years - 5.3% Aboriginal and Torres Strait Islanders - 13% were not Australian - Have high and complex needs - Have been engaged with government Mental Health Services over a long	- 11 patients were discharged from the program and then re-admitted at a later date. - General hospital admissions increased by 20% but patients were discharged earlier, reducing length of stay by 60%. **Feedback and recommendations** - The relevant government Mental Health Services worker should present the IPRSS referral as this provides for a "deeper and more meaningful" discussion about the consumer than if the referral is presented by a third party. - More active in promoting carer involvement in the program and there should be a more concerted effort to involve carers in the individual support planning process - Areas that were consistently raised as being problematic included goal setting, providing meaningful activities, providing real choices and opportunities and building community connections - Patient feedback: overcome language barriers, provide additional hours, more driving, greater focus on employment, improved communication with workers, workers are sometimes disorganised and not easily contactable, workers often give too short notices, provide more outings, simplify paperwork, reduce support worker turnover, provide group activities, provide more information about the services, improve partnerships between support workers and key workers - Partnership success could be improved by greater clarity of vision, roles and responsibilities, clearly articulated boundaries, concepts of recovery and

Model of Care	Study / Evaluation Characteristics	Outcomes
	period of time (although this is not always a priority of this service) • Are often at risk of becoming homeless • Are at risk of relapse if they do not receive support.	recovery practice • For Aboriginal and Torres Strait Islander patients, there is a need to develop and implement a reconciliation action plan, cultural respect training, a diversity project to ensure good representation, training in Aboriginal health first aid, training an aboriginal worker in mental health work who now provides training to other staff, hiring an aboriginal health worker as a support worker or peer support worker to work with Aboriginal and Torres Strait Islanders, hiring a cultural consultant who can assist in accessing and communicating with aboriginal communities, and have an Aboriginal health worker on the allocation committee. • The exit (from the program) process and partnership would be strengthened if there were more specific exit guidelines to assist with the exit process and ensure there is always timely communication around the exit process.
Integrated Rehabilitation and Recovery Care Program/Services (IRRCS) - Victoria, Australia • IRRCS is delivered by consortia of Psychiatric Disability and Rehabilitation Support Service (PDRSS) providers in 3 regional clusters. • The content of the assessment tools is common to the 3 consortia, but the tools themselves differ, depending on the local practices and existing tools. The assessment fields are risk factors, housing requirements, social support requirements, living skills, family and care support, clinical history (including comorbidities, substance abuse), health, and history of prior effort.	Abello 2010 [112, 189, 190] **Study design** • Pre-post evaluation of IRRCS **Study quality** Low quality • Direct assessment of functioning and life skills using standardised measures • Prospectively gathered data • Small sample • No control group • Observational study	**Assessments involved health data, patients, case workers and housing support workers** • Patient outcomes (up to 15 months) • No significant differences on HoNOS, although there were reduced psychiatric inpatient and emergency admissions • Patients gained greater insight into their mental health management and demonstrated greater compliance with medication. • Living skills, measured in terms of personal care, domestic skills and community skills, gradually improved, with an association between longer institutionalisation and poorer living skills, although

Model of Care	Study / Evaluation Characteristics	Outcomes
3 Phases • Phase 1 - preparation for transition to the community (0-3 months): identification of patients, patient engagement, develop care plan and explore existing housing options. Key stakeholders are patients, carers, Department of Human Services (housing), PDRSS providers, and Mobile Support Teams (MSTs). • Phase 2 - provide high-level support in the community (12-15 months), with intensity of support decreasing as living skills increase. Key stakeholders are PDRSS, MSTs and NGO community support. • Phase 3 - transition to lower level, but ongoing support in the community (3 months) including home-based outreach support and clinical case management. Key stakeholders are PDRSS, MSTs and NGO community support. **3 elements** • Care coordination; liaison between relevant support staff and monitoring of the integrated plan • Individual's support plan which identified personal goals and what would be provided • Exit plan to move the patient from the IRRCS, with staged support withdrawal, reducing the number of hours or workers that visit, transfer to a mental health service Community Care Team (CCT), and transfer to a PDRSS home-based outreach program or other relevant exit option, for example a Supported Residential Service (SRS).	• Unable to assess data or study quality using standardised measures. **Study sample** • N=30 **Inclusion criteria** • Long-stay psychiatric inpatients of Secure Extended Care Units (SECU) and Community Care Units (CCU) • Do not require active inpatient care • Do not pose an unmanageable risk to themselves or others • Have the potential for achieving a level of daily living skills and social functioning with community-based, high-level and focused rehabilitation support • Have the potential to be successfully maintained in the community with a lower level of ongoing psychosocial support and clinical care • Could be managed on a Community Treatment Order, if necessary • Showed willingness to move from inpatient care. **Sample characteristics** • Inpatient for an average of 6 years • 89% schizophrenia • 33% had psychiatric or physical comorbidities (only 3 with comorbid substance use disorder)	change scores were not significant on the LSP scale. • Social and economic participation gains were made; over 50% were engaged (or planned to be) in paid or voluntary work. • 46% reported improvements in physical health, with the remaining 54% reporting no change. • After 15 months in the program, only a minority of patients had left the program by the end of the evaluation because of delays identifying the appropriate patients, delays identifying available suitable housing, variation in the time they needed in each phase and delays identifying ongoing housing and support to facilitate sustainable exit plans. It is expected that over time the processes will become more efficient so that some of these delays can be addressed. **Costs** • 2007-2008: A$52,000 per patient per year including project management, care coordination, care delivery costs, and some consortia provided assistance with rent, repairs and property maintenance • 2008-2009 comparative costs for patients who remain in a CCU are A$114,610 and SECU A$166,805. **Feedback and recommendations** • Successful establishment of the Advisory Group, establishment of the 3 consortia each with a lead agency, and funding was allocated according to each patient's individual plan. • The assessment process enabled the accurate identification of patients well suited to the model despite great variability in their individual needs.

Model of Care	Study / Evaluation Characteristics	Outcomes
	- Average age 39 years - 72% male - 75% Australian, although no Indigenous participants.	- Assessment took longer than expected due to; processes such as establishing a relationship with SECU and CCU staff; ensuring an understanding of IRRCS and buy in by staff; communication with the SECUs and CCUs, patients, families, carers; patients withdrawing interest from participating in the IRRCS or being diverted to alternative options; discussions confirming suitability of the IRRCS for individual patients; and reaching agreement whether the consumer required a different service response model to the IRRCS transitional model and whether the notional individual funding allocation was sufficient to support the patient's needs. - There was a need to establish governance processes and agreed assessment including sharing patient information and developing joint care plans. - Barriers included: the complexity of the IRRCS model and the consequent protracted nature of the establishment phase; delays in selecting patients for IRRCS; and shortage of permanent and affordable housing. - Housing allocation worked best where IRRCS providers developed links with the Office of Housing at the local level. - Quality of neighbourhoods with available housing stock; some neighbourhoods not conducive to consumers' recovery.
Mental Health Treatment Study (MHTS) - Implemented in 23 geographically diverse sites across the U.S. Services - Three core components: ○ Evidence-based systematic medication management	Salkever 2014 [191, 192] **Study design** - RCT of Mental Health Treatment Study vs. TAU	- MHTS group showed significant group reductions in four outcomes: hospital stays, hospital length of stay, ER visits for mental health problems, and psychiatric crisis visits. - Estimated annual inpatient hospital treatment cost

Model of Care	Study / Evaluation Characteristics	Outcomes
(SMM): based on pharmacological management guidelines from Texas Medication Algorithm Project ○ Evidence-based individual placement and support (IPS) supported employment (SE): Emphasizes competitive employment, rapid job search, and ongoing support services as needed ○ Other behavioural health (OBH) or related services: provided on an as-needed basis that includes psychosocial, medical, and substance-use treatments as well as family education and support, case management and benefits counselling. • Coordinated by nurse care coordinator at each site • Financial support: medical insurance for persons with less than adequate coverage; payments of insurance premiums; wrap-around payments by Social Security Administration for all non-insured out-of-pocket behavioural health costs and for selected employment related costs. To mitigate other possibility perceived barriers to employment, SSA also suspended medical continuing disability reviews of treatment group subjects for 3 years. **Control: Services as Usual** • Services as usual + compensation for follow up survey completions throughout the study (~$100 in total).	**Study quality** Moderate quality • Low risk of reporting bias (CONSORT) • Large sample size • Prospectively gathered data • Direct comparison of hospital use, symptoms, and cost. **Study sample** • N=2,238 **Inclusion Criteria** • Social Security Disability Insurance beneficiaries with a primary disabling diagnosis of schizophrenia or an affective disorder • Aged 18-55 years • Residing within the primary or secondary catchment area of one of the study sites (as designated by the site itself) • Not residing in nursing home or other custodial setting • Does not have a legal guardian • No life-threatening physical illness • Not employed in a competitive job within 30 days prior to enrolment • Has not received supported employment services from the study site within 6 months prior to enrolment. **Sample characteristics**	savings for MHTS was in excess of approximately US$900 to 1,400. • Negative estimated MHTS effects on three other utilization outcomes (hospital stays and days for mental health problems, overall ER visits) generally did not achieve statistical significance.

Model of Care	Study / Evaluation Characteristics	Outcomes
	- Mean age 46 years, 47% male - 38% non-Caucasian.	
Nidotherapy-Enhanced Assertive Outreach – London, UK - Up to 15 sessions of nidotherapy added to standard assertive outreach treatment as provided by the Community (formerly Paddington) Outreach and Rehabilitation Team in central London - Identification of boundaries of therapy - Full environmental analysis - Implementation of common nidopathway - Monitoring of progress - Resetting nidopathway and completion. **Control: Standard assertive outreach treatment** - Provided by the Community (formerly Paddington) Outreach and Rehabilitation Team in central London.	Ranger 2009 [84] **Study design** - RCT on ACT+ nidotherapy vs. TAU (ACT) **Study quality** Moderate quality - Moderate risk of reporting bias (CONSORT) - Uncertain loss to follow up (inconsistent reporting of numbers) - Single blind RCT (researcher blind to treatment arm) - Prospectively gathered data - Small sample size. **Study sample** - N=52 (49 and 37 at 6-month and 12-month follow up) **Inclusion criteria** - Had SMI - Had comorbid personality disorder or personality difficulty - Continued to present serious management problems. **Sample characteristics** - Primary diagnoses: 30 schizophrenia, 10 schizoaffective disorder, 5 bipolar, 5 borderline disorder	**12-month follow up** - Mental state (Brief Psychiatric Rating Scale). - Service use (Engagement and Acceptance Scale): nidotherapy group had better engagement with non-inpatient services at 6 months but not at 12 month follow up. - Nidotherapy group had a 63% reduction in hospital bed use at 12 month follow up compared to control group - No significant improvements in psychiatric symptoms, social functioning (Social Functioning Questionnaire-Key worker version) or engagement than control group. **Costs** - Mean cost savings for each patient allocated to nidotherapy was £4,112/year mainly due to reduced inpatient care.

Model of Care	Study / Evaluation Characteristics	Outcomes
	• 49 participants had 'differing degrees of severity of full personality disorder' of which 39 participants had Type R (treatment resistant) personalities; 3 participants had 'personality difficulty'. 36 participants were drug or alcohol dependent. • Age: not reported • 37 men, 17 women • 31 Caucasian, 12 black African or Caribbean, 9 other (similar distribution between groups) • Patients with SMI and comorbid personality disturbance, recruited from caseload of Central London assertive outreach and rehabilitation team between 2003 and 2004.	
PDRSS Day Program – Victoria, Australia • 58 activities delivered through 34 PDRSS agencies across Victoria with a total investment of A$18.02 million. • The Day Program is a group-based rehabilitation program that aims to create a sense of belonging to a community, provide peer support and an environment where a range of social and daily living skills can be learnt. This service element aims to assist people with a SPMI and psychiatric disability to improve their quality of life by participating in recreational, social, educational and vocational activities. Involvement in a Day Program may also provide support and respite for families and carers.	Nous Group 2012 [112] **Study design** • Review of PDRSS Day, Adult Residential Rehabilitation and Youth Residential Rehabilitation Programs through: • Stakeholder engagement and reference groups, review of policy documents and academic reviews and analysis of 2010 PDRSS Census data, 2009-10 Quarterly Data Collection and the PDRSS SWOT analysis report. • Pre-post evaluation. **Study quality**	• Day Program providers and consumers commented that the current model for Day Programs does not adequately deliver on improved mental health outcomes or on other recovery outcomes for consumers. General qualitative assessment of recovery outcomes found that mental health and physical outcomes (enhanced daily living skills, psychosocial education attainment, self-management of illness and good physical health and wellbeing) were rated as medium, whereas social and economic outcomes (improved social and family relationships, stable and affordable long-term housing, family/carer support and engagement, and education and vocational achievement and employment) were rated as low-medium.

