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Evidence Check

Transitioning long-stay psychiatric inpatients to the community

An **Evidence Check** rapid review brokered by the Sax Institute for the NSW Ministry of Health. November 2014.

This report was prepared by:

Sandra Matheson and Vaughan Carr.

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Abbreviations

WHO	World Health Organization
CONSORT	Consolidated Standards of Reporting Trials
RCTs	Randomised Control Trials
STROBE	Strengthening the Reporting of Observational Studies in Epidemiology
GRADE	Grading of Recommendations Assessment, Development and Evaluation
UCLA	University of California, Los Angeles
DPP	Discharge Preparation Program
DDS	Discharge Difficulty Scale
RRT	Rehabilitation Readiness Training
SGR	Supported Group Residence
OPT	Optimal Treatment Program
IRRCS	Integrated Rehabilitation and Recovery Care Program/Services
SECU	Secure Extended Care Units
CCU	Community Care Units
PDRSS	Psychiatric Disability and Rehabilitation Support Service
MSTs	Mobile Support Teams
CCT	Community Care Team
NGO	Non-Government Organisation
CTI	Critical Time Intervention
TDM	Transitional Discharge Model
HASI	Housing and Support Initiative
HASP	Housing and Support Partnership
IHBOS	Intensive Home-Based Outreach Service
IPRSS	Individual Psychosocial Rehabilitation & Support Services
DRI	Discharge Readiness Inventory

1 Executive summary

Introduction

The World Health Organization (WHO) reports significantly better outcomes in functioning and psychosocial adjustment, reductions in hospital admissions/re-admissions, and increases in patient satisfaction with community-based care compared to inpatient mental health services. Community-based accommodation with high-level support also provides a cost-effective alternative to inpatient care. The availability of suitable housing and support is essential for enabling discharge from hospital, but also the manner in which patients are prepared for this lifestyle change should not be underestimated. Here we review the evidence from models of care for transitioning long-stay psychiatric patients into community settings that have been both implemented and evaluated

Method

We included only studies that described models of care and patient outcomes. We also included studies assessing ways to measure readiness to transition, or those identifying barriers to transition. Database and grey literature searches were undertaken in September 2014. Study reporting quality was assessed using the CONSORT statement for randomised controlled trials, and the STROBE statement for observational studies. Data quality was assessed, and strength of recommendations was guided using GRADE methodology.

Results

The searches identified 1204 unique references, and 24 of these met inclusion criteria. There were consistent findings of reduced re-admissions and length of hospital stay after discharge, with corresponding reductions in costs and service use over time. Most patients were satisfied with, and were successful in, their transition to community living. Patients showed improved functioning, quality of life, social skills, and engagement with activities. We give a strong recommendation for the implementation of inpatient readiness for transition training with continuity of care between inpatient and outpatient settings, as this is supported by high quality evidence. We give provisional recommendations for: 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.

Conclusion

Much of the evidence was of low quality because it was sourced from grey literature that was not always presented in a way that could be quality assessed using standardised guidelines, or it was based on small observational studies, and those without control groups. The models themselves are not necessarily of low quality, but the low-quality rating indicates more research is needed and reported in a way that can be properly assessed. This suggests a need for greater methodological rigour and well-designed studies

2 Introduction

The World Health Organization reports that 73% of studies have found significantly better outcomes in functioning and psychosocial adjustment with community-based care compared to inpatient mental health services; 64% have found significant reductions in hospital admissions/re-admissions, and 64% have found significant increases in patient satisfaction.[1] Community-based accommodation with high-level support also provides a cost-effective alternative to inpatient care.[2]

Community-based care encompasses services provided in any setting other than a hospital. It includes clinical and non-clinical support as well as housing.[3] Models of housing and support can be seen as located on a continuum between 'custodial housing', in which patients live in quasi-institutional settings with high-levels of supervision and control by staff, and 'supported housing', in which patients live alone or with others of their choosing, where the level of support varies depending on need, and patients' entitlement to tenure continues irrespective of support needs. 'Supportive housing' sits between these two models, providing self-contained accommodation in high-density settings and 24-hour on-site staffing.[4] Supportive housing is viewed as more short-term than supported housing. It is inclusive of group homes and clustered apartments, and commonly requires mental health and/or substance abuse services as a condition of stay. However, these terms are often used interchangeably in the literature.[5]

There is evidence that the closure of psychiatric facilities has not gone hand in hand with the adequate expansion of community-based accommodation and support.[6] Shortages of suitable discharge accommodation are a significant causal factor in prolonging length of stay for patients in hospital mental health units.[6] People with dual disabilities and complex needs are particularly likely to experience long-term inpatient-stays due to lack of specialist support.[6]

Although availability of suitable housing and support is the essential component for enabling discharge from hospital, the manner in which patients are prepared for this lifestyle change should not be underestimated, particularly for long-stay patients who may find the transition most stressful.[7] Here, we review the evidence from models of care for transitioning long-stay psychiatric patients into community settings that have been both implemented and evaluated.

3 Method

Inclusion criteria

We included studies published after 2001 that described models of care *and* patient outcomes for transitioning long-stay psychiatric inpatients to the community (long-stay=≥ one year, or as defined in individual studies). We also included studies whose samples included, but were not exclusive to, long-stay patients. We included studies assessing ways to measure readiness to transition, or those identifying barriers to transition. Studies that involved samples in which a majority of participants had a primary diagnosis of a non-psychiatric disorder (e.g. dementia, intellectual disability) were excluded.

Literature searches

Searches were undertaken in September 2014 of Medline, Embase, PsycInfo, Cinahl and Scopus databases, and the Cochrane, Joanna Briggs, and Campbell Collaboration Libraries. Grey literature was identified via Google search and inspection of Australian government health services websites. Handsearching of reference lists was also conducted. See Appendix A for the search strategies.

Quality assessments

Study reporting quality was assessed using the Consolidated Standards of Reporting Trials (CONSORT)[8] statement for randomised controlled trials (RCTs), and the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE)[9] statement for observational studies. Where possible, data quality was assessed using Grading of Recommendations Assessment, Development and Evaluation (GRADE)[10] methodology which assesses for precision (width of confidence intervals), and directness of assessments and comparisons. Consistency could not be measured in this review as no data could validly be pooled. Using the GRADE method, RCTs are viewed as intrinsically high quality and observational studies are viewed as intrinsically low quality due to potential confounding factors. Evidence quality may be graded up or down depending on the possibility of reporting bias, study design, sample size, effect size, precision, and directness. A low-quality rating does not disparage the study, model or results, but indicates that more research is needed in the area. We have also used the GRADE approach for determining the strength of our recommendations.[11,12] Results are reported as significant when the studies have stated that results were statistically significant ($p<0.05$). No studies reported on the degree of practical or clinical significance (as distinct from statistical significance) of their findings, and only two studies quantified effect sizes

4 Results

Search results

The searches identified 1,204 unique references, and 24 met inclusion criteria. Eight additional references were included that provided more detail or data on several of the models outlined below.

Review question 1:

Which models of care for transitioning long-stay inpatients of psychiatric facilities to the community have been implemented and evaluated for effectiveness?

Review question 2:

For the models of care, programs or services identified in question 1, describe patient outcomes according to patient characteristics (age, sex, diagnosis, length of admission, level of care provided in residential care, length of illness, comorbidities).

Studies of long-stay inpatients (≥ 1 year): inpatient transitioning readiness models

Community Re-entry Module, Japan[13]: moderate quality evidence

The sample included patients with schizophrenia who had persistent and refractory symptoms of psychosis, poor insight into their disorder, and who had volunteered for the program. The sample had an average length of illness of 20.5 years, and an average length of hospital stay of 4.4 years. The Community Re-entry Module was one of the Social and Independent Living Skills Modules developed at the University of California, Los Angeles (UCLA)[14] aimed to teach patients with major mental disorders the knowledge and skills they need to live in the community. The intervention involved 18, one-hour sessions conducted twice weekly by ward nurses on how to reduce stress and promote coping after discharge. Sessions included information on medication and how to self-administer it, how to find and secure housing and continuing psychiatric care in the community, warning signs of relapse, and how to develop and implement an emergency plan to deal with relapse. It involved reality-orientation groups, and work assignments while in the hospital.

By one year, 71% of patients in the training group were discharged compared with 20% in the control group. The patients who were trained in the module spent significantly more days in the community after discharge than the control group. Immediately after training, patients demonstrated a significant increase in knowledge and skills, and although this had declined by one year, it was still significantly higher than their baseline levels and higher than the control group. A statistically significant improvement in functioning was reported in the training group by one year, with no differences in the control group, and there were no differences in mental state.

Discharge Preparation Program for Mentally Disordered Persons, Japan (DPP)[15]: moderate quality evidence

This program was also based on the Community Re-entry Module of the Social and Independent Living Skills Modules developed at the UCLA[14], but was specifically adapted for the Japanese setting by altering

terminology, increasing staff training to incorporate group training sessions, and increasing homework requirements. The long-stay psychiatric inpatients all volunteered for the program, all had a diagnosis of schizophrenia (patients with other diagnoses were excluded from the study), and the sample had been hospitalised for an average of 14.6 years, with a mean age of 54 years. The program included 24, 60–90-minute sessions delivered once or twice a week over four to five months. The Discharge Difficulty Scale (DDS) was developed by the authors and has been validated, although the validation publication is in Japanese, so was not included in question three of this review.

The intervention group showed significantly improved 'total', 'knowledge', 'issues on treatment compliance', 'autistic life', and 'problem behaviour' scores on the DDS compared to the waitlist control group. Twenty-one per cent of patients in the participation group compared to four per cent in the control group were discharged from hospital by six months. There were no significant differences between groups for symptoms, anxiety around discharge, inactivity, family support, possible suicide attempts, or physical complications. Staff reported the homework component gave them an opportunity to work with the patients at a more continuous and in-depth level.

Rehabilitation Readiness Training, USA (RRT)4, 16, 17: low quality evidence
This study included long-stay psychiatric inpatients (>2.5 years) who did not want to leave hospital and were aware of their lack of readiness to transition. Ninety per cent of the sample had a diagnosis of schizophrenia, and an average age of 49 years. The project goal was articulated as moving people "to the door, not out the door"; producing an internal change that increases patients' willingness to commit to active involvement in the rehabilitation process. Readiness-for-discharge coaching was delivered by small teams of trained staff specifically employed for this purpose. Assessment for readiness to transition was based on: need for change (level of satisfaction in a current living environment), commitment to change (beliefs about personal abilities, importance and benefits of change, and support for change), connection to staff (patient perspectives about the quality and type of interactions with practitioners), self-awareness (knowledge about personal preferences, values, and interests), and environmental awareness (knowledge about potential future environments).

By two years, eight of ten patients were successfully living in the community. One patient had died from a medical condition and the remaining patient refused to leave hospital. The average time from entry to transition was 13 months. Teams of two staff made communication and coordination easier than teams of three. Training was essential, particularly for staff expertise in readiness assessment and readiness development, as was the provision of support and guidance to integrate the approach and activities into regular job duties. The readiness assessment profile proved useful to staff in planning intervention strategies, although we were unable to find any formal evaluation of this assessment tool. Administrative buy-in from the top down was critical to success, and 'staff champions' helped prompt attitude change.

Studies of long-stay inpatients (≥1 year): inpatient transitioning readiness models plus temporary or permanent residential care

Supported Group Residence Model, Japan (SGR)18: moderate quality evidence
The sample included patients with a diagnosis of schizophrenia or "*epileptic psychosis*" (patients with

personality or depressive disorders were excluded), who had been hospitalised in a private psychiatric hospital for a minimum of one year, and who agreed to participate in the study. The sample had a mean age of 62 years, and an average length of hospital stay of 24 years. The patients needed to have no serious symptoms such as being dangerous to self or others, persistently troubling others, or showing bizarre

behaviour; they were also required to not need regular nursing. All patients (including those remaining in hospital) received inpatient training to acquire some basic skills, such as taking medication, money management, or personal self-care. The additional programs for the residential treatment group consisted of volunteer work in the community; tea meetings/birthday parties at the residential house to strengthen friendships; and attending day care programs at the hospital three times a week. The Fukushi-home B system (the Japanese name for SGR) was a permanent residential facility established for patients with volitional disorder or mildly deviant behaviour who had difficulty living in group homes, or who required assistance due to aging. The 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 one manager, one or more physicians, three guides, including one psychiatric social worker, and to have a capacity of ~20. Onsite staff were available during the day and patients were directed to contact hospital staff in the evenings. Meals were provided at patients' request and programs were provided, such as helping acquire daily living skills, and give advice on interpersonal relationships.

By two years, 21% of patients in the residential group were readmitted to hospital for between two weeks and ~five months. There was a significant improvement in positive symptoms in the residential group, and a trend toward worse negative symptoms in the hospital group. The level of expectations for and performance of social activities was more enhanced in the residential group. Quality of life significantly declined in the hospital group in the physical health domain. The expense of the hospital group was more than threefold greater than that of the residential group (including the hospital costs for the patients who were readmitted).

Psychosocial Training, Japan[19-21]: low-to-moderate quality evidence
The sample included all inpatients who agreed to be part of the study. The sample had a diagnosis of schizophrenia, an average length of hospital stay of 25 years, a mean age of 54 years, and an average duration of illness of 31 years. Patients were given training starting one year prior to the closure of the Sasagawa hospital and continuing to a residential facility and a community support centre which was constructed from the hospital building. 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 as necessary. Training involved five components based on the Optimal Treatment Program (OTP) model. This model entailed: 1) *Minimally effective antipsychotic drug strategies targeted to changing symptom profiles:* education on the benefits and problems of medication; adherence training and maintenance; prevention and minimization of side effects; and early warning signs of exacerbation. 2) *Education of patients and informal carers in stress management strategies:* education to enhance understanding of the nature of psychotic disorders and their clinical treatments; and training in effective interpersonal communication and structured problem solving to achieve personal goals and manage life stresses. 3) *Assertive case-management:* the development and maintenance of effective social support, housing, finances, health and safety; early detection and intensive care to resolve clinical and social crises in the settings most conducive to full and rapid recovery. 4) *Goal-oriented social and occupational skills training:* training for patients and informal carers in the skills they need to achieve their personal goals for friendships, close relationships, work and recreational activities; and supporting patients to access the full range of social and occupational opportunities available in their communities. 5) *Specific pharmacological and/or psychological strategies for residual or emerging symptoms:* coping with persistent psychosis, managing negative symptoms, coping with anxiety and panic, mood swings, dysphoria and suicidal thoughts; managing substance misuse, anger and frustration, sleep disorders and nutritional problems.

By two years after discharge from the hospital there was significant improvement in positive and negative symptoms, general psychopathology, and general and social functioning. Social activity, speech skills, self-care and general behaviour also improved significantly. Communication skills scores of men improved more than that of women. Sixteen per cent had paid employment. However, insight gradually deteriorated and BMI increased significantly. By five years after discharge, all patients had left the facility and were living in group homes or apartments. The significant improvement for symptoms and functioning remained at five years. Global cognition, attention, memory, executive functioning and processing speed also improved. Only 5% of patients were re-hospitalised for over one year because of exacerbation of their mental illness, and 4% of patients were hospitalised because of physical illnesses.

Goal-orientated rehabilitation, Italy[7]: low-to-moderate quality evidence

The sample included psychiatric inpatients of a hospital that was due to close. Seventy-seven per cent of the sample had a diagnosis of schizophrenia. Half had spent over 20 years in hospital, and the average age was 58 years. There were few patients with a dual diagnosis. Patients lived together in groups of eight to ten, either in "apartments" or in other residential facilities within the confines of the hospital, without restrictions, except for the need to follow straightforward cohabitation rules that were agreed among fellow residents. A total of 100 hours of workshop training and supervision was provided over two years. Nurses, social workers and occupational therapists, few of whom had previous specialised mental health training, were supported by seven psychiatrists and one clinical psychologist. Training was based on the OTP model, which is similar to the Psychosocial Training model above, but specifically adapted to the needs of long-stay patients. Training included workshops on biomedical and psychosocial assessments, clarifying patients' personal goals, educating patients about their mental disorders and treatments, optimal pharmacotherapy, early warning signs of exacerbations, assertive community treatment and crisis management, enhancing interpersonal communication and social skills, enhancing personal self-care, structured problem solving and other cognitive behavioural strategies to aid coping with targeted residual (psychotic, negative, anxiety, mood) symptoms, as well as problems of substance abuse, anger and frustration. After practice and discussion in individual and group sessions, patients applied the strategies in their life situations and reported the outcomes at the next training session where they received further coaching. As the process of discharging patients progressed from the residential facilities, there was a parallel movement toward relocating staff to community settings.

By five years, all patients were discharged and most went to specialised residences. Almost all patients were able to choose their own place of residence and most were happy with the choice. Symptoms improved immediately after the program, then gradually deteriorated in the second and third years before regaining their baseline level. The control group showed significant deterioration from baseline during years two and three and improved during years four and five but did not regain their baseline level. Both groups showed significant improvements in functioning and greatest improvement occurred during the first year after discharge. A multiple regression analysis revealed treatment group was the most important predictor of recovery over diagnosis, age, sex, and duration of illness.

Warley rehabilitation program, UK[22]: low-to-moderate quality evidence

The aim of this program was to extinguish or reduce problematic behaviours (most commonly aggression and sexual dis-inhibition) that were preventing discharge into community homes for "difficult to place" inpatients (average stay ~10 years). The sample comprised 86% with a diagnosis of schizophrenia, 70% were male, and the average age was 45 years. Patients were moved to a separate building within the grounds of the hospital prior to starting the training program. Medication regimes were switched from first-generation to second-generation antipsychotics. Graduate psychologists were employed so that the staff-to-patient

ratio was not less than 1:1. A training program was provided to the psychology assistants, nursing staff, and an occupational therapist, and comprised 10 sessions. Individual care plans were designed by the psychology assistants and embodied a cognitive-behavioural approach focussing on the problem behaviours and deficient living skills of the patients, and were carried out in conjunction with the nursing staff. Weekly supervision of the psychologists was provided by a part-time clinical psychologist and by one of the investigators. Occupational therapists ran sessions to teach shopping and cooking skills.

By the end of one year there was a greater reduction in 'special problems' in the rehabilitation group than the control group, although the difference was not significant. There was a reduction in the number of patients in the rehabilitation group showing verbal aggression, destruction of property, physical aggression, and social behaviour problems, with no changes in the control group. There was a marginally significant increase in domestic skills for the rehabilitation group only. Thirty-six per cent of the experimental patients were placed in the community by two years while it took five years to place a similar number of controls into the community (40%). The impact of the training showed that staff had learned a greater appreciation of the patients' perspective and had acquired more coping strategies.

Integrated Rehabilitation and Recovery Care Program/Services, VIC (IRRCS)[23]: low quality evidence

This sample had an average of six years' residence in either Secure Extended Care Units (SECU) or Community Care Units (CCU). Patients were required not to need active inpatient care, not to be a risk to self or others, show willingness to move, and to have the potential for achieving a good level of daily living skills and social functioning with community-based, rehabilitation support. The sample included 89% of patients with schizophrenia, 72% were male and the average age was 39 years. Thirty-three per cent had a psychiatric or physical comorbidity. IRRCP is delivered by consortia of Psychiatric Disability and Rehabilitation Support Service (PDRSS) providers in three regional clusters. Stakeholders involved are patients, carers, The Department of Human Services (housing), PDRSS providers, Mobile Support Teams (MSTs) and generic community support. The model has three phases. Phase one is provided over three months and prepares the patient for transition to the community and involves identification of suitable patients, patient engagement, development of a care plan, and exploration of housing options. The readiness assessment covers housing requirements, social support requirements, living skills, family and care support, clinical history, and history of prior effort. Phase two provides high-level support in the community for between 12 and 15 months with intensity of support decreasing as living skills increase. Phase three involves transition to lower level, ongoing support over a three-month period, including home-based outreach support and clinical case management. All phases comprise three elements: 1) care coordination, involving liaison between relevant support staff and monitoring of the integrated plan; 2) development of individual support plans which identify personal goals and what would be provided by the service; 3) development of an exit plan to move the patient from the IRRCS, with staged withdrawal of support, 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.

By 15 months, there were reduced psychiatric inpatient and emergency admissions in this long-stay sample. Patients gained greater insight into their mental health management, demonstrated greater compliance with medication, and living skills gradually improved. Over 50% of patients were engaged (or planned to be) in paid or voluntary work, and 46% reported improvements in physical health. Service problems included: assessment taking longer than expected due to delays in establishing a relationship with SECU and CCU staff; misunderstandings of IRRCS; miscommunication with patients, families, and carers; patients withdrawing interest from or being diverted to alternative options; protracted discussions confirming suitability of patients; and whether the individual funding allocation was sufficient to support patients'

needs. There was also a shortage of permanent and affordable housing, and housing allocation worked best where IRRCS providers developed links with the Office of Housing at the local level. There appeared to be a need to establish governance and agreement on assessment processes, including sharing patient information and developing joint care plans. The 2007–2008 cost of IRRCS was $52,000 per patient per year including project management, care coordination and care delivery costs compared to $114,610 for CCU and $166,805 for SECU (2008–2009).