Model of Care	Study / Evaluation Characteristics	Outcomes
- A focus on improved daily living skills that is not measured at a system level - Day Program currently use different service delivery models (Strength-Based Model, Boston Rehabilitation Model, Collaborative Recovery Model) but are beginning to adopt more consistent evidence-based service delivery models - Provides a limited choice of activities with 68% of activities centred on work, domestic activities, self-care, social contact and recreation and 23% on assisting with psychoeducation or provision of other information. - Group activities delivered include, for example art classes, music classes, cooking classes, budgeting skills and excursions. - Initially aimed for 1-2 years of support period but ~30% have continued for over 5 years. - Average contact hours is 1.34 hours/week - Primarily delivered through PDRSS centre-based facilities (though some are delivering community-based activities) with standard operating hours Monday to Friday, 9am-5pm and closed on weekend and major holiday periods. - Has multiple and uncoordinated referral pathways (over 9 different pathways) with unclear selection methods, largely driven by individual provider sites. - Funding – The time-based funding model based on group activity limits service innovation and improvement	Moderate quality - Low risk of reporting bias (STROBE) - No comparison group - Small sample size - Existing and prospectively gathered data - Direct assessment of symptoms, housing, employment, quality of life, recovery, functioning. **Study sample** - N=30 stakeholder consultations, 3 reference groups **Program client characteristics** - 58% aged 35-55 years - 57% have schizophrenia - 72% are of Australian origin - Most report difficulties with social isolation, daily living, alcohol and drugs - 84% of consumers having at least one associated difficulty and 16% with five or more. - ARR services users experienced an average 2.4 difficulties - 35% reported difficulties with daily living, 44% social isolation, and 47% alcohol and drugs dependencies	- Operationalisation of 'recovery' differed across providers. Day Program providers reported a strong desire to identify outcomes measures and implement outcome data collection, particularly for employment, education, physical health, and housing. ○ 72% of Day Program consumers were unemployed, 7% were studying and 16% were either in paid or volunteer work ○ Clinicians and Day Program providers reported consumers with SMI experience more physical health issues than the general population. ○ All stakeholders strongly identified shortage in stable housing as a key barrier to recovery for Day Program consumers (>70% live with family or in public/private rental accommodation) - The centre-based location of many Day Programs was identified by providers to create negative stigma by isolating consumers from the community but consumers often regard the PDRSS as a safe place away from community stigma and judgment. - The 'business working hours' of service hours limited recovery options for consumers with full time work and conflicts with encouragements for employment, education and other activities. - Other key challenges with the Day Program include ○ lack of formal coordination mechanism with the diverse range of partners ○ need for improved partnerships with other sectors such as employment and education, community health, housing, clinical and recreational services ○ poor workforce capability with limited skills development opportunities ○ inadequate support to meet the needs of the

Model of Care	Study / Evaluation Characteristics	Outcomes
		increasing number of consumers and complex needs ○ lack of structured career pathways and remuneration leading to low staff retention and therefore poor continuity of care for consumers ○ limited consultation with families. • Current Day Program services are funded on an output basis across 4 types of activities based on group-based contact time. Many providers commented that this funding model limits service innovation and improvement.
Peer support for hospital avoidance and early discharge – Australia • Context: Southern Mental Health serves a population of 364,100 and consists of 3 general public hospitals comprising approximately 105 adult psychiatric beds supported by a community-based emergency team and 3 multidisciplinary community mental health teams geographically located to service the population of the region. Separate services for young people and those over 65 years also exist, as do a range of private psychiatric services, non-government support services and primary health care through community health centres and GPs. • The Peer Service comprises a part-time project manager employed by SMH providing overall operational and administrative support to the mentored peer coordinator and 8 peer support workers. Peers are employed as casuals (paid according to hours worked and therefore referrals received) and paid by SMH with	Lawn 2008 [95] **Study design** • Naturalistic pre-post evaluation involving: ○ Case note audit and electronic records of mental health service activity ○ Qualitative interviews and focus group discussions from all participant groups including consumers, carers, peer support workers, mental health staff, GPs, mentored peer coordinator and Metro Home Link staff. **Study quality** • Low risk of reporting bias (STROBE) • Small sample size	**Outcomes regarding referrals** • Most referrals came from 1 hospital that had already been exposed to the consumer consultant role on its ward prior to the project commencing • Hospital-in-Home nursing services and Short Stay units made particular use of the Peer Service as an effective adjunct to their roles in supporting hospital avoidance and early discharge. **Outcomes regarding hospital avoidance and early discharge** • 300 bed-days were saved in total by the Peer Service. • Based on an estimate of A$377/day, this equates to a savings of A$113,100 AUD before costs and A$93,150 after deduction of approx. A$19,850 for project set up, delivery and administration costs. • In total, 310 hours of support was provided over the pilot period. Length of support packages varied with the most frequent length being for 8 hours of support

Model of Care	Study / Evaluation Characteristics	Outcomes
costs reimbursed by Metro Home Link on a monthly basis to the mental health service. SMH covers all running costs such as coordination, insurance, travel reimbursement, supervision and training costs. All peers have: ○ Prior experience (paid or unpaid) of providing support ○ Formal training in support work by completing the TAFE Certificate 3 in Community Service or higher, as well as a specific 6-week peer worker course funded by the state government and delivered free by the non-government sector ○ Experienced hospital admissions, have an understanding of the system, and live well with their own condition ○ A clear understanding of confidentiality, OHS, having completed medical, police and license checks as per standard employee procedures. • Initial orientation and ongoing training alongside other mental health service staff, includes risk assessment and de-escalation training, workshops on legal issues, co-morbidity and dual diagnosis. Support includes weekly group meetings with the project manager where specific issues are discussed such as inter-disciplinary roles, boundaries, and self-care while at work. The project manager also models and mediates between peers and other service staff as needed to ensure respectful communication by staff and to troubleshoot any potential issues as they arise. Individual interpersonal support and debrief are offered in addition to these processes as needed. The coordinator also communicates routinely with each peer worker via mobile phone for support, follow-up on progress with	• No comparison group • Prospectively gathered data • Direct assessment of hospital use, costs, client satisfaction. **Study sample** • N=49 **Inclusion criteria** • All clients received peer support and their carers **Sample characteristics** • 49 support packages were delivered: 41 early discharge and 8 hospital avoidance • 73.5% of referrals were for women, which was due to gender differences in views of accepting support and potential referrer bias towards females • Average age was 36 years • 73.5% had psychotic illness (borderline personality disorder, schizophrenia, schizoaffective disorder, first episode psychosis)	(n. 12) representing 25.5%. • Cumulatively, 83% of consumers required 8 hours or less support whereas 17% of consumers required more than 8 hours of support. The average cost of an 8-hour package was approx. A$220 (8 hours @ A$22.85 per hour. reimbursement for 80 km travel). • Only a small proportion (17% of referrals) of consumers relapsed to hospital either during or directly after the support period which is significantly less than expected relapse rate (30%) within the system prior to the project. • Community emergency and ED contacts were substantially reduced when compared with these consumers' earlier periods of illness and post discharge experience. • Three consumers in particular had been heavy users of emergency services prior to peer input, contacting several times per week. They have not contacted emergency services since receiving peer support, nor have they required admission. **Based on consumer and carer interviews** • Peers were seen as highly effective in numerous areas: ○ They are able to understand, reassure and provide credibility in their support due to their own personal experiences thereby gaining trust. ○ Improved continuity of care ○ Provide positive role models of recovery and therefore provided hope for consumers, carers and staff ○ Peers were seen to provide support for very difficult and dependent persons to be accountable for their decisions in a way that had a credibility

Model of Care	Study / Evaluation Characteristics	Outcomes
support to consumers and to communicate any issues of concern such as safety or wellbeing of the consumer. Volume of work is monitored closely and adjusted as needed by the coordinator as part of distributing work to each peer worker. Peers also offer mentored support to each other and ''Buddy'' peer volunteers interested in becoming peer support workers, providing them with learning opportunities. • Through a state-wide call centre, referrals are made by multidisciplinary staff from inpatient wards, EDs, short-stay units, Hospital-in-Home services, community mental health services, GPs and self-referral following consumer consent and completion of satisfactory risk assessment. The service coordinator receives faxed referrals, which are then matched to individual peers' skills and experience. Packages of support of 8-12 hours are organised for a 1-2 week period, fully negotiated and matched to each consumer's needs and circumstances. In most instances, peers meet with consumers prior to discharge from hospital and discuss mutually agreed support needs. Alternatively, hospital avoidance packages of similar duration are offered where consumers are at risk of needing admission. Where a consumer has been discharged and needs further brief contact beyond the early discharge package, a hospital avoidance package is negotiated. Emotional and practical support involves phone calls, information about services, home visits, accompanying the person to GP and other mutually agreed appointments and activities, linkage to community supports, assistance with developing relapse prevention and self-management strategies, and information,		that a doctor could not give. ○ Peers assisted physicians to better understand consumer experiences of symptoms and needs.

Model of Care	Study / Evaluation Characteristics	Outcomes
support and respite for carers.		
Peer support workers (PSW) in addition to usual care – UK • In addition to usual care, peer support workers (PSWs) provided peer support for 4 weeks to patients discharged from 4 mental health wards. Initial contact was made while the patient was an inpatient with discharge expected within the next 2-3 weeks (total contact time 6 weeks). **Control TAU**	Simpson 2014 [96] **Study design** • RCT and economic evaluation of peer support vs. TAU during transition from hospital to home **Study quality** Low-to-moderate quality • Low risk of reporting bias (CONSORT) • Block randomisation • Small sample • Prospectively gathered data • Direct comparison of hopelessness, self-perceived loneliness, quality of life and cost. **Study sample** • N=46 (23 peer support vs. 24 TAU) **Inclusion Criteria** • Diagnosis of mental illness • Approaching discharge/extended leave • Age 18-65 years • Not considered a risk to others • Does not have an alcohol or drug dependency or primary diagnosis of substance use • Does not have personality disorder • Is not pregnant or caring for children.	**One-month and three-month post-discharge follow up** • No statistically significant benefits for peer support were found compared to TAU group on negative attitudes about the future (Beck Hopelessness Scale - BHS), self-perceived loneliness (UCLA Loneliness Scale), or quality of life (EuroQol (EQ-5D) Quality of Life Questionnaire) at 1 month follow up. • No between-group comparisons were made for 3-month follow up. • The total cost per case for the peer support arm of the study was £2154 compared to £1922 for the control arm. • The mean difference between costs was minimal and not statistically significant but further analyses demonstrated that peer support has a reasonably high probability of being more cost effective for a modest positive change in the measure of hopelessness.

Model of Care	Study / Evaluation Characteristics	Outcomes
	Sample characteristics • 70% male in PSW vs. 87% male in TAU group • Mean age 34 years in PSW vs. 23 years in TAU group • 56.5% Black and 14.4% mixed in PSW vs. 52% Black and 4.3% mixed in TAU group • PSW group: 35% paranoid schizophrenia, 26% depression, 13% bipolar, 9% psychosis, 4% schizophrenia, 4% schizoaffective, 4% personality disorder, 4% unconfirmed • TAU group: 30% paranoid schizophrenia, 9% depression, 30% bipolar, 4% psychosis, 13% schizophrenia, 4% schizoaffective, 4% personality disorder, 4% unconfirmed	
Support for Day-to-Day Living in the Community (D2DL)– Australia • Program aims to support people with severe and persistent mental illness who experience social isolation; increase the ability of people with severe and persistent mental illness to participate in social, recreational and educational activities; assist people with severe and persistent mental illness to improve their quality of life and live successfully at an optimal level of independence in the community; expand the capacity of the non-government organisation (NGO) sector to offer structured day programs for people experiencing social isolation through severe and persistent mental illness; and increase community participation by	Healthcare Planning and Evaluation 2010 [193] **Study design** • Program evaluation • Qualitative design: Interviews with >200 consumers, stakeholder consultations. **Study quality** Low-to-moderate quality • Low risk of reporting bias (STROBE) • Small sample size • Prospectively gathered data • Direct assessment of service engagement, client satisfaction, and	**Outcomes** • Young people (<0.5% under 18 years, 8.5% for 18-24 year olds), CALD (2.6%) and Aboriginal and Torres Strait Islander (0.6%) communities were under-represented in all sites. **Assessment of program based on consumer and stakeholder interviews and online survey** • Clients reported that D2DL Drop In Services were better than other programs because: the physical environment was clean, comfortable and modern; there were opportunities to participate in a wide range of activities but no pressure to do so; discretionary funding allowed participation in

Model of Care	Study / Evaluation Characteristics	Outcomes
assisting participants to: ○ Develop new skills or relearn old skills ○ Develop social networks ○ Participate in community activities ○ Develop confidence ○ Accomplish personal goals. **D2DL Components:** - Drop In places or low level support offered a safe place for those recovering from a mental illness to visit, access support and be referred to a range of other social and community services ○ Discussion and support groups ○ Social events and outings (e.g. barbeques, walks and holiday celebrations) ○ Cultural and recreational events (e.g. visits to galleries, museums and community events) ○ Short term skills based activities (e.g. computer skills, budgeting and cooking) ○ Promotion of services to consumer and carer groups ○ Liaison with other service providers to promote links and referral pathways. ○ There was only limited structure around the Drop In components of programs, with the focus on engaging clients and providing access to a range of opportunities, rather than formal assessment of needs and development of an Individual Management Plan (IMP), rehabilitation or care plan. - Medium Level Support was designed to support participants in developing new skills or re-learning old ones, and accomplishing goals they established to improve their functioning in the community. ○ Key focus on collaborative assessment of clients'	service impact. **Study sample** - N=25 sites **Inclusion criteria** - Consumers and stakeholder of D2DL program **Sample characteristics** - N/A	activities consumers could not otherwise afford (e.g. going for a coffee, swimming, gym or to a movie); and the option to engage in the MLS provided a next step. - The environment in which services were provided made them feel valued and safe. - Consumers noted that the Drop-In component was essential for days when they did not feel particularly well, but did not wish to be alone. - Provision of discretionary funding had allowed consumers using Drop In services to engage in activities they enjoyed, which began to link them back into the community and support networks that otherwise would not have been possible. - Consumers suggested that the Drop-In component of D2DL provided a means of checking the service before having to make any commitment. Those who had been introduced to the service toward the end of an acute admission found this process of gradual introduction to D2DL made it easier to attend following discharge. - Consumers were highly engaged with D2DL Program. - Monthly programs were considered very positive in being able to plan ahead and have something to look forward to. - Factors identified as being essential for engagement were: ○ Provision of a safe environment free of aggression, harassment or intimidation ○ Involvement in the development of the activities, groups and outings ○ An identified worker to discuss issues and support planning