Studies of long-stay inpatients (≥1 year): community-based models

Project 300, QLD[24]: moderate quality evidence

Project 300 included psychiatric inpatients identified as being potentially ready for discharge. The sample had an average stay in hospital of 15.6 years, 80% were male, and 80% had a diagnosis of schizophrenia. Twenty-two per cent had a forensic history. Patients were given priority access to the existing pool of community housing. They were allocated a care coordinating non-government organisation (NGO), which worked in collaboration with mainstream mental health services and provided up to 24-hour disability support. This support involved help with budgeting, personal hygiene, building social networks, promoting links to family/friends, providing psychological support, advocacy, advice and linkage to local services.

The provision of disability support actively contributed to successful community tenure as many of these long-stay patients had been unsuccessfully discharged in the past when disability support was not provided. Patients reported improved quality of life, functioning, behaviour and life skills, although the improvements were not statistically significant over time. One third of the sample were admitted to an acute inpatient unit within the first six months of discharge, increasing to 60% by seven years, but only 4.9% were admitted to long-term hospital or community care. Over the seven-year study period 10% of the cohort died, the majority from cardiovascular or lung disease, and 3% committed an offence. Those engaged in paid employment comprised 5.52% by six months, 7.7% at 36 months and 3.3% at seven years. The proportion of patients with no structured activity (job, volunteer work, study, or hobby) decreased significantly from 60.6% at six months to 38.7% by seven years. The average number of hours of direct disability support per week decreased significantly from 26.3 hours at six months to 21.5 hours at seven years. Estimated cost per patient per year was $61,580 which included case management services, 20 hours of disability support per week and cost of providing for one 14-day inpatient admission. Overall, the cohort was generally satisfied with the service; patients were most satisfied with their non-clinical support workers and least satisfied with intimacy. Feedback from staff suggested a need for a stronger focus on rehabilitation and recovery.

Neami community housing program, VIC[25]: low quality evidence

The Neami Community Housing Program included patients with hospital stays between 10 and 20 years; most of the sample had a diagnosis of schizophrenia. The program was established with funding from the Office of Housing of $1.7 million for purchase of properties dispersed throughout the north-eastern suburbs of Melbourne. Properties were located within walking distance to shops and transport, and rent was set at 25% of the Disability Support Pension plus $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. Patients could select housemates from a pool of possible candidates, interviewing and choosing the ones they would prefer; there were no more than two tenants per property. Home-based outreach support was provided by MSTs and Treatment Teams, and disability support was provided by Neami. The Neami workers' role was to support patient empowerment, encourage patients to form goals, and help them to break large goals into small, achievable steps. Each patient had a primary Neami worker as well as contact with the whole team. Support plans were developed in co-operation with clinical case managers, and 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 PDRSS that operates with an explicit focus on rehabilitation and recovery, and attracts workers with qualifications in a broad range of disciplines.

By 12 years follow-up, half of the long-stay sample received ongoing community housing and Neami support, apart from one who no longer needed support. Of the other 14 patients, five had moved to independent housing, two were in supported residential services, three received support from other PDRSS services, and the remainder (four) had no follow-up information. Outcomes for the patients exceeded staff expectations, and most patients said the experience of leaving hospital had been better than expected, and that they were happy with their Neami workers. Life skills reflected relatively low levels of disability. Greatest disability was reported for working, making/keeping friends, keeping active, attending social functions, not neglecting physical health, and maintaining an adequate diet. Lowest disability was reported for adherence to medication, destruction of property, offensive behaviour, encroachment on others' space, violence, and trouble with police. One patient was in part-time paid work, and nine patients attended Neami day programs. Key factors in the success of the model included 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. Tensions existed between Neami and the MSTs, reflecting differences in philosophy and expectations about their work; 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 the relationships they form with patients, which have an emphasis on patient control and choices. MSTs 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 then appropriate.

Community Care Units, Vic (CCU)[26]: low quality evidence
CCUs are purpose-built cluster housing developments accommodating 20 residents that are located in suburban settings in Victoria. Most of the patients included in this evaluation had schizophrenia (97%) with high levels of symptoms. The average age was 43.7 year and 62% were male. The sample came from long-stay hospital wards that were due to close, and had an average inpatient-stay of 7.8 years. Most, but not all of the patients wanted to leave the hospital. Patients were relocated either directly from hospital or via residential programs located in houses around the hospital that were designed to prepare patients for the CCUs. Multidisciplinary staffing was provided on a 24-hour basis in the CCUs, with relatively low caseloads. Residents were expected to participate in normal domestic tasks and to use services and resources in the community. Exit from CCUs was dependent on individual needs, but most patients were expected to stay permanently.

After one year, 14% of this long-stay sample had returned to hospital or been discharged to a nursing home; 16% had been readmitted to an acute inpatient service for up to eight weeks. Of the 20 patients who had recorded aggressive behaviour in hospital, less than half had recorded aggressive behaviour in the CCU. Aggressive behaviour or symptoms were found to be related to length of pre-transfer preparation and the number of prior visits the patient had to the CCU. Patients reported significant improvement in satisfaction with living situation; they reported few dislikes and most liked the regime and the internal and external environment. The number of contacts with staff, relatives, friends and co-residents did not change, but there was a small significant increase in the mean number of persons having an emotional relationship with the patient, and in satisfaction with co-residents. There were negligible improvements in symptoms and

disability pre- to post-transfer. Feedback from relatives and carers showed most preferred the CCU, with greater satisfaction with privacy, the amount of rehabilitation received, the physical setting, and safety aspects. CCU managers were generally happy with the process of transition of patients and with the CCUs themselves, but had faced difficulties in shaping the skills and attitudes of staff towards the desired rehabilitation model. The principal area of concern was the temporary nature of residents' tenure in the CCU given that the original intention of an indefinite-stay service had been replaced by a policy of slow throughput, with pressures to admit other clients. There were also concerns about the slow progress in integration and acceptance of residents into the local community.

Studies of mixed-stay inpatients: inpatient transitioning readiness models

Critical Time Intervention, USA (CTI)[27, 28]: high quality evidence

The cohort included patients at risk of homelessness who had been discharged from hospital to transitional accommodation within the hospital grounds. Ninety-six per cent of the sample had schizophrenia, 71% were male, and the average age was 37.5 years. All patients were unwilling to leave hospital or had been rejected by community agencies. The emphasis of the program was on preventing recurrent homelessness by strengthening ties with services, family and friends. Continuity of care was maintained during the critical period of transition while primary responsibility gradually passed to existing community supports that were to remain in place after the intervention ended. Services were delivered by bachelor- or masters-level staff who had been trained in CTI, were comfortable working in the community, and who had established relationships with the patients prior to discharge (minimum of three pre-discharge meetings). A typical CTI worker supported around four patients. The program was delivered in three, three-month phases. Phase one involved transition to the community using intensive support from the CTI worker and access to the resources that existed for the transition of care provision to community providers. Patients were accompanied to appointments with selected community providers, and family psycho-education was provided. Phase two involved less frequent meetings between the CTI worker and the patient, while maintaining regular contact to facilitate and test patients' problem solving skills, and adjusting the systems of support as necessary. Phase three involved the transfer of care to community support; the process was not abrupt, as the CTI workers gradually reduced their role and terminated CTI services when community support networks were safely in place. By 18 months, there was significantly less homelessness (any number of nights) during the previous four months in the treatment group compared to the control group, while controlling for baseline homelessness, and adjusting for sex, age, and ethnicity. The effect was largest in the subgroup analysis including only those receiving the recommended minimum three pre-discharge contacts. There was also a large effect of reduced re-hospitalisation in the treatment group compared to controls, and this data was rated as moderate-to-high quality.

Transitional Discharge Model, Canada (TDM)[29]: moderate-to-high quality evidence

The cohort in this study included psychiatric inpatients whose length of hospital stay averaged around nine months. The sample's average age was ~40 years old, and half the sample had a diagnosis of schizophrenia; the other half had mood disorders. The model provided an overlap of ward and community staff where ward staff continued their relationship with patients after discharge until patients had established a working relationship with a community care provider. Ward staff were given 12 hours of training. Post-discharge contact included weekly home visits, telephone contact and/or meeting at an agreed location. A community care provider would also be present at these meetings; the focus was on supporting the development of a therapeutic relationship with the community care provider. A therapeutic relationship was determined when a consensus had been reached that the patient was comfortable identifying problems to be worked on with the community care provider. After discharge, a friendship model of peer support was provided for a

minimum of one year. Former patients of the mental health care system who had been in the community for at least a year and had completed a peer-training program provided the peer support. Peer support promoted friendship, provided understanding, taught community living skills, and encouraged current inpatients in making the transition from hospital to community. By 18 months there was a significant reduction in length of hospital stay in the intervention group compared to the control group (average 217.5 vs. 333.5 days). There were no significant differences in quality of life, apart from social relations in the intervention group where the specific area targeted by the intervention improved significantly. At a rate of $632.30 CDN per day cost for a bed in a psychiatric hospital, the people in the intervention group consumed $12 million Canadian dollars less in hospital services than the control group pre-discharge.

Studies of mixed-stay inpatients: inpatient transitioning readiness models plus temporary or permanent residential care

Returning Home, SA[3]: low quality evidence

Psychiatric inpatients assessed as being able to live in community-based accommodation were included in this study. All patients had a diagnosis of schizophrenia, 76% were male, and 44% had comorbid physical conditions. The level of support provided and the focus of the interventions were tailored to the needs of the individual patient and were responsive to changes in circumstances. The period of preparation and transition was also determined by patient needs, taking into account that many of the patients have been residents of institutional care for prolonged periods. Patients started working with their support agency well in advance of their discharge from hospital on the process of transition towards discharge. This would begin with establishing a relationship between the worker and the patient that would enable them to communicate effectively and work towards articulating the patient's goals and devising plans through which these could be realised. The initial focus was on establishing competency and routines in relation to activities of daily living, and from there moving on to supporting patients in identifying goals in relation to activities and connection with their community, and working towards achieving those goals. Priority access to the pool of existing housing was given. Funding for NGOs was provided, as well as provision of an additional staff member in each of the community MSTs at a ratio of 1:10 for one year.

Patients reported being very pleased to have the opportunity to live in their own place, and were happy with the support provided to them by the support agencies. Very few problems were associated with cleanliness, speech difficulties and turbulent or reckless behaviour. The number of patients discharged from hospital to the program was fewer than intended due to the lack of an explicit statement of intention at a policy level. Support agency workers reported difficulty in establishing good working relations with clinical staff and *vice versa*. Different people involved had different understandings of the program's structure and intention, particularly in regard to access to and arrangements for housing, automatic entitlement or priority, funding for furniture, who was responsible for assessing ability for sustained tenancy, who provided the 24-hour support, what were their roles exactly, and what the duration of support would be. Arrangements appear not to have been formally documented.

Studies of mixed-stay inpatients: community-based models

Housing and Support Initiative, NSW (HASI)[30]: low-to-moderate quality evidence

HASI includes psychiatric patients over 16 years who have the ability and desire to live in the community. The average age of the sample was 41 years, 65% had a diagnosis of schizophrenia, 28% had a comorbid substance use disorder, and 12% had a medical disorder. Priority for highest HASI support was given to patients who were in hospital due to difficulties in accessing suitable accommodation, who were homeless

or at risk of homelessness, whose current housing was at risk due to lack of care or support, or who were unlikely to be able to maintain a tenancy agreement without support. High support patients comprised 72% of the sample. Long-term housing was provided by Housing NSW and community housing providers, and stage 3B involved the purchase of 50 properties for patients with high support needs. NSW Health was responsible for providing ongoing clinical care through local health districts and for funding support provided by NGOs. NGO support works within a recovery framework, and involves help with accessing the community, developing skills in personal self-care, counselling and advocacy. NGO workers assist patients to identify and achieve the goals that they set for themselves in their individual service plans.

There was a 24% reduction in hospitalisations and a 59% reduction in hospital days per year in the two years of HASI implementation compared to the two years prior to HASI, with greatest decreases in length of hospitalisations in men, and young patients (<44 years). There were significant improvements in mental health, life skills, and behaviour, and non-significant improvements in quality of life, independence in daily living, social and community participation, involvement in education and voluntary or paid work. Patients were satisfied with housing and successfully maintained their tenancies. Demand exceeded supply because of limitations in accessing housing, HASI places, and clinical mental health services. The service would benefit from standardised referral processes, staff understanding the personal recovery approach, continuous staff training opportunities, better coordination with related services to facilitate transitions, and clearer articulation of effective pathways to secure housing. The annual cost per person of HASI ranged between $11,200 and $58,500, depending on the level of support required. These figures did not include clinical mental health services.

Housing and Support Partnership, QLD (HASP)[31]: low quality evidence

HASP QLD includes patients who are currently or repeatedly housed in an inpatient care facility and those who are unable to be discharged due to homelessness or risk of homelessness, with ongoing clinical needs that can be met by community mental health services. Eighty-nine per cent of the sample had schizophrenia and 76% were male. Queensland Health provides the clinical support, and long-term, secure and affordable housing is sourced from the existing pool provided by social and community housing providers. 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 develop a support plan. Case managers are also responsible for providing support and education to families, carers and disability support workers. They are responsible for consultation and liaison with primary health care providers with a focus on a collaborative approach to individual management. The Department of Communities assesses the person's housing and tenancy management needs and identifies a suitable property to meet those needs. All stakeholders work together to develop and implement a plan to transition the person to the community.

There was a significant decrease in hospital days 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. Over half improved in general functioning and nearly half improved in clinical functioning; patients reported a good quality of life. Most patients said HASP had helped them to achieve their goals, and expressed a high-level of satisfaction with housing, noting that collaboration between the agencies involved was integral to the success of the program. Demand for HASP support exceeded supply. The service would benefit from a model more closely aligned to a recovery model, more training and clinical supervision for disability support workers, and more information provided to the staff of all agencies concerning the selection criteria and the characteristics of patients most suitable for the program. The average 2010 cost of HASP was $183 per person per day including clinical and non-clinical services compared to $670 per person per day in an inpatient unit.

Intensive Home-Based Outreach Service, VIC (IHBOS)[32]: low-to-moderate quality evidence

Included were psychiatric patients aged 16–64 years who had severe and enduring mental illness with high-level psychiatric disability. Many had a history of homelessness, interactions with the correctional system and/or dual diagnoses. Patients were required to need intensive, sustained support to exit bed-based clinical rehabilitation services, or if already living in the community, have a history of repeated hospitalisation, high daily living support needs, and initial limited capacity for self-management. Providers used a patient-centred recovery model of care, 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. The support focused on building the patient's skills in all aspects of life, including domestic, emotional, health, employment, advocacy, leisure and social capabilities. Patients were expected to receive support for up to 18 months at which time the majority of patients were expected to transit to moderate and standard Home-Based Outreach Support, although an estimated 20–30% of patients were anticipated to need an intensive level of support over the long-term.

By two years there was a 45% decrease in inpatient bed days, and 34% increase in ambulatory service hours per year. The patients rated their overall experience of care as 'excellent', 'good' or 'very good'. Key enablers of IHBOS were: effective collaboration between the Area Mental Health Services and PDRSS, and having staff with experience of both services. Key challenges were: access to housing, patient complexity, and recruiting staff. 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 establishment of consortia or partnerships between Mental Health Services and housing or drug and alcohol service providers. The IHBOS client group reduced its usage of the specialist public clinical mental health system, and achieved an average quarterly gross cost saving of $7,378 per patient.

Housing and Support Partnership, SA (HASP)[33]: low quality evidence

HASP SA includes any psychiatric patient who has non-existent, lost or very limited independent living skills, and requires significant support to develop these skills. Sixty-six per cent of the sample had a diagnosis of schizophrenia. HASP SA provided new housing, namely, 20 high support places in the suburb of Burnside, and 59 medium- to high-support places in other Adelaide metropolitan areas. Individual support plans were developed, and support during transition from hospital was provided; the average transition time was 53 days. Use of clinical community mental health care was individualised and recovery focussed. A care coordinating NGO provided up to 24-hour psychosocial rehabilitation support that was flexible and responsive to the person's needs, and involved living skills training, assistance with maintenance of housing, community engagement and employment.

The average length of hospitalisation decreased by 42%, mental health emergency presentations decreased by 45% and any mental health inpatient service use decreased by 64% at three years. One third of the sample reported better general functioning, 40% reported improved life skills, and there was a 9% improvement in mental health symptoms over time. Independent living skills, community participation, engagement in activities, quality of life and health and wellbeing improved. A majority of the sample was able to maintain their property in good condition and meet their rent commitments. Suggestions for improvement were: expand housing stock (particularly that with 24-hour support), provide more housing to suit individual needs, refine the operational guidelines to include a definition and description of the patient transition process, provide more information to NGO support workers on the patients' care requirements when transitioning from hospital, establish and maintain a centrally managed unmet needs list, provide more detail/guidance in delivering the HASP program to ensure that roles and responsibilities are clear,

ensure all partners have an equal responsibility in the partnership, and establish formal links with disability services and primary health care services in the community. The average cost of was $169 per day for a metropolitan HASP and $382 per day for the Burnside housing that included both clinical and non-clinical services compared to $1,017 for an occupied bed day in mental health acute care.

Individual Psychosocial Rehabilitation & Support Services, SA (IPRSS)[34]: low-to-moderate quality evidence

IPRSS includes any psychiatric patient who has a current care plan and risk assessment with the determination made that individual psychosocial rehabilitation support services are recommended. A majority of the sample had high and complex needs, and were at risk of homelessness or relapse without support. NGO providers and government mental health services work in partnership with other key stakeholders, including linking to government and non-government housing providers, to provide structured, goal focused and individually tailored services at a level of intensity and duration appropriate to patients' needs, regardless of where the person lives in the community. An important component of individual psychosocial rehabilitation is community capacity building. Assistance with transition from facility-based services to home and community living is provided. Service types included assisting patients to engage in meaningful daytime activity and employment, providing support programs (as long as the programs are not facility based), promoting community engagement, social connectedness, and independent living skills. Individual support plans are reviewed every three months, or updated as required with each patient and their carer or significant other.

After 11 months, the average length of stay in mental health institutions reduced by 16% and re-admissions reduced by 39%. There were significant improvements in global functioning, mental state and life skills, regardless of age. Partnership success could be improved by greater clarity of vision, roles and responsibilities, clearly articulated boundaries, and incorporating concepts of recovery and recovery practice. Specific exit guidelines could assist with the exit process, and ensure that there is always timely communication around the exit.

Review question 3:

What processes and assessments, to determine the capacity of long-stay patients of psychiatric facilities to transition to the community, have been used and evaluated?

We found no study specifically assessing processes of transitioning, although the transitioning readiness programs outlined above cover some aspects of processes. We found only one relevant study of assessments of readiness for discharge.

The Discharge Readiness Inventory (DRI)[35]

The overall quality of evidence for the DRI was low-to-moderate.

The DRI was the only readiness-for-discharge assessment measure we found that was tested on psychiatric inpatients (diagnosis of schizophrenia, of whom 40% were long-stay). This inventory contains 54 measures of observable ward behaviour, 10 prognostic global judgments concerning the patient's potential for adjustment in the community, and an overall recommendation for patient placement, amount of support and supervision. The DRI showed good reliability and validity, with a predictive validity between 93% and 97%.

Barriers to discharge

Due to the limited evidence available on evaluated assessment tools, we have included studies presenting barriers to discharge, since conversely, these factors may help in assessing patients' readiness for discharge. One Italian study[36] with *moderate-to-high quality evidence* found that patient-level barriers included longer illness duration, unavailable social support in the previous year, a diagnosis of schizophrenia, more severe symptoms, and low working skills. One Canadian study[37] *with low quality evidence* also reported that having a complex clinical profile/history was problematic. Two Australian[6,38] studies and one Canadian study,[37] *all with low quality evidence,* reported lack of available housing, particularly housing with on-site 16–24-hour support, and that lack of services for patients with complex needs delayed discharge. Inadequate and slow discharge planning, limited transitioning rehabilitation programs, and limited knowledge of accommodation, support options and eligibility criteria by hospital staff were also important barriers.

Review question 4:

Based on the evidence found and its likely applicability to the NSW setting, in the reviewer's expert opinion provide brief recommendations to inform the development of a model of care for transitioning patients of long-term psychiatric facilities to the community.

1. A readiness-for-transitioning program, commencing in hospital, is recommended. This program should include rehabilitation, social and life skills training, and psycho-education. It should involve patients, carers, hospital staff, and community mental health staff 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.

2. Suitable and secure housing in the community needs to be available to ensure a seamless transition once the patient is ready for discharge. All studies reported sustained and successful community living over the long-term, and those reporting costs showed that community care was substantially cheaper than inpatient care. Many also reported a lack of suitable housing. Therefore, the housing pool needs to be sufficient to include enough suitable places, particularly places with 16- or 24-hour support.

3. 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.

4. 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 need to be provided with information on patients' ongoing care requirements.

5. Clear articulation of the model's structure, stakeholder roles and responsibilities, and effective communication between all stakeholders involved are imperative, with written partnership agreements implemented to ensure seamless integration of services.

6. Overall, formalised patient contracts, strong political and senior management commitment and leadership, clear and open communication, and clarity in expectations are required.