Model of Care	Study / Evaluation Characteristics	Outcomes
capacity to function and needs, the development of an IMP and working with clients to achieve the goals within their plan. ○ Tools used include: Health of the Nation Outcomes Scale (HONOS); Global Assessment and Functioning Scale (GAF) which is aligned with Axis 5 of the Diagnostic and Statistical Manual Version 4 (DSMIV); Life Skills Profile (LSP); Camberwell Assessment of Need Short Assessment Scale (CANSAS); Behaviour and Symptom Identification Scale, 32 item scale (BASIS-32); and Recovery Assessment Scale (RAS). ○ Structured support for development of social and support networks in the community ○ Emphasis on provision of skills-based training (e.g. communication skills, life skills and social skills) ○ Links to, and to some extent provision of, vocational training and support ○ links to support services e.g. housing and income support. • Flexible/discretionary funding was allocated to support clients' participation in community activities, education and other activities consistent with achieving their rehabilitation goals.		○ Support to access external services such as education, vocational training, transport and recreation ○ A structured program with activities scheduled well in advance ○ Financial support to participate in activities. • Consumers were increasingly taking ownership of services and willing to provide input to the development of programs and activities. It was also noted that participants who had been involved with D2DL for an extended period actively supported consumers who were just beginning to use the services. • Consumers were becoming role models for each other as they achieved goals and felt they could try new things or practice lost skills in a safe environment. • Consumers increasingly valued the structure underpinning D2DL and the opportunity to work toward goals, rather than simply drinking coffee, smoking and talking. • The development of links with mainstream groups and organisations in the community was valued, with consumers across site visits indicating they had begun to participate in volunteer work in other settings as they were unemployed and wanted to make a contribution. • Active discussion with consumers about assessments was considered positive. 65% of consumers indicated that the assessment process affected the way their needs were discussed and that they were more likely to discuss what they wanted with support workers (35%) and staff were more likely to discuss parts of

Model of Care	Study / Evaluation Characteristics	Outcomes
		the program that may be useful to them (19%). • Evaluation tools that involve them, rather than simply being the subject of an assessment was preferred and seen as a positive experience. • Development of IMPs was also seen by consumers as a valuable process to consider their position, where they wish to develop and also to engage with the D2DL service. It helped identify avenues through which consumers could gain support
Wellness Recovery Action Planning (WRAP) • 1-6 individual WRAP groups. • Each group initially contained between 4 and 12 members and consisted of 8-12 weekly sessions, lasting from 1½ - 2 hours each. One of the basic tenets of WRAP is that people begin "where they are" and proceed at their own pace. Each of the groups was asked to complete a basic 8-week course of WRAP but was also given permission, based on the individuals in the group and their needs, to continue for up to 12 weeks. • The groups were facilitated by 1 staff person and 1 peer worker who had attended a 2-day WRAP facilitator's training offered by the University of Kansas School of Social Welfare (trainings were presented by a Copeland Centre certified recovery educator). • Each of the facilitators was required to have led at least 1 complete WRAP training prior to participating in the research. A total of seven individuals served as co-facilitators with each group incorporating both a peer WRAP educator and a community mental health centre (CMHC) psychosocial rehabilitation group leader. Peer educators who were not employed at the CMHC were	Fukui 2011 [81] **Study design** • Quasi-experimental study of WRAP vs. TAU **Study quality** Moderate quality • Low risk of reporting bias (CONSORT) • Small/Medium sample size • Prospectively gathered data • Direct comparison of symptoms, hopefulness, and recovery. **Study sample** • N=104 (58 WRAP vs. 56 TAU) **Inclusion criteria** • Have SMI (schizophrenia, bipolar, major depressive disorder, borderline personality disorder) • Experiencing significant functional impairment directly related to mental	• The WRAP group had significantly greater improvements in psychiatric symptoms (Modified Colorado Symptom Index) and hope (State Hope Scale) after intervention but not for recovery (Recovery Markers Questionnaire). • WRAP group had significant improvements in psychiatric symptoms and hope whereas the comparison group did not.

Model of Care	Study / Evaluation Characteristics	Outcomes
compensated US$250 for the planning, preparation and teaching of the group sessions. The CMHC co-facilitators were not compensated outside of their agency salary.	illness. - Receiving community support services through a community mental health centre in Kansas. - Minimum 75% attendance in WRAP sessions. **Sample characteristics** - 38% male, mean age 44.2 years (range 21-80 years) - 30% African American, 5% Other ethno cultural - 44% with schizophrenia, 27% major depression, 22% bipolar.	
Wellness Recovery Action Planning (WRAP) – Ohio, USA - 8-week peer-led illness self-management sessions (2.5 hours each) that were co-facilitated by 2 peers, with a third backup educator available for emergencies. - Classes were offered in accessible community settings, free of charge, with class sizes ranging from 5 to 12 participants. - Course work included lectures, group discussions, personal examples from the lives of the educators and participants, individual and group exercises, and voluntary homework assignments - Session 1: introduction - Sessions 2 & 3 addressed development of personalised wellness strategies). Also included special exercises to enhance self-esteem, build competence and explore the benefits of peer support. - Session 4 introduced daily maintenance plan that comprised simple, inexpensive strategies to use every	Cook 2012 [80] **Study design** - RCT of WRAP vs. Wait list and TAU **Study quality** - High quality - Low risk of reporting bias (CONSORT) - Large sample size - Prospectively gathered data - Direct comparison of symptoms, hopefulness, and quality of life. **Study sample** - N=519 **Inclusion criteria** - Age ≥18 years	**At both end of treatment and 6 month follow up** - WRAP group had: - Significantly greater reduction over time in Brief Symptom Inventory, Global Symptom Severity and Positive Symptom Total. - Significantly greater improvement over time in hopefulness as assessed by the Hope Scale total score and subscale for goal directed hopefulness. - Enhanced improvement over time in QOL as assessed by the World Health Organisation Quality of Life-BREF environment subscale.

Model of Care	Study / Evaluation Characteristics	Outcomes
day to stay emotionally and physically healthy, including a plan for recognizing and responding to symptom triggers in order to prevent crises. • Session 5 educated participants about early warning signs and how these signal a need for additional support. • Sessions 6 & 7 involved creation of a crisis plan specifying signs of impending crisis, names of individuals willing to help, and types of assistance preferred. • Final session covered post-crisis support and the benefits of retooling WRAP plans after a crisis to avoid relapse. **Control: Treatment as Usual** • No significant differences between groups in the use of services: case management, medication management, individual therapy, group psychotherapy, employment services, residential services, residential services and substance abuse treatment.	• Patients of outpatient community mental health settings in 6 Ohio communities • Have SMI with at least one 12-month mental disorder • Have serious impairment as defined as "functional limitations on a continuing or intermittent basis in major life activities that would be appropriate for the individual's developmental stage." **Sample characteristics** • 34% male, mean age 45.8 years • 28% Black, 4.8% Hispanic/Latino, 0.6% Asian/Pacific Islander, 2.9% American Indian/Alaskan • 85% unemployed • 75.8% had history of psychiatric inpatient treatment • 11.7% schizophrenia, 9.5% schizoaffective, 38% bipolar, 25.3% depressive, 15.4% other	

8.1.4 Inpatient and Community-Based Rehabilitation Units

Model of Care	Study / Evaluation Characteristics	Outcomes
Chronic Care Unit – Victoria, Australia • 20-bed cluster housing development in a residential setting, staffed on a 24-hour basis by a multidisciplinary team to provide clinical care and rehabilitation of the residents.	Hamden 2011[109] **Study design** • Descriptive analysis of past and current CCU patients **Study quality** Low quality • Moderate risk of reporting bias (STROBE) **Small sample size** • No comparison group • Direct assessment of quality of life, hospital use, symptoms, housing situation, and employment status. **Study sample** • N=31 (16 current CCU residents, 15 past resident) **Inclusion criteria** • Current residents of the CCU or past residents admitted between 1996 and 2007. • Sample characteristics • 80 males, 40 females • mean age 37 years	• Outcomes at 8 year follow up • Past and current residents of CCU showed significant improvements in quality of life through friendships, a home-like environment, and reduced re-admissions to, and length of stay in, acute psychiatric care units. • Marked reductions in admissions were seen both during CCU care as well as after discharge. • Length of stay at CCU was found to be decreasing over the years with more discharges occurring every year. • The majority of past CCU residents are living independently or in supported accommodation. CCU was found to be helpful in providing the skills necessary for independent living. • Despite the severity and chronicity of the mental illness in the CCU patients, an appreciation and insight was present in the benefits of CCU. • No significant improvements were seen in employment.
Community Step-Down Housing (CSDH) – UK • Provide a step-down from secure units and offer an	Barr 2013 [194] **Study design**	**Patients outcomes at 12-month follow up** • We noted a gradual improvement over time in

Model of Care	Study / Evaluation Characteristics	Outcomes
alternative to complete discharge into the community, which can often lead to disengagement from services and relapse. In principle these units could offer improved relational security in 24-h supportive accommodation situated in community settings, where women can gain freedom through unescorted leave but also still have a supportive network of care staff. • Two CSDH in Liverpool managed by a charity organisation, Imagine Independence. The unit consist of self-contained flats designed to represent a move from typical institutional living by providing safety and comfort in pleasant surroundings, while minimizing risk through, for example, the use of ligature-free furnishings. • A key element of each step-down unit is that it delivers a multidisciplinary approach, with staff bringing experience from diverse backgrounds including nursing, psychology, occupational therapy and arts therapies. There is also a range of services available from various professionals outside each facility.	• Non-randomised intervention study on Step-down housing vs. secure hospital on waiting list. **Study quality** Low quality • Quasi-experimental design • No randomization • Small sample size and notable sample size different between groups • Prospectively gathered data over 12 months • Direct assessment of psychological wellbeing, security needs, violence and social functioning. **Study sample** • N=37 (9 in intervention, 28 in control) **Inclusion criteria** • Women in secure mental health services who no longer require medium secure care and might benefit from supported accommodation during the transition period • Meet criteria for entry into the step down • Be detained in a high, medium or low secure service (including prison) within either the NHS or the private/ independent sector (or be at serious risk of admission to such a service) • Have an offending profile or be at serious risk of offending, • Be at such a point in their rehabilitation to enable them to move on from the project within a maximum of 3 years • Present an assessed level of risk to self and	women in both settings. However, by the final assessment psychological wellbeing and security needs were significantly better in the community group ($P < 0.05$). • Although risks for violence and social functioning were also somewhat better in this group throughout the study, no statistically significant differences between the groups were found in these areas at any assessment time <u>Within-group changes between baseline and 12-month follow up</u> • Psychiatric symptoms (Symptom Checklist-90-Revised) remained relatively stable throughout the study in both groups • Significant improvement was seen in psychological wellbeing (Clinical Outcome in Routine Evaluation – Outcome Measure) in the CSDH group whereas control for the control group this remained relatively stable. • Risk of violence, security needs and social functioning (as measured by Security Needs Assessment Profile, Liverpool Violence Assessment Interview and Historical Clinical Risk-20) were reasonably stable across time in the intervention group where as some variability was seen in the control group (worsening in security needs but improvements in social functioning) <u>Between-group differences at 12-month follow up</u> • CSDH group had significantly greater improvement in psychological wellbeing and security needs. • No statistically significant differences were found

Model of Care	Study / Evaluation Characteristics	Outcomes
	others that could be managed safely in a community setting. **Sample characteristics** - Mean age 35 years in CSDH vs. 29 years in control group - 43% schizophrenia, 19% schizoaffective disorder, 4% mood disorder, 43% personality disorder - Among those in secure setting (n=28), 13 in low secure, 9 in medium secure, 6 in other enhanced service. - 4 (44%) of CSDH women on community treatment order.	for psychiatric symptoms, risk of violence and social functioning.
Critical Time Intervention (CTI) - New York City, USA - Services were delivered by bachelor- or masters-level staff trained in CTI who were comfortable working in the community and had established relationships with patients prior to discharge (minimum of 3 pre-discharge contacts). - The emphasis was on maintaining continuity of care during the critical period of transition while primary responsibility gradually passes to existing community supports that remain in place after the intervention ends. - A typical worker supports around 4 patients and is involved in outreach to other potential patients. - CTI shares with Assertive Community Treatment models a focus on stabilizing patients in the community through development of independent living skills and by building effective support	Herman 2011 [116-122] **Study design** - RCT of Critical Time Intervention (CTI) vs.. usual care **Study quality** High quality for homelessness outcome Moderate-to-high quality for re- hospitalisation outcome. - RCT - Low possibility of reporting bias (CONSORT) - Direct comparison and assessment of quality of life using standardised measures - Prospectively gathered data - Precise for homelessness; minimum 3 post-discharge interview data	**Assessments were based on patient interview** **Patient outcomes (18 months)** - Significantly less homelessness during the last 4 months of the follow-up period in the CTI group compared to the TAU group (Intention to treat: OR 0.22, 95%CI 0.06 to 0.88), controlling for baseline homelessness. Results were similar adjusting for sex, age, and ethnicity. - Subgroup analysis including only those receiving the recommended minimum 3 pre-discharge contacts showed the largest effect (OR 0.10, 95%CI 0.03 to 0.35). - During the whole 18-month period, the results were similar but trended significance (OR 0.28, 95%CI 0.78 to 1.02). - Significantly less re-hospitalisation during the last 4 months of the follow-up period in the CTI group

Model of Care	Study / Evaluation Characteristics	Outcomes
networks in the community. - Housing arrangements ranged from community residences and other structured programs to supported apartments and independent housing, either alone or with family members. Neither CTI workers nor research staff were involved in determining the initial housing arrangements. - CTI is delivered in three, three-month phases - Phase 1 involves transition to the community with provision of intensive support and access to the resources that exist for the transition of care to community providers. Patients are accompanied to appointments with selected community providers, and family psycho-education is provided. - Phase 2 is called 'try-out', with less frequent meetings, while maintaining regular contact to facilitate and test patients' problem solving skills and adjust the systems of support as necessary. - Phase 3 involves the transfer of care to community support: the process is not abrupt, rather the CTI worker gradually reduces the role to terminate CTI services with community support network safely in place.	- Large effect sizes - Medium size sample - Imprecise for re- hospitalisation data. **Study sample** - N=150 (117 completed the evaluation) **Inclusion criteria** - Long-term inpatients at risk of homelessness, who were living in transitional residences following hospitalisation - A lifetime diagnosis of a psychotic disorder - Homeless at the index hospitalisation or an episode of homelessness within eighteen months preceding this admission - Spent their first night after leaving the transitional residence in New York City in a place other than a jail or a hospital (so that all subjects were at equal risk of homelessness during the observation period and those assigned to the CTI condition would be accessible to the CTI worker). **Sample characteristics** - The average length of transitional residence stay was 162 days. - All were unwilling to leave hospital or were rejected by community agencies. - 71% male - Mean age 37.5 years - 96% schizophrenia spectrum disorder - 62% African American - 80% with comorbid substance use disorder.	compared to the TAU group (Intention to treat: OR 0.11, 95%CI 0.01 to 0.96), adjusting for sex, age, ethnicity, mental illness diagnosis, marital status, education, substance use disorder, number of children, total psychiatric hospitalisation nights 90 days before the index hospital admission, and housing stability. - Housing stability was the only significant covariate in the logistic model, with increased stability associated with a reduced likelihood of rehospitalisation (OR 0.96, 95% CI 0.92 to 0.99). - CTI group had greater perceived access to care than the usual services group did, with this impact extending beyond the point at which the intervention ended. - CTI group reported greater frequency of family contact and greater improvement in satisfaction with family relations than the comparison group during the 18-month follow-up period. - Mediation analysis revealed that greater improvement in satisfaction with family relations mediated the effect of CTI on psychiatric re-hospitalisation outcome but only at a modest level. - No differences were found between the groups for community integration (Social integration measured by the Lehman Quality of Life Interview (LQOLI) – social relation subscale; Physical integration measured by LQOLI activities of daily living and functioning subscale).

Model of Care	Study / Evaluation Characteristics	Outcomes
Discharge Preparation Program for Mentally Disordered Persons (DPP) - Japan • Community re-entry module adapted for Japan • This module is one of the University of California at Los Angeles (UCLA) Social and Independent Living Skills Modules, adapted for a Japanese setting by using Japanese terminology and increased staff training in group sessions. • 24, 60-90 minute sessions once or twice a week over 4–5 months + homework.	Sato 2012 [195] **Study design** • RCT (DPP vs. Waiting list) **Study quality** Moderate quality • RCT - Direct comparison & assessment of mental state, knowledge and difficulties using standardised measures • Prospectively gathered data • Low possibility of reporting bias • Small sample • Unable to assess data quality using standardised measures. **Study sample** • N=49 **Inclusion criteria** • Long-stay psychiatric inpatients with schizophrenia • Patients who volunteered and who gave written, informed consent. **Sample characteristics** • Average age 54 years • Average length of hospitalisation 14.6 years.	**Assessments were based on clinician rated scales** **Patient outcomes (6 months)** • Discharge Difficulty Scale (DDS) 'total' score, 'knowledge', 'issues on treatment compliance', 'autistic life', and 'problem behaviour' subscales showed greater, significant improvements in the intervention group compared to the control group. • 6 patients in the participation group vs.. 1 patient in the control group were discharged from hospital • No differences were reported between groups for symptoms on the Brief Psychiatric Rating Scale (BPRS), or DDS subscales of anxiety around discharge, inactivity, family support, possible suicide attempts, or physical complications.
Rehabilitation Service at the Royal Edinburgh Hospital – Edinburgh, UK • The Rehabilitation Service at the Royal Edinburgh	Bredski 2011 [196] **Study design**	**Patient outcomes** • There were no differences between the two groups in terms of age, sex or diagnosis.

Model of Care	Study / Evaluation Characteristics	Outcomes
Hospital is an inpatient service with four wards and a total of 74 beds and a Community Rehabilitation Team. Two wards with 25 beds and 15 beds respectively offer high-dependency rehabilitation. This is for people with a high level of symptoms as well as significant risk histories and challenging behaviours. • The two other wards provide longer-term complex care. This offers longer term admission, often for several years. This is for people with a high level of disability from a complex mix of conditions who also present a risk to themselves or others. One is a 19 bedded male-only ward and the other a 15 bedded ward that provides a service for people with mental illness as well as serious physical health problems. • The Service accepts referrals for people with all types of mental disorder including, unusually for rehabilitation services, borderline personality disorder. Most referrals are from inpatient wards in the general adult acute service at the Royal Edinburgh Hospital. Another large source of referrals is the Orchard Clinic, which is one of two medium secure forensic units currently in Scotland. A smaller number of people are referred by community mental health teams. West Lothian has 12 inpatient rehabilitation beds in a community rehabilitation unit within a hospital site. East Lothian and Midlothian each have an eight bedded community rehabilitation unit managed by the independent sector, but will refer to the Rehabilitation Service if more intensive rehabilitation is required.	• Case-control study of discharged vs. not-discharged patients within the 6-year study period **Study quality** Low risk of reporting bias (STROBE) • Small sample size • Prospectively gathered data • Direct comparison of diagnoses, high risk and aggressive behaviours, substance use, treatment regimen, and social factors such as housing, employment and education. **Study sample** • N=65 (34 discharged vs. 31 not discharged) **Inclusion criteria** • Patients admitted to the Rehabilitation Service at the Royal Edinburgh Hospital	• Significant risk factors for non-discharge included self-harm or suicide attempts, previous care in forensic psychiatric services. • Aggression, absconding and sexual offences were also more common in the non-discharge group. • Harmful or dependent substance use was very and similarly common in both groups. • The non-discharged group was more likely to have had a prescription of high dose antipsychotic medication in the past. • There were no differences in compulsory treatment. • No differences were found in social and illness factors such as family history of mental illness, history of homelessness, employment, education or history of life abuse/neglect or history of receiving rehabilitation.

Model of Care	Study / Evaluation Characteristics	Outcomes
Footbridge Chronic Care Unit (CCU) – Melbourne, Australia • Residential psychiatric rehabilitation unit with 10 residential units and a capacity of 20 beds in addition to an administration building. • The home-like units were designed on the principle of fitting into the style of domestic housing in the surrounding community rather than an institutional design. • The rehabilitation programme at the Footbridge CCU utilised the model of case management applied in a residential psychosocial rehabilitation program. Each resident was engaged in the process of developing a rehabilitation plan with their case manager using the Individualised Service Plan (ISP) framework to develop and set goals. • Like other CCUs in Victoria, a 24-hour staffing arrangement was adopted and integrated the approach of providing a therapeutic home-like environment, with the intended principle of providing individuals with a long-term home. • While maintaining its patient-centred and individualised approach to management, the rehabilitation aims changed over the years from longer lifelong or long-term care for previously institutionalised patients towards short- and medium-term rehabilitation due to the fact that the majority of the patients in the initial cohort of patients were discharged over the first 5 years of operation.	Chopra 2011 [110] **Study design** • Pre-post evaluation • Retrospective review of medical records • Qualitative interview with some of the former residents. **Study quality** Low quality • Low risk of reporting bias (STROBE) • Prospective gathered data • Small sample size • Direct assessment of functioning and housing. **Study sample** • N=18 **Inclusion criteria** • Original cohort of CCU residents **Sample characteristics** • Patients admitted to the Footbridge CCU in 1995 (17/18 had been discharged by the time the study was conducted). • 14 patients had schizophrenia, 4 had schizoaffective disorder • Comorbidities: 5 mild intellectual disability, 1 personality disorder, 1 alcohol use disorder, 2 both alcohol and drug use disorder, 15 had medical problems • Median duration at CCU 4.8 years (range 1.4-	**Assessment was based on chart review and interviews (8 year follow up)** • High levels of disability were seen at follow up in all but one patient based on clinician rated measures of functional disability (Mean LSP-16 score = 22.1 and HoNOS score = 16.2). The one unique person without disability was recovered to the point where she was able to live independently. • With respect to self-report measure of functional disability (as assessed with manualised Continuity of Life Interview), most reported positively on the support provided in the CCU although later experiences of moving repeatedly from one setting to another were adverse. • Five key unmet needs were identified: promotion of independence, stability in accommodation, stability in social networks, consistency of care and addressing the theme of loss. • Therefore, despite significant gains during the period of residential rehabilitation in the CCU after hospital discharge, by the time of follow-up individuals were in general leading restricted lives characterised by a lack of stable residential and social supports.

Model of Care	Study / Evaluation Characteristics	Outcomes
	7.5 years) • Mean total length of stay in psychiatric inpatient unit 14.2 years (range 2-40 years) • Mean number of hospital admissions 18.2 (range 2-50)	

GetREAL Staff Training – UK • Aims to improve service user engagement • Hands-on, mutualised staff training with 3 phases (predisposing, enabling and reinforcing) delivered by a small team of psychiatrists, occupational therapists, service users and activity workers • The Predisposing stage aims to facilitate a focus on the need for change and gain local service "sign up". It comprises a consultation meeting with senior service managers and senior clinicians to explain the purpose of the staff training programme and gain support. • The Enabling stage involves identifying and removing barriers to change, team-level action planning and the development of new necessary skills. • The Reinforcing stage involves maintaining changes once they are in place, identifying and implementing team changes and monitoring approaches in order to reinforce sustainable change. • The enabling and reinforcing phases are delivered by one of the two GetREAL intervention teams comprising a senior occupational therapist and a service user. They spend 5 weeks in each unit 1) reviewing the units resources and practices related to service user engagement; 2) facilitating a one-day training course for all nurses and unqualified staff of the unit; 3) working with the unit staff to model and give intensive, hands-on support for staff to gain confidence in the implementation of the techniques and interventions learned during the training course; and 4) facilitating a half-day workshop in week 5 to review the intervention with the service manager and staff and agree how best the skills acquired can be incorporated into the unit's usual structures and processes. Ongoing email support is available for the subsequent 12 months.	Killaspy 2013 [197-200] **Study design** • Single-blind, two-arm cluster RCT of staff training vs. TAU • Qualitative sub-study of focus groups with staff of GetREAL intervention group. **Study quality** High quality • Low risk of reporting bias (CONSORT and STROBE) • Large sample size • Prospectively gathered data • Direct comparison of social engagement and cost. **Study sample** • N=40 mental health inpatient rehabilitation units (20 trained vs. 20 control) • N=344 patients (174 trained vs. 170 control unit). **Inclusion criteria** • All patients of the selected rehabilitation units. **Unit Inclusion criteria** • Is a NHS Trust mental health inpatient rehabilitation unit • Quality of the unit assessed by Killaspy et al [2] using the Quality Indicator for Rehabilitation Care (QuIRC), an international, standardised quality assessment tool and scored less than the median value • Or participated in the pilot of the study intervention (n=2) • Of the eligible 64 units, 40 were included. **Sample characteristics** • 65% men, mean age 43 years • 72% schizophrenia, 6% bipolar, 8%	**Patient engagement outcomes at 12 month follow up** • Patients' engagement in activities was measured using Time Use Diary Tool which rates patients' activities during 4 periods every day – morning, lunch time, afternoon and evening. • Patients' engagement in activities over the previous week did not differ between study groups at 12 month follow up. **Cost outcomes** • The cost of the GetREAL intervention was £102 per month per patient • No significant difference was found in costs between the two groups • An extra £101 needed to achieve a 1% increase in patients' engagement in activities with the study intervention. **Staff** • The intervention was accepted by staff. However, the skills gained, and changes to the unit's processes and structures that were agreed with the intervention team were not sustained after they left. The main reasons for this were: a) external factors (economic recession, resource limitations); b) organisation level factors (lack of senior staff support; competing priorities); c) limitations of the intervention itself (length of intensive training period; reinforcement of skills).