   The first recommendation is given a 'strong' rating according to GRADE guidelines[11,12] because there is high quality[28], and moderate-to-high quality[29] evidence supporting it, and because the desirable consequences of such a program should far outweigh any undesirable consequences. The remainder of the recommendations are given a 'provisional' rating even though their desirable consequences should

also far outweigh any undesirable consequences, they are supported by only low or moderate quality evidence.

Conclusions

There were reasonably consistent findings across all studies of reduced re-admissions and length of hospital stay after discharge, with corresponding reductions in costs and service use over time. This was found in studies with mixed-stay samples and those that included only long- or very long-stay patients. Most patients were satisfied with, and were successful in, their transition to community living. These sentiments were echoed by staff. Patients showed improved functioning, quality of life, social skills, and engagement with activities. A few studies reported improved mental state and one study reported improved cognition five years after discharge. Crucial components of a successful model of care include: 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.

Much of the evidence was of low quality because it was sourced from grey literature that was not always presented in a way that could be quality assessed using standardised guidelines, or it was based on small observational studies, and those without control groups. The models themselves are not necessarily of low quality, but the low-quality rating indicates more research is needed and reported in a way that can be properly assessed. This suggests a need for greater methodological rigour and well-designed studies.

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Table 1: Studies of long-stay patients (hospital stay 2–25 years)

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
Inpatient transitioning readiness models			
Anzai[13] **2002** **Japan** Published peer-reviewed article RCT of a community re-entry module vs. conventional occupational rehabilitation program **Moderate quality** ⋏ RCT ⋏ Direct comparison and assessment of mental state, knowledge and skills using standardised measures ⋏ Prospectively gathered data ⋎ Small sample ➢ Medium possibility of reporting bias (CONSORT) ➢ Unable to assess data quality using standardised measures	N=29 *Inclusion criteria* • Long-stay psychiatric inpatients with schizophrenia who were transferred to rehabilitation wards • Patients who volunteered and who gave written, informed consent *Sample characteristics* • Suboptimal response to antipsychotic medications • Persistent and refractory symptoms of psychosis and poor insight • Average length of hospitalisation 4.4 years • Average duration of illness 20.5 years	*Community re-entry module, Japan* • This module is one of the University of California at Los Angeles (UCLA) Social and Independent Living Skills Modules • 18 one-hour sessions conducted twice weekly by ward nurses • Sessions on medication and how to self-administer • Warning signs of relapse and how to develop and implement an emergency plan to deal with relapse • How to find and secure housing and continuing psychiatric care in the community • How to reduce stress and promote coping after discharge • The control program emphasises arts and crafts, reality-orientation groups, and work assignments in the hospital	*Assessments were based on file review and patient interview* *Patient outcomes (One year)* • 10/14 patients in the training group were discharged, compared with 3/15 in the control group • Immediately after the sessions, the patients who received training demonstrated a significant increase in knowledge and skills in those areas, with patients in the control group showing no gains (REHAB scale) • At one-year follow-up, the knowledge and skill levels had reduced in the training group, but were still significantly higher than their levels at baseline and when compared to the control group (REHAB scale) • A statistically significant improvement in functioning in the training group at follow-up, with no differences in the control group • The patients who were trained in the module spent significantly more days in the community after discharge than the control group • Positive and negative symptoms did not differ significantly between groups after the sessions or at the one-year follow-up (Positive and Negative Syndrome Scale; PANSS)
Sato[15] **2012**	N=49 *Inclusion criteria*	*DPP, Japan* • This module is one of the University of California	*Assessments were based on clinician rated scales* *Patient outcomes (Six months)*

Japan Published peer-reviewed article RCT of a community re-entry module adapted for Japan and renamed the Discharge Preparation Program (DPP) for Mentally Disordered Persons vs. waiting list **Moderate quality** ⬈ RCT ⬈ Direct comparison and assessment of mental state, knowledge and difficulties using standardised measures ⬈ Prospectively gathered data ⬈ Low possibility of reporting bias (CONSORT) ⬂ Small sample ➢ Unable to assess data quality using standardised measures	• 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	at Los Angeles (UCLA) Social and Independent Living Skills Modules (as above), 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	• 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 • Six patients in the participation group vs. one 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
Gamble[4,16,17] **2011** **USA** Published, peer-reviewed article Pre-post evaluation of Rehabilitation	N=10 *Inclusion criteria* • Long-stay psychiatric inpatients *Sample characteristics* • Length of hospitalisation was 2.5 years to 11.5 years	*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"	*Assessments were based on case notes and staff interviews* *Patient outcomes (Two years)* • 8/10 were successfully living in the community • One patient died from a medical condition prior to transition • The remaining patient refuses to leave unless to go to family which was deemed unsafe

Readiness Training (RRT) **Low quality** ⚐ Prospectively gathered data ⚐ Small sample ⚐ No control group ⚐ Observational study ➢ Medium possibility of reporting bias (STROBE) ➢ Unable to assess data quality using standardised measures	• 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	• Readiness for discharge coaching is delivered by 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)	• Average time from entry to transition was 13.1 months *Feedback and recommendations* • Mini teams of two 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

Transitioning readiness models plus temporary or permanent residential care

Chan[18] **2007** **Japan** Published peer-reviewed article RCT of supported group residence (SGR) vs. hospital **Moderate quality** ⚐ RCT ⚐ Direct comparison and assessments of mental state, adjustment, quality of life and general health using standardised measures	N=28 *Inclusion criteria* • Long-stay psychiatric inpatients with schizophrenia 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	*SGR, 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 strengthen friendships, and attending day care programs at the hospital three 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 one manager, one or more physicians, three guides, including one psychiatric	*Assessments were based on file review and staff and patient interview* *Patient outcomes (Two years)* • 3/14 patients in the residential group were readmitted for between two 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) • 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 three patients

• Prospectively gathered data ⋎ Small sample ➢ Medium possibility of reporting bias (CONSORT) ➢ Unable to assess data quality using standardised measures		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	who were readmitted) *Feedback and recommendations* • Blindness to allocation could not be maintained
Nemoto[19, 20] **2014** **& Ryu[21]** **2006** **Japan** Published, peer-reviewed article Pre-post evaluation of Psychosocial Training based on the Optimal Treatment Project (OTP) **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	N=78 (56 completed all assessments) *Inclusion criteria* • Long-stay psychiatric inpatients with schizophrenia *Sample characteristics* • Average length of hospitalisation 25.5 years • Average age 54.6 years old • 68% male • Average duration of illness 31.5 years	*Psychosocial Training, Japan* • Patients were given training starting one 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*	*Assessments were based on file review and patient interview* *Patient outcomes (Two 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 two months of job coaching, including interpersonal communication skills, nine patients had started jobs working as floor cleaning or cooking assistants. One 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 24.5–25.1 • Insight gradually deteriorated • No reported incidents of criminal activity, violence or homelessness *Patient outcomes (Five years)* • 4/78 patients were re-hospitalized chronically (for over one 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)

study ➤ Unable to assess data quality using standardised measures		Development and maintenance of effective social support housing, finances, health and safety, early 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 five years, patients had gradually left the residential facility and moved into group homes and apartment houses	• 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
Mastroeni[7] **2005** **Italy** Published, peer-reviewed article Naturalistic follow-up of a hospital-based goal-orientated rehabilitation program based on OTP adapted to the needs of long-stay patients vs. no rehabilitation program	N=93 *Inclusion criteria* • Long-stay psychiatric inpatients *Sample characteristics* • Half of the sample were hospitalised for over 20 years • Average age 58 years old • 56% male, there were more men in routine treatment than in the rehabilitation group • Average duration of illness 25 years • 77% schizophrenia • Few dual diagnosis patients	*Goal-orientated rehabilitation, Italy* • Patients lived together in groups of eight to 10, either in "apartments" or in other residential facilities within confines of the hospital, without restrictions, except for the need to follow straightforward cohabitation rules that were agreed among fellow residents. They were able to practice their skills and work on their goals together with daily staff coaching • A total of 100 hours of workshop training and supervision was provided over two years • Nurses, social workers and occupational therapists, few of whom had previous specialized mental health training, were supported by seven psychiatrists and one clinical psychologist • Training was based on OTP (as above) adapted for	*Assessments were based on file review and patient interview* *Patient outcomes (Five years)* • Eight patients died in the treatment group and six in the control group after discharge; all were from natural causes • Four patients returned to their own homes or to live with family or friends; 89 went to live in 13 specialised residences for psychiatric patients. Almost all patients were able to choose their own place of residence and most were happy with the choice • One patient receiving routine care became homeless after refusing housing. The same patient was arrested twice. No other problems were reported to police, community services or local authorities • Overall, patients showed significant deterioration in symptoms over the five-year follow-up period (BPRS). The treatment group improved after the program in hospital, then gradually deteriorated in the second and third years in the community before regaining their baseline level. By contrast, the RT group showed significant deterioration from baseline during years two

Low-to-moderate quality		
⤴ Direct assessment of mental state and functioning using standardised measures ⤴ Prospectively gathered data ⤴ Low possibility of reporting bias (STROBE) ⤵ Small sample ⤵ Observational study ➢ Unable to assess data quality using standardised measures		long-stay patients and included workshops on comprehensive standardised biomedical and psychosocial assessments, clarifying patients' personal goals, educating patients about their mental disorders and treatments, optimal pharmacotherapy, early warning signs of exacerbations, assertive community treatment and crisis management, enhancing interpersonal communication and social skills, enhancing personal self-care, structured problem solving and other cognitive behavioural strategies to aid coping with targeted residual psychotic, negative, anxiety and mood symptoms, as well as problems of substance abuse, anger and frustration • Manuals were based on the principles of error-free learning and practical skills training targeted to the explicit personal goals and key problems of each patient • After practice and discussion in individual and group sessions patients applied the strategies in their actual life situations and reported their outcomes at the next training session, where they received praise and encouragement for their efforts and further coaching to help achieve their goals to the level that they considered satisfactory, before moving on to another goal that they considered likely to improve their current life quality • Although efforts were made to continue this treatment once patients were resident in the community, often this was not feasible, either because staff in the community residences and Mental Health Services were not trained in the methods, or because managers favoured other approaches • As the process of discharging patients progressed there was a parallel movement toward relocating staff to community settings • The control group (routine treatment) included patients who were awaiting training by the same group of professionals, but who were discharged	and three and improved during years four and five, but did not regain their baseline level. This remained when baseline symptoms, age, sex and duration of illness were entered as covariates • Overall, there was a modest but significant trend to improve functioning over the follow-up period (GAF). Both groups followed this trend and showed significant improvements with time. Most improvement occurred during the first year after discharge. Treatment cases improved most during the training program and showed smaller improvements after discharge. Controls were not assessed at discharge, but showed significant improvements in functioning during the first year of community living, but these were less well sustained • At five years 33.3% of those who received treatment and 10.3% of those who received routine care met a 'good' recovery threshold. An ordinal multiple regression analysis with the index of recovery as the dependent variable and the following variables entered into the equation: treatment group, diagnosis (schizophrenia vs. other), age (older or younger than the median age of 62 years), gender, and duration of illness (greater or less than 29 years median) revealed the only variable that was statistically significant in the regression equation was the treatment group allocation