Model of Care	Study / Evaluation Characteristics	Outcomes
Hostel, Israel - Resettlement from an open 6-8 bed clinical ward to 3 new, independent hostel-based units. Accommodation included semi-private one-room suites with attached facilities and 1 dining room per unit. - A 3-member staff supervised daily activities.	Grinshpoon 2006 [201] **Study design** - Pre-post evaluation of resettlement into hostel **Study quality** Moderate quality - Low risk of reporting bias (STROBE) - Small sample size - Prospectively gathered data - Direct assessment of symptoms, social competence, behaviour, client satisfaction. **Study sample** - N=92 **Inclusion criteria** - Aged 18-65 years - Diagnosis of schizophrenia with at least 2 years of role dysfunction - Ability to provide consent. **Sample characteristics** - 53 men, 39 women - Mean age 52.2 years (range 19-72) - 100% with either schizophrenia or delusional disorders - Mean age at onset: 18.5 years - Mean age at first hospitalisation: 27 years - Mean duration of illness: 24.5 years - Mean duration of hospital admission 16.7 years	**Patient outcomes at 6 month follow up** - Significant reduction in most psychopathological symptoms (Positive and Negative Syndromes Scale-PANSS), except for depression and severity of depression (Montgomery and Asberg Depression Rating Scale-MADRS) - Significant improvements in social competence and social interests (Nurse's Observation Scale for Inpatient Evaluation-NOSIE-30) - Significant reduction in behavioural problems such as social contacts, hostility, over activity, unacceptable manners, inappropriate sexual behaviour, underactivity and concentration but not for communication, conversation, suicidality, hygiene, bizarre idea, posturing, mannerisms (Social Behaviour Schedule-SBS) - Social behaviour was found to improve significantly by 6 months according to the Social Adaptive Functioning Evaluation-SAFE, which measures self-care, impulse control, and social function. - Significant positive changes were found in patients' opinions about the hostel (Patient Attitude Questionnaire-PAQ)

Model of Care	Study / Evaluation Characteristics	Outcomes
	• 46 suffered from concurrent physical diseases.	
NHS Mental Health Rehabilitation Services (REAL Study) – UK • Inpatient and community-based mental health rehabilitation services providing specialist, tertiary care to people with complex problems who have not recovered adequately from an acute episode of illness to return home. • Mental health rehabilitation unit characteristics: ○ Setting: 11% hospital ward, 59% community-based, 29% within hospital grounds ○ 20% inner city, 72% suburb, 8% rural area ○ 70% with psychiatrists working in the unit, 30% with access to 1 outside unit ○ 32% with clinical psychologists working in the unit, 51% with access to 1 outside unit, 17% with no access ○ 73% with occupational therapists working in the unit, 17% with access to 1 outside unit, 10% with no access ○ 100% with nurse working in the unit ○ 100% with support worker working in the unit ○ 6% with social worker working in the unit, 73% with access to 1 outside unit, 21% with no access ○ 15% with volunteer working in the unit, 32% with access to 1 outside unit, 53% with no access ○ 6% with art therapist working in the unit, 73% with access to 1 outside unit, 21% with no access ○ 31% with ex-service user(s) working in unit, 65% with ex-service user(s) on payroll	Killaspy 2013 [144, 202] **Study design** • Naturalistic prospective cohort study **Study quality** Moderate quality • Low risk of reporting bias (STROBE) • Large sample size • Prospectively gathered data • Direct assessment of service quality, experience of care, therapeutic milieu. **Study sample** • N=739 patients and 616 service units from 60 NHS Trusts **Inclusion criteria** • Patients receiving care in the Mental Health Rehabilitation Services. **Sample characteristics** • 64% male, mean age 40 years • 81% Caucasian • 73% schizophrenia, 8% schizoaffective, 8% bipolar, 11% other • Subgroup analysis of units that scored above median on a standardised quality assessment tool	**12-month follow up of all participants** • All aspects of service quality (living environment, therapeutic environment, treatments and interventions, self-management and autonomy, human rights, recovery-based practice and social inclusion) were significantly positively associated with service users' autonomy (Resident Choice Scale), experiences of care (Your Treatment and Care Tool) and therapeutic milieu (General Milieu Index) • None of the aspects of service quality were associated with service users' outcomes on quality of life (Manchester Short Assessment of Quality of Life). **12-month follow up of higher quality services subgroup** • 56% were successfully discharged from the rehabilitation unit by 12 month follow up and a further 14 % were considered ready for discharge but no suitable vacancy in supported accommodation had been identified for them. • There was a small improvement in mean staff ratings of patients' social functioning (Life Skills Profile) from 128 to 132. • Global Assessment of Functioning and Time Use Diary (activity) ratings also improved slightly over the 12 months. • Service quality was not associated with patients'

Model of Care	**Study / Evaluation Characteristics**	**Outcomes**
○ Mean number of beds/unit: 14 ○ Mean number of beds occupied: 13% ○ Proportion of beds occupied: 12%	• N=239 patients from 50 units. • Sample characteristics • 65% male, mean age 39 years • 90% Caucasian • 68% schizophrenia, 10% schizoaffective, 7% bipolar, 14% other.	social function or length of admission (median 16 months) at 12 months but most patients were successfully discharged (56 %) or ready for discharge (14 %), with associated reductions in the costs of care. • Factors associated with successful discharge were the recovery orientation of the service, and patients' activity and social skills at recruitment.
NHS Trust Rehabilitation Services - London, UK • Two shorter term inpatient rehabilitation units (total 27 beds with expected length of stay less than 1 year), one longer term inpatient rehabilitation unit (total 20 beds, expected length of stay over 1 year), 3 community rehabilitation units (total 44 beds, expected length of stay less than 2 years) and 4 community-supported accommodation projects (total 50 beds, expected length of stay over 2 years). • All provide 24h support, with a higher staff to patient ratio and greater multi-disciplinarity in the inpatient facilities. • They work in collaboration with service users and their families to agree on individually tailored treatment and care plans, including medical and psychological interventions and occupational therapy that aim to minimise symptoms and to enable skills in activities of daily living and engagement in ''meaningful occupation'' in the community (leisure, education or work activities). • The different facilities that comprise the rehabilitation service provide a graduated care pathway of progressively less intensive treatment and support as service users recover from their	Killapsy 2015 [203] **Study design** • Moderate cohort study **Study quality** • Moderate quality • Low risk of reporting bias (STROBE) • Medium sample size • Prospectively gathered data • Direct assessment of service engagement, hospital use, and housing. **Study sample** • N=141 **Inclusion criteria** **Sample characteristics** • Mean age 44 years, 68% male • 57% White, 26% Black, 5% Asian, 15% other • 93% schizophrenia or schizoaffective disorder • 33% were in hospital rehabilitation units, 44 were in community rehabilitation units and 50	**Patient outcomes at 5 year follow up** • Over 5 years, 17 (12 %) people died, 50 (40 %) had a positive outcome, 33 (27 %) remained in a placement with a similar level of support and 41 (38 %) moved to a more supported placement and/or had a psychiatric admission. • Thirteen (10 %) people moved to independent accommodation and sustained their tenancy successfully. • Those with a record of non-adherence with medication during the 5 years were over 8.5 times more likely to have relapsed, defined as having any placement breakdowns or move to more supported accommodation or psychiatric hospital (OR 8.60, 95 % CI 3.41 to 21.70).

Model of Care	Study / Evaluation Characteristics	Outcomes
mental health problems and gain/regain these skills.	were in supported accommodation facilities.	
Prevention and Recovery Care (PARC) – Victoria, Australia - A bed-based step up/step down service in Victoria involving a partnership between community-managed mental health support services (i.e. non-government mental health agencies) and clinical mental health service providers. - They take the form of residential services (≈10 beds) that support people with SMI to either avoid hospital admission (step up) or leave hospital early (step down), and have a strong emphasis on integrating clinical mental health care with intensive recovery-focused psychosocial input. - People with SMI are those who predominantly have psychotic and more severe non-psychotic disorders, with accompanying psychosocial needs. - The majority of PARC services provide sub-acute, short-term care (a maximum of 28 days) for adults, and these are the focus of the current project. South Yarra PARC - 10 independent living units (each containing bedroom, kitchen and bathroom facilities) to promote functional independence for participants. Group or community-oriented space is available (e.g. courtyard with barbeque, staff kitchen and meeting space) to promote interaction with other participants and recovery-oriented programs (e.g. cooking, art therapy, awareness of community resources, approaches to coping). The maximum	Lee 2010 [100] **Subsequent evaluation of PARC is planned for 2017 led by one of the authors of this review (LB) **Study design by Lee 2010** - Pre-post evaluation **Study quality** Low quality - Patient audit - Medium sample - Prospectively gathered data - Direct assessment of service use, clinical, behavioural and social functioning. **Study sample** - N=118 (150 episodes) **Inclusion criteria** - Client/participants at the South Yarra PARC during Jan-Dec 2010 **Sample characteristics** - 52% male, mean age 40.7 years - 89% unemployed - 35% living in primary, secondary or tertiary homelessness before PARC entry - Average days in PARC per admission: 16.7 - 63% schizophrenia, 12% bipolar, 11%	**Assessments based on patient chart review and focus group discussion** **Patient outcomes 6-months post exist from PARC** - PARC services have become an important vehicle for reducing pressure on scarce and more expensive inpatient beds, and are seen as a means of providing less restrictive care. - A significant reduction in days admitted to the public mental health services' hospital psychiatric unit was seen in the 6 months post-PARC exit compared with the 6 months pre-PARC entry (23.8 vs. 9.6 days). - The 150 episodes of care lasted on average 15.8 days. - Most stays involved a step-up with exit most commonly to the community. - Regular medications at PARC entry were most commonly atypical antipsychotics and no change in medication occurred during the PARC stay for 75% of care episodes. - Significant reductions were found in clinical, behavioural and social functioning (measured by HoNOS and 32-item Behaviour and Symptom Identification Scale (BASIS-32)) and more specifically in the following subscales: relation to self/others, daily living/role functioning, and depression/anxiety. - No significant changes were seen for impulsive/addictive behaviour and psychosis

Model of Care	Study / Evaluation Characteristics	Outcomes
length of stay is 28 days and the following are entry criteria: ○ Aged 16-64 years and living in public mental health services' catchment region ○ Experiencing symptoms and problems related to psychiatric morbidity and requiring structured specialist clinical care and disability support to prevent hospitalisation in the early stages of relapse or facilitate a return to the community in the early stages of recovery ○ Assessed as low to moderate safety risk. • A non-government mental health service manages the residential environment, offers group and individual support to re-establish roles (e.g. normalising sleep–wake cycles, identifying and supporting personal skill development needs) and maintain or develop natural supports (e.g. family, friends or other community groups). • Participants are linked into housing, employment and carer support programs if needed. The public mental health service conducts risk and mental state assessments, determines PARC entry or exit, and provides medical and other clinical treatment that continues beyond exit.	depression, 11% personality disorder, 0.8% alcohol or substance-induced disorder • Mean days admitted to inpatient psychiatry unit during 6 months prior to PARC entry: 23.8 days.	subscales. **Assessments based on focus group discussion with 12 participants** • Responses on the positive aspects of PARC in particular focused on the environment and model, stating that it promoted independence and a sense of normality. Being free to choose when to 'come and go' and what activities to engage in was important. A number of participants also said that time in PARC helped them gain strength and stability before returning home: 'After hospital you sometimes have "wobbly feet" and you can gain stability before going home'. • The 'caring' and 'lovely' nature of staff was frequently reported. Particularly valued was help to learn skills for independence as shown by the following quote: 'Staff teach us to be independent and this is very important'. The ability to seek one-on-one help from staff when distressed was also important. • The diversity of therapeutic activities available at PARC was valued. The art group in particular was highlighted: 'the art groups are good. [The art therapist] helps use to get in touch with our feelings … Art is a way of expressing things.' • Participants valued the ability to learn about factors related to their mental and physical health. Information about their medication, bulk-billing psychiatrists, or what a healthy diet involves were examples of provided information. • Assistance with practical issues (e.g. help accessing housing programs or meal support) was also

Model of Care	Study / Evaluation Characteristics	Outcomes
		beneficial as some participants were not aware of all available support. Help in accessing leisure activities (e.g. swimming pool) was also reported. • A final benefit involved being able to socialise and interact with other participants. Sharing meals provided a good opportunity to interact and develop communication skills. One participant said that: 'The group lunches are good and so are the group walks. It's good that these are unplanned sometimes'. This highlighted that participants often initiated activities. • Suggestions for how to improve the PARC experience focused on the following: broadening the provision of therapeutic activities and information on sources of community support; expanding the practical assistance to participants; availability and consistency of staff; and changes to the environment. More information about how to access second opinions, bulk-billing private psychiatrists, and dieticians was suggested. Suggestions for practical assistance included: personal toiletries, public transport tickets and phone cards (to help access the community or maintain connections with existing social networks), and new or recycled clothing. In relation to staff, consistency and being able to have regular staff who participants knew was important. More assertive engagement from staff at key points was also suggested: The isolation can be a big adjustment at first. Staff leave us alone and we are free, but then we can feel isolated at first if you don't know you can go to staff. Maybe staff could