		prior to training. Pharmacotherapy, nursing care and occupational therapy was provided to this group within a supportive problem-oriented framework. However, no structured psychosocial assessment or treatment protocols were provided	
Leff[22] **2002** **London, UK** Published peer-reviewed article Non-randomised controlled study of an inpatient rehabilitation program (difficult-to-place patients from one hospital given rehabilitation vs. difficult-to-place patients from another hospital not given rehabilitation) **Low-to-moderate quality** ⋏ Direct comparison and assessment of behaviour, social and living skills using standardised measures ⋏ Prospectively gathered data ⋏ Low possibility of reporting bias (STROBE) ⋎ Small sample ⋎ Observational	N=86 (22 received rehabilitation) *Inclusion criteria* • Long-stay "difficult-to-place" psychiatric inpatients *Sample characteristics* • Average inpatient-stay 12.2 years for the rehabilitation group and 8.2 years for the control group • 86% schizophrenia in both groups • 73% males for the rehabilitation group and 66% males for the control group • Average age 43.8 for the rehabilitation group and 46.9 for the control group	*Warley rehabilitation program, London* • The aims were to extinguish or reduce problematic behaviours that were preventing discharge into community homes *Key components* • Patients were moved to a separate building within the grounds of the hospital one month (females) to one year (males) prior to starting the training program • Medication regimes were switched from conventional to novel antipsychotics • Graduate psychologists were employed so that staff-to-patient ratio was not less than 1:1 • A training program was provided to the psychology assistants, nursing staff, and an occupational therapist, and comprised 10 sessions • Individual care plans were designed by the psychology assistants and embodied a cognitive-behavioural approach focussing on the problem behaviours and deficient skills of the patients; and were carried out in conjunction with the nursing staff. Problem behaviours were tackled one by one, and as each problem resolved, decisions were made about the next behaviour to address • Weekly supervision of the psychologists was provided by a part-time clinical psychologist and by one of the investigators • The occupational therapist ran sessions for a number of patients to learn shopping and cooking skills	*Assessments were based on staff completed scales* *Patient outcomes (One year)* • By the end of the year 18/22 patients were receiving clozapine, risperidone, olanzepine, or quetiapine, one refused to change from conventional antipsychotics, one received no antipsychotic medication, and two received mood stabilisers • At baseline, the rehabilitation group scored higher on social skills than the control group, with no differences in the number of problems, living skills, domestic skills or community skills (Social Behaviour Schedule Behaviour and Everyday Living Skills scales) • By one year, there was a greater reduction in special problems in the rehabilitation group than the control group, although the difference is not significant (Special Problems Rating Scale) • There was a reduction in the number of patients in the rehabilitation group showing verbal aggression, destruction of property, physical aggression, and social behaviour problems, with no changes in the control group • There was a marginally significant increase in domestic skills for the rehabilitation group only • 36% of the experimental patients were placed in the community over two years vs. 40% of controls over five years *Feedback and recommendations* • The impact of the training was assessed and showed that staff had learned a greater appreciation of the patient's perspective and had acquired more coping strategies

study ➢ Unable to assess data quality using standardised measures			
Abello[23] **2010** **VIC** Grey literature Pre-post evaluation of Integrated Rehabilitation and Recovery Care Program/Services (IRRCS) **Low quality** ⤴ Direct assessment of functioning and life skills using standardised measures ⤴ Prospectively gathered data ⤵ Small sample ⤵ No control group ⤵ Observational study ➢ Unable to assess data or study quality using standardised measures	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 six years • 89% schizophrenia • 33% had psychiatric or physical comorbidities (only three with comorbid substance use disorder) • Average age 39 years • 72% male75% Australian, although no indigenous participants	*IRRCS, VIC* • IRRCS is delivered by consortia of Psychiatric Disability and Rehabilitation Support Service (PDRSS) providers in three regional clusters • The content of the assessment tools is common to the three 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 *Three Phases* • Phase one – 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 two – 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 three - 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 *Three elements* • Care coordination; liaison between relevant support staff and monitoring of the integrated plan • Individual's support plan which identified personal	*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 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: $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 $114,610 and SECU $166,805 *Feedback and recommendations* • Successful establishment of the Advisory Group, establishment of the three 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

		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)	• 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

Community-based models

Meehan[24] **2011** **QLD** Published, peer-reviewed article Pre-post evaluation of Project 300 **Moderate quality** ⚐ Low possibility of reporting bias (STROBE) ⚐ Direct assessment of functioning and life skills using standardised measures ⚐ Medium/large sample ⚐ Prospectively	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 two years • 80% male • 80% schizophrenia • 22% forensic history	*Project 300, QLD* • Priority access to existing community housing • 24-hour in-home disability support provided by 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	*Assessments involved health data and financial reports, patients, case managers and support agencies* *Patient outcomes (up to seven years)* • 31% were readmitted to an acute inpatient unit within the first six months of discharge, increasing to 60% by seven years. 4.9% were readmitted to long-term hospital or community care over the 7-year study period. Four went to nursing homes and two went to prison • 10.5% died over the seven-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 six 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 seven years. The proportion of patients with no structured

gathered data
⅄ No control group
⅄ Observational study
➢ Unable to assess data quality using standardised measures (CIs not reported)
			activity (defined as no job, volunteer work, study, or hobby) decreased significantly from 60.6% at 6 months to 38.7% at seven years
			• 2.7% committed offences following discharge
			• The average number of hours of direct disability support provided each week decreased significantly from six months to seven years, although use remained high (26.3 hours–21.5 hours per person per week). The allocation of support hours was driven by impaired functioning (cognitive and physical) rather than symptoms
			
			Costs
			• Overall estimated cost per patient per year=$61,580 including:
			  o $43,680 for 20 hours per week of direct disability support and agency overheads
			  o $7,900 for GP and/or case management services
			  o $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

Carter[25] **2008** **VIC** Grey literature Pre-post evaluation of Neami community housing program **Low quality** ⶮ Direct assessment of life skills using standardised measures ⶮ Prospectively gathered data ⅄ Small sample ⅄ Only 64% of the	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	*Neami community housing program, VIC* • Provision of furnished, non-cluster housing: rent was 25% of the Disability Support Pension plus $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 two tenants per property • Home-based outreach support was provided (MSTs and Treatment Teams composed of staff from the hospital where patients were discharged)	*Assessments involved patients, families, and case workers* *Patient outcomes (One year, N=28)* • One patient had a 'significant' re-admission to hospital *Patient outcomes (12 years, N=18)* • 14 patients remained in contact with Neami; 12 were in community housing, one in supported residential services (for a physical health problem), and one 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, nine received Neami support • 14 patients were not in contact with Neami; five moved to independent housing, two were in supported residential services, three received support from other PDRSS services, four had no information • LSP scores reflected relatively low levels of disability. Greatest levels of disability were reported for: 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

discharged sample participated in the evaluation ⋎ No control group ⋎ Observational study ➢ Unable to assess data or study quality using standardised measures		• 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	medication, destruction of property, offensive behaviour, invasion of others' space, violence and trouble with police • One patient was in part-time paid work, nine 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 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
Trauer[26] **2001** **VIC** Published, peer-	N=99 (70 participated in the evaluation) *Inclusion criteria*	*CCU, VIC* • Patients were relocated to CCUs either directly from hospital or via residential programs located in houses on the hospital perimeter, designed to	*Assessments involved patient records, patients, families, carers, and service providers* *Patient outcomes (One year)*

reviewed article Pre-post evaluation of Community Care Units (CCU) **Low quality** ⚹ Low possibility of reporting bias (STROBE) ⚹ Direct assessments using standardised measures ⚹ Prospectively gathered data ⚺ No control group ⚺ Observational study ⚺ Small sample ➢ Unable to assess data quality using standardised measures (CIs not reported)	• All patients who were nominated for a CCU *Sample characteristics* • Average inpatient-stay 7.8 years • 97% schizophrenia spectrum disorder • 62% male • Average age 43.7 years • Patients recorded high levels of symptoms and low levels of satisfaction with their living environment pre-discharge • Most, but not all patients wanted to leave the hospital	prepare patients for their eventual relocation • Purpose-built cluster housing developments located in suburban settings • Accommodating 20 residents • Multidisciplinary staffing was provided on a 24-hour basis • Case loads are relatively low • Residents are expected to participate in normal domestic tasks • Emphasis was on rehabilitation and residents accessing and using services and resources in the community as much as possible • Exit from CCUs was dependent on individual needs, and most were expected to stay permanently	• Of the full sample of 99 patients, 4% died of natural causes, 14% had returned to hospital or been discharged to a nursing home, 4% had been discharged to private accommodation or a disability support service • Of the one-year evaluation sample (N=70), 6% wanted to return to hospital, 34% wanted to make the CCU their permanent home, the remainder wanted to live in their own home, with family or friends, or elsewhere • 16% were readmitted to an acute inpatient service for up to eight weeks, and 7% had required Crisis Assessment and Treatment Team services • 66% had no recorded aggressive behaviour on the Observation Aggression Scale (SOAS); of those who had recorded aggressive behaviour in hospital, less than half had recorded aggressive behaviour after one year in the CCU • At one-month post-transfer, increases in aggressive behaviour or symptoms were found to be related to length of pre-transfer preparation and the number of prior visits the patient had to the CCU • Of the seven domains on the Lancashire Quality of Life Profile (LQOLP; Leisure, Finances, Living situation, Safety, Family, Social relationships, and Health), the only significant improvement was in living situation • Negligible changes in symptoms and disability on the Positive and Negative Syndrome Scale (PANSS), and LSP scale • Patients reported few dislikes about the CCU and most liked the regime and the internal and external environment • The Social Network Assessment (SNA) showed that on average, contact rates with staff, relatives, friends and co-residents did not change, but there was a small significant increase in the mean number of persons having an emotional relationship with the patient, and in satisfaction with co-residents *Feedback and recommendations* • Relatives and carers preferred the patient to live at the CCU rather than in hospital, with the proportion increasing significantly by one year compared to pre-transfer • Relatives and carers reported greater satisfaction with privacy, the amount of rehabilitation received, the physical setting, and safety aspects • About half the clinical staff had anticipated improvement in symptoms, daily living skills, and community involvement. Positive expectations centred around the more home-like environment and greater independence; negative comments related to loss of asylum • CCU staff rated provision of a home-like environment, assisting clients to come to terms with illness and disability, and the extent to which their programs had fostered family and other networks higher than ward staff • CCU managers and senior managers were generally happy with the process of transition of patients and with the CCUs themselves, but had faced

			difficulties in shaping the skills and attitudes of staff towards the desired rehabilitation model
			• The principal area of concern at one year was the temporary nature of residents' tenure in the CCU; the original intention of an indefinite-stay service had been replaced by a policy of slow throughput, with pressures to admit other clients
			• Concerns about slow progress in integration and acceptance of residents into the local community
			• Responses on the Residential Practices Profile (RPP) indicated CCUs were significantly less restrictive than the wards