Model of Care	Study / Evaluation Characteristics	Outcomes
		… see how we are going more often at the start.
Psychosocial Training - Japan • Patients were given training starting 1 year prior to the closure of the Sasagawa Hospital which was then restructured to provide a residential facility and a community support centre. • A project team of 23 multidisciplinary members was recruited and a non-profit organisation was founded to manage the new facilities Day/night hospital and community nurse visits were provided to the facility as necessary. • Continuous cognitive behavioural therapies based on the OTP manualised protocols were provided to patients before and after the hospital closure. • Training involved: • Minimally effective antipsychotic drug strategies targeted to changing symptom profiles • Choice of medication based on symptom profiles, side effects and response, education about benefits and problems, adherence training and maintenance, side effects prevention and minimisation, early warning signs of exacerbation • Education of patients and informal carers in stress management strategies • Education to enhance understanding of the nature of psychotic disorders and their clinical treatments, training in effective interpersonal communication and structured problem solving to achieve personal goals and manage life stresses • Assertive case management • Development and maintenance of effective social support housing, finances, health and safety, early	Ryu 2006 [204, 205] **Study design** • Pre-post evaluation of Psychosocial Training based on the Optimal Treatment Project (OTP) **Study quality** Low-to-moderate quality • Direct assessment of functioning, mental state and cognition using standardised measures • Prospectively gathered data • Low possibility of reporting bias (STROBE) • Small sample • No control group • Observational study • Unable to assess data quality using standardised measures. **Study sample** • N=78 (56 completed all assessments) **Inclusion criteria** • Long-stay psychiatric inpatients with schizophrenia at Sasagawa Hospital, Japan **Sample characteristics** • Average length of hospitalisation 25.5 years • Average age 54.6 years • 68% male • Average duration of illness 31.5 years	**Assessments were based on file review and patient interview** **Patient outcomes (2 years)** • 77% successfully lived in the community with no major exacerbation of mental of physical state • Significant improvement was observed for positive symptoms, negative symptoms, general psychopathology and functioning (PANSS, Global Assessment of Functioning; GAF) • After 2 months of job coaching, including interpersonal communication skills, 9 patients had started jobs working as floor cleaning or cooking assistants. 1 additional patient dropped out due to a relapse in her psychotic symptoms, but the remaining patients were learning more advanced skills. • Social activity, speech skills, disturbed speech, self-care and general behaviour improved significantly (Rehabilitation Evaluation Hall and Baker Scale) • Communication skills score of men improved 5.53 points more than women. • Social functioning improved significantly (Social Functioning Scale) • The overall neuroleptic dosage remained unchanged. • Drug attitude was unchanged. • Global cognition (Mini-Mental State Examination) remained unchanged. • BMI significantly increased from 24.5 to 25.1 • Insight gradually deteriorated.

Model of Care	Study / Evaluation Characteristics	Outcomes
detection and intensive care to resolve clinical and social crises in the settings most conducive to full and rapid recovery - Goal-oriented social and occupational skills training - Training patients and informal carers in the skills they need to achieve their personal goals for friendships, close relationships, work and recreational activities, supporting patients to access the full range of social and occupational opportunities available in their communities - Specific pharmacological and/or psychological strategies for residual or emerging symptoms - Coping with persistent psychosis, managing negative symptoms, coping with anxiety and panic, coping with mood swings, dysphoria and suicidal thoughts, managing substance misuse, anger and frustration, sleep disorders and nutritional problems - By 5 years, patients had gradually left the residential facility and moved into group homes and apartment houses.		- No reported incidents of criminal activity, violence or homelessness. **Patient outcomes (5 years)** - 4/78 patients were re-hospitalised chronically (for over 1 year) because of exacerbation of their mental illnesses, and 3/78 patients were hospitalised because of physical illnesses. - Significant improvement was observed for positive symptoms, negative symptoms, general psychopathology and functioning (PANSS, GAF). - Cognitive functioning improved significantly for: global cognition (Mini-Mental State Examination), attention (Letter Cancellation Test), memory (Rey–Osterrieth Complex Figure Test), executive functioning (Word Fluency Test) and processing speed (Trail Making Test Part A). The improvement in global cognition and processing speed began to decline within a few years.

PDRSS Adult Residential Rehabilitation Program (ARR) – Victoria, Australia
- 103 beds with a total investment of A$4.82 million
- The Adult Residential Rehabilitation (ARR) program provides transitional support to assist clients to achieve their goals for independent living. The service model focuses on supporting clients to:
  ○ Improve their capacity to manage and be responsible for their behaviour and self-care
  ○ Enhance their adaptive coping skills and decrease self-harming behaviour
	Nous Group 2012 [112]
	Study design
	- Review of PDRSS Day, Adult Residential Rehabilitation and Youth Residential Rehabilitation Programs through: stakeholder engagement and reference groups, review of policy documents and academic reviews and analysis of 2010 PDRSS Census data, 2009-10 Quarterly Data Collection and the PDRSS SWOT analysis report.
		- ARR providers and consumers commented that the current model for ARR Programs does not adequately deliver on improved mental health outcomes or on other recovery outcomes for consumers. General qualitative assessment of recovery outcomes found that mental health and physical outcomes (enhanced daily living skills, self-management of illness and good physical health and wellbeing) were rated as medium whereas some mental health outcomes as well as social outcomes (psychosocial education attainment, improved social and family

Model of Care	Study / Evaluation Characteristics	Outcomes
○ Enhance their social skills and daily living skills to maximise their ability to live independently in the community ○ Develop and maintain links with the community, family and social networks ○ Create educational and vocational opportunities. • Adult Residential Rehabilitation services offer either: ○ 24 hour on site support, with capacity to provide staff sleepovers (57 beds) ○ Less than 24-hour support, where staff support is available only during business hours and after-hours supervision is not required (46 beds). • Service delivery model – No consistent service delivery model is evident but ARR stakeholders regard ARR as a housing proxy. Existing ARR sites are metropolitan based and structured as clusters of 6 to 15 beds. Four sites deliver non-24-hour (non-clinical) PDRSS staffed services for 46 beds and five sites deliver 24-hour (non-clinical) PDRSS staffed services for 57 beds. Site visits and consultations indicated that each individual site adopted their own service delivery model. • 69% of activities are centred on work, domestic activities, self-care, social contact and recreation. There is little variation of activity types across providers. • According to the PDRSS Census 2010 39% of ARR consumers, at the time of the survey, were being supported for 1-2 years (17% remained for 2-3 years possibly due to difficulties in finding stable housing upon exit) • The average contact time per week was 3-3.5 hours, which does not reflect an intensive residential	**Study quality** Moderate quality • Low risk of reporting bias (STROBE) • No comparison group • Small sample size • Existing and prospectively gathered data • Direct assessment of symptoms, housing, employment, quality of life, recovery, functioning. **Program client characteristics** • 70% aged 26-44 years • 62% male • 79% with schizophrenia • 92% are of Australian origin • 92% of consumers having at least one associated difficulty and 27% with five or more. ○ ARR services users experienced an average 3.3 difficulties ○ 49% reported difficulties with daily living, 31% social isolation, ad 53% alcohol and drugs dependencies.	relationships, stable and affordable long-term housing, and family/carer support and engagement), were rated as low-medium. The economic outcome - education and vocational achievement and employment – was rated low. • ARR Program providers reported a strong desire to identify outcomes measures and implement outcome data collection particularly for employment, education, physical health, housing. ○ 64% of ARR Program consumers were unemployed, 15% were studying and 16% were employed in some capacity ○ Clinicians and ARR Program providers reported consumers with SMI experience more physical health issues than the general population. ○ All stakeholders strongly identified shortage in stable housing as a key barrier to recovery for ARR Program consumers and for leaving the ARR Program (83% identified ARR as their primary residence). ARR Programs were therefore acknowledged as pseudo-housing solutions due to the difficulty in finding stable and affordable long-term housing. • Over 80% of Victorian PDRSS consumers stated that temporary housing is not their preference. Over 65% stated they want to live on their own or with their spouse/children. • Clinicians and providers suggested up to 18 months of recovery support as appropriate for the consumer target group. • Consumers stated that ARR provides a “safe and supportive community environment”. • Other challenges identified by stakeholders include

Model of Care	Study / Evaluation Characteristics	Outcomes
support setting (which is typically at least 6 hours/week). • Funding – ARR costs approximately A$45,000 per consumer per annum.		○ lack of formal coordination mechanism with the diverse range of partners, ○ lack of clear, non-discretionary entry and exit criteria and pathways for ARR consumers, poor integration with other services (perceived as operating in silos and not sharing information), ○ inadequate knowledge of the diverse service types available, ○ need for improved partnerships with other sectors such as employment and education, community health, housing, clinical and recreational services, ○ poor workforce capability with limited skills development opportunities, ○ inadequate support to meet the needs of the increasing number of consumers and complex needs ○ lack of structured career pathways and remuneration leading to low staff retention and poor continuity of care for consumers ○ limited consultation with families. • ARR costs approximately A$45,000 per consumer per annum
Rehabilitation Readiness Training (RRT) - USA • Developing readiness is about producing an internal change which increases patients' willingness to commit to active involvement in the rehabilitation process. • The project goal was articulated as moving people "to the door, not out the door". • Readiness for discharge coaching is delivered by	Gamble 2011 [206] **Study design** • Pre-post evaluation of Rehabilitation Readiness Training (RRT) **Study quality** Low quality	**Assessments were based on case notes and staff interviews Patient outcomes (2 years)** • 8/10 were successfully living in the community • 1 patient died from a medical condition prior to transition • The remaining patient refuses to leave unless to go to family which was deemed unsafe • Average time from entry to transition was 13.1

Model of Care	Study / Evaluation Characteristics	Outcomes
trained staff specifically employed for this purpose. - Readiness Assessment Profile is based on need (internal and external pressure to change, attitudes towards commitment, connection to staff, self-awareness, and environmental awareness).	- Prospectively gathered data - Small sample - No control group - Observational study - Medium possibility of Reporting bias (STROBE) - Unable to assess data quality using standardised measures. **Study sample** - N=10 **Inclusion criteria** - Long-stay psychiatric inpatients **Sample characteristics** - Length of hospitalisation was 2.5 years to 11.5 years - All were aware of their lack of readiness to transition and did not want to leave hospital - 50% males - Average age 49 years - 90% schizophrenia spectrum disorders.	months **Feedback and recommendations** - Mini teams of 2 staff make communication and coordination easier than mini teams of three. - Training is essential particularly staff expertise in readiness assessment and readiness development. - Readiness assessment profile proved useful to staff in planning intervention strategies. - Staff need support and guidance to integrate the approach and activities into their regular job duties. - Administrative buy-in from the top down was critical to success, and staff champions helped prompt attitude change. - It is important to plan for sustainability including replacing departing staff, celebrating successes, and persevering. - Clinical intervention without a structured evaluation component.
Supported Group Residence - Japan - All patients (including those remaining in hospital) received training to acquire some basic skills, such as taking medication, money management, or personal self-care. - The additional programs for the residential group consisted of volunteer work, such as cleaning the neighbouring park, which might help to promote good relationships with the local residents, tea meetings/birthday parties at the residential house to	Chan 2007 [207] **Study design** - RCT of supported group residence (SGR) vs. hospital **Study quality** Moderate quality - RCT - Direct comparison and assessments of mental	**Assessments were based on chart review and staff and patient interview** **Patient outcomes (2 years)** - 3/14 patients in the residential group were readmitted for between 2 weeks to 4.9 months. - Significant improvement in positive symptoms in the residential group, and a trend toward aggravation of negative symptoms in the hospital group (PANSS).

Model of Care	Study / Evaluation Characteristics	Outcomes
strengthen friendships, and attending day care programs at the hospital 3 times a week. • The Fukushi-home B system was established for patients who often have difficulty living in group homes, or who require assistance due to aging. • Meals were provided at patients' request. • The institution standard is to maintain >23.3 m_2 per occupant, to equip the consultation room, cooking room, manager's office and other key rooms, to appoint 1 manager, 1 or more physicians, 3 guides, including 1 psychiatric social worker, to have a capacity of ~ 20. • Provide programs, such as helping the patients acquire daily life skills such as cleaning or washing, and give advice on interpersonal relationships • Because the staff working hours were only during the day, the patients were instructed to use a direct phone line to the Tosa Hospital at night.	state, adjustment, quality of life and general health using standardised measures • Prospectively gathered data • Small sample • Medium possibility of reporting bias (CONSORT) • Unable to assess data quality using standardised measures. **Study sample** • N=28 **Inclusion criteria** • Long-stay psychiatric inpatients with schizophrenia • Age 30-80 years old • No serious symptoms, such as being dangerous to oneself or others, persistently troubling others or showing bizarre behaviour, and not requiring regular nursing. **Sample characteristics** • Average length of hospitalisation 24 years • Average age 62 years • 57% male.	• The level of performance of the socially expected activities assessed by the subjects was more enhanced in the residential group (Katz Adjustment Scale). • The level of expectations for performance of social activities, and performance of free- time activities as assessed by the staff was more enhanced in the residential group (Katz Adjustment Scale). • Quality of life significantly declined in the hospital group in the physical domain (WHO- QOL). No differences were found in other domains. • No significant differences in the general health (General Health Questionnaire). • No significant differences in medication dose. **Costs** • The expense of the hospital group was more than threefold greater than that of the residential group (including the hospital costs for the 3 patients who were readmitted). **Feedback and recommendations** • Blindness to allocation could not be maintained.
Spring Ward Female Medium Secure Ward – London, UK • Spring Ward employs a multidisciplinary bio-psychosocial approach to support women in their pathway of recovery and reintegration into the community and works together with Community	Ribeiro 2015 [208] **Study design** • Descriptive **Study quality**	**Clinical profiles and outcomes** • Median length of stay was 465.6 days at discharge • 30 discharges were made during the study period and there were 8 readmissions (27% readmission rate). • Discharged clients went to:

Model of Care	Study / Evaluation Characteristics	Outcomes
Services. • Risk management, in the context of recovery, is one of the goals.	Low quality • Low risk of reporting bias (STROBE) • Small sample • Prospectively gathered data • No comparison group • Direct assessment of hospital use, clinical and risk data. **Study sample** • N=45 **Inclusion criteria** • All 45 patients of the Spring Ward Female Medium Secure Ward **Sample characteristics** • Mean age 35 years (range 19-73 years) • 38%% Black-Caribbean, 25.6% Black African, 4.4% Others • 53.3% had previous admissions to forensic units • 38% history of childhood neglect or physical or sexual abuse, 13% history of abuse or victimisation as an adult, 11% had both. • Primary diagnoses: 62% schizophrenia, 18% schizoaffective disorder, 9% personality disorder, 7% depressive disorder • 18% had two comorbid psychiatric diagnoses, 18% had three. • In total, 80% had psychosis, 56% had substance-related mental and behavioural disorders, 69% personality disorder	○ 24-hour supervised accommodation (50%) ○ home (6.6%) ○ low secure setting (30%) ○ prison (6.6%) ○ different medium secure unit (3.3%) ○ general adult inpatient unit (3.3%) • There were statistically significant reductions in all clinical and risk measures (HoNOS) between admission and discharge. • Quality of life of the 21 patients who completed the WHO-QOL-BREF showed that on average, clients had 'acceptable to good' quality of life.

Model of Care	Study / Evaluation Characteristics	Outcomes
	• 47% history of self-harm.	

8.1.5 Adolescent and Youth-Specific Studies

Model of Care	Study / Evaluation Characteristics	Outcomes
The Adolescent Intensive Management (AIM) Team – Victoria, Australia - A unique model of intensive outreach service with high-risk and difficult to engage adolescents in Melbourne [132]. The program targets a slightly younger group (age 12-18 years) than sought in this review with extreme risk behaviours, difficult-to-mage behaviours and multiple residential placements. These patients were typically admitted to inpatient services through accident and emergency departments of general hospitals. - The AIM team is integrated into the Child and Adolescent Mental Health Service at the Austin Hospital but retains a separate identify. It offers after-hours and weekend on-call telephone consultation services to clients, their families and other service providers for crisis management, reduce emergency department visits, and provide timely information and advice. The AIM team is a multi-disciplinary team consisting of experienced clinicians, social work team leader, a consultant psychiatrist to provide 2 sessions per week, and 5 experienced clinicians with 3 in senior positions. - Referrals are made by outpatient team clinical after failure to engage a young person in the treatment process or where there is increased demand on resources or by inpatient units when a young person requires intensive follow up after	Assan 2008 [132] **Study design** - Descriptive - Client chart review over 12-months **Study quality** Low quality - Low risk of reporting bias (STROBE) - Small sample size - No comparison group - Retrospective review of clients' data, collected through file audit. **Study sample** - N=70 **Inclusion criteria** - Clients of the Child and Adolescent Mental Health Service at the Austin Hospital **Sample characteristics** - Two thirds were female, mean age was 15.2 years (range 13-17 years) - 36% were referred from the Adolescent Inpatient Unit, 17, 21 and 24% from the 3 outpatient regional teams. - Primary diagnoses: 29% mood disorder, 20% disruptive behavioural disorder, 17% anxiety disorder, 14% psychotic disorder, 6%	**Client Profile** - 60% of participants were prescribed psychotropic medication (37% antidepressant, 10% antipsychotic, 9% both, 3% stimulants) - 27% attended school on a full time basis, 15% on part time basis, 1 participant (1.4%) was enrolled in distance education - 17% attended vocational rehabilitation programs - 27% were not attending school nor working or enrolled in any vocational/educational programs - 73% of parents of participants had mental health problems, 20% had substance use problems, and 11.4% had forensic problems - 44% of participants had attempted suicide (predominantly female – 84%), 64% were considered a danger to self due to history of self-harm, 18.6% were considered a danger to others (e.g. made threats) - 30% had history of sexual abuse, 24% physical abuse, 41% emotional abuse, 33% neglect, 54% domestic violence. **Treatment Implementation** - 60% received case management – including therapy with parents, parent-young person dyad, and family therapy as well as secondary consultation. 26% were seen for individual therapy. - Duration of AIM team ranged from 1-32 months (median 9 months). Duration pattern suggests that most require minimum 6 months. - 36 clients (51%) were discharged by end of study

Model of Care	Study / Evaluation Characteristics	Outcomes
discharge.	personality disorder - High comorbidities: 27% had 2 diagnoses, 61% had 3 diagnoses.	period. Among them, 6 did not need further mental health care, 13 returned to referrers in outpatient teams, and 17 were referred to other community service e.g. GP or private psychiatrist).
AIMA (Antenne d'Intervention dans le Milieu pour Adolescents – Mobile Team for adolescents) - Switzerland - An ACT model with a multidisciplinary team consisting of a child psychiatrist, a social worker and a nurse. - The participants are followed by one case manager who can involve other members of the team according to the intensity of the intervention. - The intervention model is an assertive, flexible, time-limited treatment, with frequent meetings (twice daily, 5 days per week) taking place in the adolescent's living environment (family, centre, school, job training location), in close collaboration with the other professionals already involved with the situation, and with a direct involvement of the families in the treatment. - Average duration of an intensive treatment in that environment is 4 months - Caseload per case manager is 10. - Treatment planning is based on in-depth evaluation of client's difficulties and resources in order to align with development process of the specific life phase. - Emphasizes growth tasks aiming for the construction of an autonomous identify e.g.	Baier 2013 [133] **Study design** - Pre-post evaluation of AIMA for adolescents **Study quality** Low-to-moderate quality - Low risk of reporting bias (STROBE) - Small sample size - No comparison group - Prospectively gathered data - Direct assessment of symptoms, social relationships, social functioning. Study sample - N=35 **Inclusion criteria** - Participants of AIMA program: - Aged 13-18 years suffering from psychiatric disorders - Refuse any recommended care or traditional outpatient treatment. **Sample characteristics** - 25 girls, 5 boys - Aged 13-18 years	**Implementation** - Participants received an average of 20 treatment sessions which correspond to 17h of face-to-face contact. **Patient Outcomes** - Participants showed significant improvements on the following: ○ Hyperactivity/focus problems ○ Scholastic/language skills ○ Non-organic somatic symptoms ○ Emotional symptoms ○ Peer relationships ○ Family relationships ○ School attendance ○ Lack of knowledge pertaining to difficulties ○ Total Health of the Nation Outcomes Scales for Children and Adolescent (HoNOSCA) score.

Model of Care	Study / Evaluation Characteristics	Outcomes
returning to school, job training, making friends, developing romantic relationship, negotiating progress in emancipation from one's parents, dealing with problems associated with body changes etc. • Intervention therefore includes accompanying the client in their school or professional/ vocational reintegration, working on social skills in order to develop and maintain their network of peers, motivational intervention to decrease substance abuse, supporting the parental role, evaluating psychiatric pathology, introducing medication if necessary, managing stress and specific symptoms (if any), coordinating the professionals around the adolescent, as well as facilitating access if needed (consultation with the general practitioner, gynaecologist, teachers, professional insertion or school re-integration programmes, child services, young offenders officers, etc.). The case manager can also provide psycho-education about the mental health problem adapted to early intervention or training for social skills required to cope with interpersonal problems. • Leniency and creativity is demonstrated to develop a trusting relationship, including accommodating their preferences on meeting places (home, coffee shops, youth centres etc., even in the streets). • The interventions can be intensive, with the possibility of intervening 5 days a week (Monday–Friday) and up to twice a day. The treatment requests originate from various	• Mean age 16.3 years • 18 with psychotic disorders (of which 8 had schizophrenia), 5 mood disorders, 3 anxiety disorders, 9 conduct disorders • Average treatment duration was 4.2 months (range 1-24 months)	

Model of Care	Study / Evaluation Characteristics	Outcomes
institutions or persons of the adolescent's network: child psychiatrists from the outpatient clinics, hospital, school structures, education centres, judiciary structures or families. Any new treatment request is discussed during a multidisciplinary orientation conference based on its relevance.		
Assertive Community Treatment – Switzerland • ACT model based on AIMA model by Baier 2013 [133]) above **Comparison: ACT plus Inpatient Care (ACT+IP)** • Acute inpatient treatment at the adolescent psychiatric inpatient unit (APIU), which is open 24h a day, year round. • 10 beds • Staff includes child psychiatrists, nurseries, psychologists and special educational needs teachers. • Admission decision is based on either 1) deterioration of clinical state despite ACT treatment; 2) great impact of the disorders on development and/or functioning (e.g. school); and/or 3) increase of family burden to the extent where they are no longer able to provide the necessary support. • Admissions are voluntary (47%) or involuntary (53%). • Discharge is based on resolution of the acute symptoms that led to admission. • Inpatient care may include: regular individual and	Urben 2016 [134] **Study design** • Case-control study of admitted vs. non-admitted clients of ACT **Study quality** Low-to-moderate quality • Low risk of reporting bias (STROBE) • Medium sample size • Prospectively gathered data • Direct assessment of symptoms, functioning and hospital use **Study sample** • N=124 **Inclusion criteria** • Patients of ACT team in Switzerland **Sample characteristics** • 73 boys, 51 girls • Mean age 16 years • 100% had SMI (19 with anxiety, 34 with	**Patient outcomes** • No difference was found in duration of ACT treatment between ACT only vs. ACT+IP group **Instrument Outcome** • HoNOSCA completed at admission to ACT reliably predicted future hospital admission during ACT (probability of successful prediction was 69.8%)

Model of Care	Study / Evaluation Characteristics	Outcomes
family therapy sessions, workshops on story-telling, music therapy, media review, art, and an emotion-centred workshop. Additionally, twice a week, the patients also take part in activities with an educational and cultural focus in the city of Lausanne. Furthermore, classrooms integrated with the unit enable the adolescents to do their regular schoolwork during their stay.	depression, 19 conduct disorder, 13 psychosis, 9 personality disorder.	
Assertive Community Treatment – Switzerland - Based on Baier 2013 study model above [133] - Mean duration of treatment was 276 days between admission and discharge	Urben 2016 [135] **Study design** - Pre-post evaluation of ACT to examine the impact of duration of ACT on outcomes **Study quality** Low quality - Moderate risk of reporting bias (STROBE) - Brief publication with minimal study detail - No comparison group - Small sample size - Prospectively gathered data - Direct assessment of symptoms, social and general functioning, **Study sample** - N= 47 **Inclusion criteria** - Aged 13-18 years **Sample characteristics** - Age range: 13-18 years; 38.3% girls	**Patient outcomes** - Symptoms (i.e. hallucinations, somatic disturbances and emotional difficulties) were reduced between 3-month assessment and discharge. - The linear reduction in impairment, social, and total HoNOSCA scores was seen between admission and discharge, suggesting that minimal duration of ACT should be 9 months to obtain maximum benefit. - Reduction was also observed for difficulties with language and physical illness (impairment score) as well as relationships with peers, family, or school attendance (social score). - Analyses suggest that improvements in social score may be associated with improvements in school attendance.

Model of Care	Study / Evaluation Characteristics	Outcomes
	• 30% depression, 19% anxiety, 17% conduct disorders, 11% psychosis, 4% personality disorders.	
Intensive Mobile Youth Outreach Service (IMYOS, ORYGEN Youth Heath) – Melbourne, Australia • Offers assistance to young people who display signs of mental illness, are considered at 'high-risk' (e.g. of suicide) and have a history of poor engagement with clinic-based services. • IMYOS is a sub-programme of ORYGEN Youth Health (OYH), a specialist mental health service for adolescents and young adults aged between 15 and 24 years who reside in the western and northwestern regions of Melbourne. • There continue to be 4 IMYOS teams in Metropolitan Melbourne that service the 12- to 18-year age group. • The IMYOS utilises a flexible outreach approach to engagement and treatment that does not depend upon clients maintaining appointments at a centre-based office, but instead provides services in the most natural setting possible, typically in clients' homes. • IMYOS operates during normal business hours, Monday to Friday. At all other times, clients may contact the Youth Access Team, providing 24-hour, 7 days per week mobile assessment and acute community treatment for all OYH clients. • IMYOS is a multidisciplinary team, staffed by 3 psychologists, 2 social workers, 1 occupational therapist and 1 psychiatric nurse. A consultant	Schley 2008 [17] **Study design** • Pre-post evaluation of IMYOS clients **Study quality** Low-to-moderate quality • Low risk of reporting bias (STROBE) • No comparison group • Small sample size • Prospectively gathered data • Direct assessment of symptoms, high risk behaviours, and hospital use. **Study sample** • N=47 **Inclusion criteria** • clients of IMYOS **Sample characteristics** • 22 females, 25 male • Mean age 15.5 years • Majority had traumatic upbringings such as parental separation before age 3 (79%), witness to domestic violence (45%), childhood physical abuse (43%), sexual abuse (43%)	**Assessment based on Chart Review** **Patient outcomes (6 and 12 months)** • There was a significant reduction in rates of risks such as suicide ideation, self-harm, violence, crime between referral and discharge. • Rate of psychiatric hospital admissions declined significantly – by 17% at 3 months, 29% at 6 months and 28% by 9 months – after IMYOS intervention compared to before. • Similarly, of those admitted, average length of hospitalisation declined by 6.7 days, 6.2 and 5.5 days at 3-, 5- and 9-month follow up compared to baseline.