Table 2: Studies of mixed-stay patients

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
Inpatient transitioning readiness models			
Herman[27, 28, 39] **2011 USA** Published, peer-reviewed article RCT of Critical Time Intervention (CTI) vs. usual care **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 three post-discharge interview data ⚊ Large effect sizes	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	*CTI, 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 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 supports around four patients and is involved in outreach to other potential patients • CTI shares with Assertive Community Treatment models a focus on stabilising patients in the community through development of independent living skills and by building effective support 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 one 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 two is called 'try-out', with less frequent meetings, while maintaining regular contact to facilitate and test patients' problem solving skills	*Assessments were based on patient interview* *Patient outcomes (18 months)* • Significantly less homelessness during the last four months of the follow-up period in the treatment group compared to the control 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 three pre-discharge contacts showed the largest effect (OR 0.10, 95%CI 0.03–0.35) • During the whole 18-month period, the results were similar but trended significance (OR 0.28, 95%CI 0.78–1.02) • Significantly less re-hospitalisation during the last four months of the follow-up period in the treatment group compared to the control group (Intention to treat: OR 0.11, 95%CI 0.01–0.96), 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

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➢ Medium size sample ⋎ Imprecise for re-hospitalisation data		and adjust the systems of support as necessary • Phase three 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	
Forchuk[29] **2005** **Ontario** Published peer-reviewed article RCT of a Transitional Discharge Model (TDM) vs. usual care (not specified) **Moderate-to-high quality** ⋏ RCT ⋏ Low possibility of reporting bias (CONSORT) ⋏ Direct comparison and assessment of quality of life using standardised measures ⋏ Large sample ⋏ Prospectively gathered data ➢ Unable to assess data quality using standardised measures	N=360 *Inclusion criteria* • Chronic psychiatric inpatients *Sample characteristics* • Mean length of admission 217.5 days in intervention group and 333.5 days in control group • 49% male in intervention group, 54% in control group • Average age 43.4 years in intervention group, 39.5 years in control group • 41.2% schizophrenia and 45.7% mood disorder in intervention group, 53% schizophrenia and 34.6% mood disorder in control group	*TDM, Ontario* • Overlap of ward and community staff in which the inpatient staff continued their relationship with patients until the patients had a working relationship with a community care provider (when a consensus was reached that the patient was comfortable identifying problems to be worked on within the context of their therapeutic relationship) • Weekly ward staff contact included home visits, telephone contact and/or meeting at an agreed location. The community care provider might also be present at these meetings. The focus of these meetings was to support the development of the therapeutic relationship with the community care provider • 12 hours of training for hospital staff • Median bridging time was three months • After discharge, a friendship model of peer support was provided for a minimum of one year • Former patients of the mental health care system who had been in the community for at least a year and had completed a peer-training program provided the (free) peer support. Over 300 volunteers were trained • Peer support promoted friendship, provided understanding, taught community living skills and encouraged current patients in making the transition from hospital to community. Common activities included having a coffee together, visiting free community events or having a telephone conversation	Assessments were based on patient records and patient interviews *Patient outcomes (One year)* • 36% drop-out due to inability to track down these patients • A significant reduction in length of stay in the intervention group (217.5 vs. 333.5 days). Despite this shorter length of stay, the intervention group did not access more hospital services after discharge (Utilisation of Health and Social Services). The baseline data of wards (prior to randomisation) average length of stay had been less than one day's difference between intervention and control wards • No differences between groups on quality of life apart from social relations where the specific area targeted by the intervention was improved significantly (WHO-QOL) *Costs* • The average cost for each peer support coordinator was $24 000 CDN for a 0.6 full time equivalent • At a rate of $632.30 CDN per day cost for a bed in a psychiatric hospital, the people in the intervention group consumed $12M CDN less in hospital services than the control group, prior to discharge • In the first year after discharge, the intervention group consumed $4400 CDN less in hospital and emergency room services, per person, than the control group. However, the difference was not statistically significant *Feedback and recommendations* • After nine months control wards started to increasingly implement the intervention • The degree of implementation achieved was 38% overall in the intervention group and 26.6% in the control group • Implementing the peer support was done only 22% of the time on the intervention wards and 17% on the control wards • Overlapping the services from hospital to community was implemented 54% of the time on the intervention wards and 37.7% of the time on the control

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		• Peer support volunteers were screened, trained and provided with ongoing support from part-time coordinators within the consumer/survivor organisations	wards

Transitioning readiness models plus temporary or permanent residential care

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
Carter[3] 2008 SA Grey literature Pre-post evaluation of the Returning Home Program (RH) **Low quality** ⚹ Direct assessment of life skills using standardised measures ⚹ Prospectively gathered data ⅴ Small sample ⅴ Only 45% of the discharged sample participated in the evaluation ⅴ No control group ⅴ Observational study ⋗ Unable to assess data or study quality using standardised measures	N=55 (25 participated in the evaluation) *Inclusion criteria* • Psychiatric inpatients who have been assessed as being able to live in community-based accommodation *Sample characteristics* • Not all were long-stay inpatients • 76% males • Most born in Australia • Most in 20s and 30s age groups • All schizophrenia spectrum • 44% had comorbid physical conditions	*RH, SA* • The period of preparation and transition is determined by patient needs and acknowledges that many have been residents of institutional care for prolonged periods • Patients started working with their support agency well in advance of their discharge from hospital on the process of transition towards discharge. This would begin with establishing a relationship between the worker and the patient that would enable them to communicate effectively and work towards articulating the patient's goals and devising plans through which these could be realised • Priority status to access existing housing • Funding for NGOs (Neami, Mind and Life Without Barriers) • Provision of an additional staff member in each of the community Mobile Outreach Teams based in clinical Mental Health Services (on a ratio of 1:10 for one year) • The level of support provided, and the focus of the interventions is recovery focussed, tailored to the needs of the individual patients and is responsive to changes in circumstances • Initial focus is on establishing competency and routines in relation to activities of daily living, and from there moving on to support patients in identifying goals in relation to activities and connection with their community, and working towards achieving those goals	*Assessments involved patients, families, carers, mental health professionals, housing support providers* *Patient outcomes (up to one year)* • During transition from hospital, most patients spent some days each week in their future house or unit • Overall LSP scores showed low levels of disability, and pre-post discharge changes were not significant after one year. Moderate problems of disability were demonstrated on work capabilities, making and keeping friends, being involved in social functions, having interests and being active, as well as some problems with budgeting and managing health. Very few problems were associated with cleanliness, speech difficulties and turbulent or reckless behaviour *Feedback and recommendations* • The program was well designed and incorporated national and international best practice • Patients reported being very pleased to have the opportunity to live in their own place, and to be happy with the support provided to them by the support agencies • The number of patients discharged from hospital to the program was fewer than intended due to the lack of an explicit statement of intention at a policy level and this lack of clarity had contributed to what was perceived as obstruction by hospital-based staff • Different people involved had different understandings of the program's structure and intention, particularly in regards to access to and arrangements for housing, automatic entitlement or priority, funding for furniture, who was responsible for assessing ability for sustained tenancy, who provided the 24-hour support (clinical or non-clinical staff), what were their roles exactly, and duration of support, all of which undermined the credibility of the model and created slower than expected service uptake • Although arrangements for access to housing were discussed in meetings of the Partnership Planning Group, they appear to have not been formally

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
			documented • Very few respondents were able to identify or refer to documentary evidence to substantiate their understanding of arrangements provided under Returning Home • Support agency workers reported difficulty in establishing good working relations with clinical staff, both those in Glenside and those based in community teams. Clinical staff said that workers employed by NGOs should provide services that more closely resemble disability support provided to patients in the intellectual disability sector, than support based on principles of psychosocial rehabilitation. This expectation conflicts with the approach used by NGOs who see their work as psychosocial rehabilitation delivered within a recovery framework

Community-based models

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
Bruce[30] **2012** **NSW** Grey literature Pre-post evaluation of the Housing and Accommodation Support Initiative (HASI) **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	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	*HASI, NSW* • HASI is based on a three-way partnership between 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	*Assessments involved patients, families, mental health professionals, and accommodation support providers* *Patient outcomes (Two years)* • 24% reduction in hospitalizations 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 two • 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

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
➤ Unable to assess data or study quality using standardised measures		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	most, and those with drug or alcohol use and/or low motivation benefited the least *Costs* • The annual cost per person ranged between $11,000 and $58,000, plus project management costs of between $200 and $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 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
Nous Group[32] **2013** **VIC**	N=197 *Inclusion criteria* • Registered patients 16-64 years of	IHBOS, VIC • All providers used a patient-centred model of care (mainly the Collaborative Recovery Model or	*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

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Grey literature Pre-post evaluation of Intensive Home-based Outreach Service (IHBOS) **Low-to-moderate quality** ⌃ Medium/large sample ⌃ Direct assessment of functioning and life skills using standardised measures ⌃ Prospectively gathered data ⌄ No control group ⌄ Observational study ➢ Unable to assess data or study quality using standardised measures	the specialist clinical mental health service system 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* • Not all were long-stay inpatients • Severe and enduring mental illness 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) • Limited social networks and family connectedness, and minimal community participation • Imposition of a Community Treatment Order or an Involuntary Treatment Order	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 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 per cent of patients were expected to need the intensive level of support over the long-term	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 $7,378 per patient *Feedback and recommendations* • It took between six 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 two and eight 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 • 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 more healthy relationship

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	• A history of repeated hospitalisation • A history of reoccurring homelessness and/or interactions with the correctional system		• 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 five-year time period, and incorporate other assessment tools (such as the Camberwell Assessment of Need Short Appraisal Schedule, CANSAS)
Health Outcomes International[34] **2011 SA** Grey literature Pre-post evaluation of the Individual Psychosocial Rehabilitation & Support Services (IPRSS) Program **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	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 are 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	*IPRSS, SA* • Assistance with transition from facility-based services to home and community living • Individual support plans reviewed every three 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 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	*Assessments involved patients, families, carers, mental health professionals, housing support providers* *Patient outcomes (One 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 re-admissions 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% • 11 patients were discharged from the program and then readmitted 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