Model of Care	Study / Evaluation Characteristics	Outcomes
psychiatrist is available for 2 days a week. - Each fulltime clinician carries a caseload of 8-9 young people and provides on average 2 home visits per client per week. IMYOS interventions are multi-systemic and typically incorporate the individual, their families and support system (e.g. school). IMYOS works within a case management framework, offering interventions varying from practical support to structured therapy.	- Family history of mental illness (66%), substance abuse (53%) and suicide (26%) - 40% mood disorder, 38% attention-deficit/disruptive behaviour, 31% substance-related disorder, 22% anxiety disorder, 9% psychotic disorder, 38% with personality disorder, 63% with problematic substance use - average length of IMYOS involvement: 12.6 months.	
Our Town – California (OT), USA - Innovative case management program based on the Village Integrated Service Agency (ISA) program of Long Beach, Calif., a recovery-based, community integration model that serves people with SMI by promoting independence and community ties while reducing the need for inpatient care. - Distinct from ISA, Our Town focuses on young adults aged 18-25 years and a higher caseload (20 compared to 12 of ISA, due to budget constraints). - Components: ○ Employment including pre-employment and on-the-job support to help members achieve their long-term employment goals ○ Education, helping members complete high school, obtain a GED, or pursue a college or technical degree ○ Mental health treatment, including access to clinical services and support for psychiatric needs	McGrew 2009 [209] **Study design** - Pre-post evaluation of Out Town Program **Study quality** Low-to-moderate quality - Low risk of reporting bias (STROBE) - No comparison group - Small sample size - Prospectively gathered data - Direct assessment of symptoms, general functioning, activities of daily living, high risk behaviours, housing, and hospital use. **Study sample** - N=56 (13 dropped out) **Inclusion criteria** - Age 17-25 years - DSM-IV diagnosis of primary Axis I diagnosis of schizophrenia or an associated psychotic	**At 1 year follow up** - Compared with the year prior to admission, there were no significant changes in quality of life and on most ratings of clinical functioning. - Nevertheless, some significant changes were found after 1 year of Our Town Program: ○ Improvements in adult daily living skills ○ Greater proportion of participants working (60.8% vs. 21.7%) ○ Less proportion of participants with a misdemeanour (2.1% vs. 16.0%) or to be homeless (8.7% vs. 30.4%) - And while not significant, a trend towards a reduction in the proportion of participants in prison (8.7% vs. 34.8%) - Progressive improvement in global assessment of functioning (GAF) and ratings of overall progress over the treatment period - Reduced likelihood of being hospitalised by the end of treatment (0%) compared with the first 6 months of treatment (15.4%), and during the first year of treatment (12.5%), compared with the year prior to treatment (33.3%).

Model of Care	**Study / Evaluation Characteristics**	**Outcomes**
○ Housing based on member's choice, including group environments, special-needs care, independent living, and a set of 10 cluster apartments maintained by Our Town ○ Community involvement, assisting and encouraging members to participate in social and recreational activities in the community ○ Money management. - Staff composition and structure: The clinical team coordinated members' support services and included a psychiatrist (2 hours/wk), an advanced practice nurse (0.5 FTE) who served as the primary prescriber, a clinical supervisor (1.0 FTE), 3 personal service coordinators (with case management responsibilities) (3.0 FTE), an employment specialist (1.0 FTE), and a peer support specialist (0.5 FTE). - The team provided continuous care—both in the Our Town facility and in the community—wherever and whenever the member needed the support services. Staff participated in an on-call schedule to ensure that services were available 24 hours a day, 7 days a week.	disorder, mood disorder, anxiety disorder, or an Axis II diagnosis of personality disorder) - Not primary diagnosis of developmental or physical disability - Diagnosis of severe SMI (a DSM-IV diagnosis: significant functional impairment in two areas; illness duration ≥1 year) - Need for intensive services as demonstrated by at least one of the following during the prior 2 years: ≥2 psychiatric or substance abuse hospitalisations or out-of-home placements; repeated legal system involvement; ≥2 emergency room visits for psychiatric or substance abuse problems; committed to, awaiting commitment to, or released from a state hospital; homeless or unstably housed. **Sample characteristics** - Mean age 21 years, 51% male, - 44% African American, 5% other - 82% unemployed - 46% with citations/ arrests/ police contacts in past 12 months - 66% with legal restrictions at intake - 16% homeless in past 12 months - 47% bipolar, 29% schizophrenia, 9% schizoaffective, 6% psychosis NOS - 88% history of hospitalisation, 34% in the past 12 months.	
PDRSS Youth Residential Rehabilitation Program –	Nous Group 2012 [112]	- YRR providers and consumers commented that the current model for YRR Programs does not adequately

Model of Care	Study / Evaluation Characteristics	Outcomes
Victoria, Australia • Youth Residential Rehabilitation (YRR) Program is a bed based PDRSS program targeted to young people with serious mental illness aged 16-24 years. • The Victorian Government invested approximately A$8.03 million in bed based Youth Residential Rehabilitation services. The 166 beds are delivered through a total of 17 YRR sites across the state. Services are structured as clusters of 8-10 beds. • The program provides transitional support to assist clients to achieve their goals for independent living. The service model focuses on supporting clients to: ○ Improve their capacity to manage and be responsible for their behaviour and self-care ○ Enhance their adaptive coping skills and decrease self-harming behaviour ○ Enhance their social skills and daily living skills to improve their ability to live independently in the community ○ Develop and maintain links with the community, family and social networks, educational and vocational opportunities. • Youth Residential Rehabilitation services offer either: ○ 24-hour on-site support, with capacity to provide staff sleepovers (30 beds across 3 sites) ○ Less than 24-hour support. In these services staff support is provided on an extended hours basis. Hours of staffing availability vary	**Study design** • Review of PDRSS Day, Adult Residential Rehabilitation and Youth Residential Rehabilitation Programs through: • Stakeholder engagement and reference groups, review of policy documents and academic reviews and analysis of 2010 PDRSS Census data, 2009-10 Quarterly Data Collection and the PDRSS SWOT analysis report. **Study quality** Moderate quality • Low risk of reporting bias (STROBE) • No comparison group • Small sample size • Existing and prospectively gathered data • Direct assessment of symptoms, housing, employment, quality of life, recovery, functioning **Program client characteristics** • 70% aged 19-25 years old (with most 19-21 years • 53% male • 26% with schizophrenia, 17% with depression, 17% personality and 12% with bipolar disorders • YRR consumers experience an average of 4.3 difficulties in addition to their mental illness (88% of consumers in Youth Residential Rehabilitation have at least one difficulty,	deliver on improved mental health outcomes or on other recovery outcomes for consumers. • General qualitative assessment of recovery outcomes found that mental health and physical outcomes (enhanced daily living skills, psychosocial education attainment, self-management of illness and good physical health and wellbeing) were rated as medium, whereas social and economic outcomes (improved social and family relationships, stable and affordable long-term housing, family/carer support and engagement, and educational and vocational achievement and employment) were rated as low-medium. • YRR Program providers reported a strong desire to identify outcomes measures and implement outcome data collection particularly for employment, education, physical health, housing. ○ 57% of YRR Program consumers were unemployed, 23% were studying and 14% were employed in some capacity ○ Clinicians and YRR Program providers reported consumers with SMI experience more physical health issues than the general population. ○ All stakeholders strongly identified shortage in stable housing as a key barrier to recovery for YRR Program consumers and for leaving the YRR Program (85% identified YRR as their primary residence). YRR Programs were therefore acknowledged as pseudo-housing solutions due to the difficulty in finding stable and affordable long-term housing. • YRR stakeholders showed broad agreement for the retention of a bed-based approach for young people as

Model of Care	Study / Evaluation Characteristics	Outcomes
across YRR services (136 beds across 14 sites). • Reported difficulties – consumers have the highest reported difficulties which include alcohol and drug dependencies. 47% report unresolved trauma as their prevalent difficulty • Service delivery model - no clear and consistent service delivery model • 70% of activities are centred on work, domestic activities, self-care, social contact and recreation. There is little variation of activity types across providers. 61% require assistance with practical issues such as housing or money. YRR consumers also require more assistance with management of risk to self or management of risk to others (combined, 38%) • According to the PDRSS Census 2010 34% of YRR consumers, at the time of the survey, were being supported for 6-12 months • The average contact time per week was 3.5-4 hours, which does not reflect an intensive residential support setting (which is typically at least 6 hours/week). • Funding – YRR costs approximately A$48,000 per consumer per annum.	and 40% have five or more difficulties) • YRR consumers have the highest rates of alcohol and drug dependence across PDRSS – 30% nicotine, 30% alcohol, 21% cannabis – with significant proportion having multiple dependencies.	they were considered necessary to provide stability, peer support and relative safety during this critical development stage of young people. • Young mental health experts and service providers suggested up to 12 months of recovery support as appropriate for the consumer target group. • Other challenges identified by stakeholders include ○ lack of formal coordination mechanism with the diverse range of partners ○ lack of clear, non-discretionary entry and exit criteria and pathways for YRR consumers, poor integration with other services (perceived as operating in silos and not sharing information) ○ inadequate knowledge of the diverse service types available ○ need for improved partnerships with other sectors such as employment and education, community health, housing, clinical and recreational services ○ poor workforce capability with limited skills development opportunities (especially for the most prevalent difficulty for YRR consumers, unresolved trauma from sexual abuse and associated grief etc.) ○ inadequate support to meet the needs of the increasing number of consumers and complex needs ○ lack of structured career pathways and remuneration leading to low staff retention and poor continuity of care for consumers ○ limited consultation with families. • Key gap in services for young people was formal youth mentoring • YRR costs approximately A$53,500 per consumer per annum

Model of Care	Study / Evaluation Characteristics	Outcomes
Permanent Supportive Housing (PSH) – California, USA **(Housing First framework)** Context • In 2004, California approved Proposition 63, the Mental Health Services Act (MHSA), which applies a tax of 1% on incomes over US$1 million to fund public mental health services. The cornerstone of the MHSA was the implementation of full-service partnerships: team-based PSH programs that do "whatever it takes" to improve housing and recovery outcomes among persons with serious mental illness who are homeless or at risk of homelessness. • The MHSA also supports a diverse array of programs, including outreach and treatment for underserved populations, prevention and early intervention programs, and innovative approaches to service delivery. PSH Program • Provision to individuals with SMI who were homeless or at risk of homelessness with subsidised permanent housing and multidisciplinary team–based services with a focus on rehabilitation and recovery. • PSH services followed either an intensive case management model or a multidisciplinary treatment team model. Clients were recruited through outreach and referrals from psychiatric hospitals, emergency rooms, other mental health	Gilmer 2016 [16] **Study design** • Quasi-experimental design of PSH vs. outpatient mental health services **Study quality** High quality • Low risk of reporting bias (CONSORT) • Intent-to-treat, difference-in-difference design with a propensity score-matched contemporaneous control group • Large sample size • Prospectively gathered data • Direct comparison of program fidelity, hospital use. **Study sample** • N=5,218 (2,609 youths in PSH and 2,609 youths with SMI receiving public mental health services in California) • N=63 PSH programs had health utilisation data and enrolled transition-age youths. • Administrative data were used in a quasi-experimental, difference-in-differences design with a propensity score-matched contemporaneous control group to compare health service costs among 2,609 youths in PSH and 2,609 youths with serious mental illness receiving public mental health services in California from January 1, 2004, through June 30, 2010.	**Fidelity of PSH to Housing First model based on self-report Housing First Fidelity survey** • On Factor 1 (Approach to housing and service philosophy): ○ 15 PSH programs (24%) had low fidelity, ○ 37 (59%) had medium fidelity, and ○ 11 (17%) had high fidelity. • On Factor 2 (Service array and team structure): ○ 13 PSH programs (21%) had low fidelity, ○ 33 (52%) had medium fidelity, and ○ 17 (27%) had high fidelity. **Health services utilisation outcomes** • Youths in the PSH program had increased inpatient, crisis residential and mental health outpatient costs. The total service costs increased by $13,337 among youths in PSH compared with youths in the matched control group. • However, among those in the PSH program, youths in higher-fidelity programs had larger declines in use of inpatient services and larger increases in outpatient visits compared with youths in lower fidelity programs suggesting that either the PSH programs enables greater access to specialised inpatient services for youths, inpatient admissions reflect a positive strategy for youths, or youths in PSH programs may be experiencing different service trajectories than others. • The greater reduction in likelihood of hospital admissions and increased use of outpatient services among those in PSH programs with higher fidelity to the Housing First model also suggests that high fidelity is particularly important in youth-oriented PSH

Model of Care	Study / Evaluation Characteristics	Outcomes
programs, county agencies, jails, shelters, rescue missions, and the street. • Most PSH programs delivered services to clients in real-world settings: in their homes, workplaces, and other places in the community chosen by the client or deemed of therapeutic value by staff. Crisis intervention services were available 24 hours a day, 7 days a week.	**Sample characteristics** • Age 18-24 years ○ 18-19 years (37%) ○ 20-21 years (27%) ○ 22-24 years (35.5%) • 60.5% male • 11% African American; 22% Latino, 4% Asian, 33% Other • 48% with schizophrenia, 28% bipolar, 23% major depression, 45% substance use disorder	programs.