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data or study quality using standardised measures	• 13% were not Australian • Have high and complex needs • Have been engaged with government Mental Health Services over a long 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		• 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 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
Meehan[31, 40] **2010** **QLD** Grey literature Pre-post evaluation of Housing and Accommodation Support Partnership (HASP) **Low quality** ⚲ Direct assessment of functioning using standardised measures	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	*HASP, QLD* • 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 • Recovery framework • 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	*Assessments involved patients, case managers, support workers and facilitators, and housing services staff* *Patient outcomes (One 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 LSP17) • Patients reported a good quality of life (average score of seven 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 involvement

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⚐ 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	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	suitable NGO and together they work to 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	• 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: $183 per person per day in HASP, including non-clinical and clinical services vs. $670 per person per day in an inpatient unit Projected costs per person per day; 2020: $342 vs. $1268, 2030; $552 vs. $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 • 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

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			• 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
Health Outcomes International[33] 2013 SA Grey literature Pre-post evaluation of Housing and Accommodation Support Partnership (HASP) **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	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, 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	*HASP, SA* • 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	*Assessments involved patients, families, carers, mental health professionals, housing support providers* *Patient outcomes (up to three 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 $169 per day for a metropolitan HASP and $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 $1,017 for an occupied bed day 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

Study details and quality of evidence	Sample	Models of care - ordered by quality of evidence	Outcomes
	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)		• 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-hour 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 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

Table 3: Assessments and barriers to discharge

Study	Sample	Assessments
Hogarty[35] **1972** **USA** Published, peer-reviewed article Reliability and validity study of the Discharge Readiness Inventory (DRI) **Low-to-moderate quality** ⚔ Large sample Medium possibility of reporting bias (STROBE)	N=2000 *Inclusion criteria* • Patients with chronic schizophrenia *Sample characteristics* • Not all participants were long-stay	*DRI, USA* • The DRI contains three sets of items: set A with 54 measures of observable ward behaviour, set B with 10 prognostic global judgments concerning the patient's potential for adjustment in the community, and set C recommends a placement, amount of work, and supervision applicable to patients judged to be ready for discharge • There are four factors: community adjustment potential, psychosocial adequacy, belligerence, and manifest psychopathology • Data resources include the patient as well as key hospital staff members who have had a recent opportunity to observe the patient both on and off the ward Good reliability and validity: predictive validity showed 93–97% of patients were correctly classified is being ready or not ready for discharge

Study	Sample	Barriers
de Girolamo[36] **2014** **Italy** Published peer-reviewed article Prospective cohort study **Moderate-to-high quality** ⚔ Direct assessment of outcomes using standardised measures ⚔ Prospectively gathered data ⚔ Low possibility of reporting bias (STROBE) ⚔ Large sample	N = 403 *Inclusion criteria* • Psychiatric inpatients 18–64 years *Sample characteristics* • 66%>50 years old • 67.5% schizophrenia Average 23.1 years illness duration	*Patient barriers* • Longer illness duration (OR 2.7, 95%CI 1.4–5.2) • Unavailable social support in the last year (OR 2.4, 95%CI 1.3–4.5) • Diagnosis of schizophrenia (compared to unipolar depression: OR 0.20, 95%CI 0.09–0.61) • Moderate vs. low symptom scores (BPRS: OR 4.7, 95%CI 1.4–15.9) • Worsened vs. improved symptoms at one-year follow-up (BPRS: OR 8.6, 95%CI1.9–23.8) • Worsened vs. unchanged symptoms at one-year follow-up (BPRS: OR 1.9, 95%CI 1.2–5.1) • Low vs. high working skills (Social and Occupational Functioning Assessment Scale, SOFAS: OR 4.6, 95%CI 1.2–11.5) • Low vs. moderate working skills (SOFAS: OR 2.1, 95%CI 1.1–4.5) • Worsened vs. improved working skills at one-year follow-up (SOFAS: OR 6.3, 95%CI 1.7–17.9) Worsened vs. unchanged working skills at one-year follow-up (SOFAS: OR 1.7, 95%CI 1.2–4.9)

⅄ Large effect sizes for worsened vs. improved symptoms and worsened vs. improved working skills ⅄ Observational study Imprecise		
Office of the Public Advocate[6] **2009** **VIC** Grey literature **Low quality** ⅄ Small sample Unable to assess data or study quality using standardised measures	N=34 *Inclusion criteria* • Any psychiatric inpatient staying in a Secure Extended Care Unit for over six months *Sample characteristics* 49% with dual diagnoses (substance use disorder) or complex needs (violence, intellectual disorder and/or medical conditions)	*Patient barriers* • Nine were not able to be discharged due to aggression or physical conditions *Systemic barriers* • 15 had no suitable accommodation, most needing a dual diagnosis Community Residential Unit • 10 were waiting on a Community Care Unit vacancy (not dual diagnosis)
Ombudsman[38] **2012** **NSW** Grey literature **Low quality** ⅄ Small sample Unable to assess data or study quality using standardised measures	N=95 *Inclusion criteria* • Psychiatric inpatients identified as being unable to move to the community due to a lack of appropriate and available accommodation and support options, or who were admitted to a unit that was considered to be inappropriate to their needs staying over two years, but who were deemed well enough to discharge *Sample characteristics* Most schizophrenia spectrum with a dual diagnosis and/or medical comorbidity	*Systemic barriers* • 32/95 could be discharged if suitable accommodation was available • Scarcity of appropriate community-based accommodation and support, and the exclusion of people with a primary diagnosis of mental illness from accommodation funded under the Disability Services Act (1993), are critical factors • There is a need for an increased supply and range of supported housing options that provide on-site support for 16 to 24-hours per day (most are 8 hours), and for services and support for people with psychiatric disability to be driven by flexible, person-centred and individualised approaches • Mental health staff's limited knowledge of available accommodation and support options, and the eligibility criteria of services and programs • The amount and quality of discharge planning was highly variable and, in some cases, appeared to be influenced by factors other than the person's mental health and the availability of community accommodation and support • Long periods of time between staff making a referral to a service for accommodation support and following it up; and delays in staff identifying an action to progress discharge planning and carrying it out • Limitations of the rehabilitation that patients can undertake within the hospital setting • Differing views of mental health staff and the patients themselves about the best interests of individual patients Difficulty of transferring patients to less restrictive options in other Local Health Districts
Butterill[37]	N=84	*Patient barriers*

| 2009 **Canada** Grey literature **Low quality** ⍦ Small sample Unable to assess data or study quality using standardised measures | *Inclusion criteria* • Key stakeholders representing perspectives from Local Health Integration Networks, Ministry of Health, Ministry of Community and Social Services, Community Care Access Centres, supported housing, community mental health and addictions, and those working in acute and tertiary care hospitals *Assessments* • Each group received the patient profile based on the Residential Assessment Instrument – Mental Health and participants were asked to provide feedback on the findings • A series of questions were used to guide discussion of barriers to discharge, transitioning strategies and processes, and residential treatment • Key informant interviews were conducted with individuals identified as having relevant supplemental information for the project The project administered two surveys to capture more detailed information on: 1) the characteristics of the high support housing identified by focus group participants and 2) the lessons learned from the dual diagnosis treatment beds specialised accommodation program | • Long-stay patients can be overwhelmed by change and the threat of loss of the comfort of the hospital. Their tenure in hospital may have resulted in not feeling responsible and/or motivated to care for themselves, sometimes referred to as learned helplessness • Lack adequate social and informal supports • Histories of sexual offences, pedophilia, fire starting, aggression, previous failures in the community, chronic suicidality, polydipsia, and high needs for safety • Geriatric, dual diagnosis patients • Patients with intrusive behaviours, such as shouting, wandering, resistance to care, or poor hygiene • Co-occurring medical conditions, incontinence requiring nursing care, diabetes (increasing as the population ages), or obesity • Young patients with neurological disorders who need more nursing care • Lower functioning individuals in their 40s-60s who require personal care and have little or no motivation to cook or clean for themselves • Those returning to small towns frequently experience stigma, while those returning to live in big cities can feel lost • Families too frequently believe their loved ones would be safer and better taken care of in the institution. They commonly have misconceptions about the capability of community care resulting in family refusal of placement options *Systemic barriers* • Lack of transition teams to work with patients, their families and the community • Hospital staff may judge patients by their past failures and set expectations too low • Hospital staff may fail to see that the patient may not need to be 100% "recovered" to enter the community • Hospital staff did not seem to know what the community is capable of and what works in the community • Hospitals failing to involve the community adequately in the discharge planning process (e.g., sharing all relevant information with community providers) • Discharge delays can result in beds lost in the community • Patients are commonly excluded from the discharge process, which contributes to failures in transition due to less understanding and co-operation on behalf of the patient • Community sector needs to appreciate that hospitals tend to be very conservative around risk issues (e.g., suicidal ideation and aggression) • Both hospital and community staff thought more attention needed to be paid to understanding that "discharge does not happen in a day". When discharge occurs too quickly, the community sector is not ready to receive the patient. It was agreed that these issues contribute to a lack of trust by community providers resulting in their unwillingness to accept more challenging patients • The lack of high support housing with 24-hour staffing and the capacity to accommodate patients with complex mental health and co-occurring illnesses • The majority of housing staff lack adequate training to deal with people with complex mental health problems • Shortage of personal care workers in housing • Difficulty that patients with mobility problems living in older housing stock with poor accessibility • Lack of a full continuum of housing alternatives restricting the flow and movement of patients into housing that is most appropriate to the level of need Lack of services in the community that are experienced and happy to deal with complex patients, including Assertive Community Treatment teams, case management, and community-based medical and psychiatric care |

Appendix A

The search strategy for Medline, Embase, and PsycInfo was:

1. exp Psychotic Disorders/or exp Schizophrenia/or exp Mental Disorders/or exp Bipolar Disorder/or exp Depression/or exp Anxiety disorders/or exp Personality disorders/
2. exp Hospitals, Psychiatric/
3. 1 or 2
4. exp Long-term care/
5. long$term.tw.
6. long$stay.tw.
7. non$acute.tw.
8. step$down.tw.
9. medium$term.tw.
10. 4 or 5 or 6 or 7 or 8 or 9
11. $institutionali$.tw.
12. exp Rehabilitation/
13. exp Mental Health Services/
14. exp Community Mental Health Services/
15. exp Delivery of Health Care/
16. exp Health Services Accessibility/
17. exp Referral/and Consultation/
18. exp Residential Facilities/or exp Residential Treatment/
19. models of care.tw.
20. transitioning.tw.
21. exp Patient Discharge/
22. support$ housing.tw
23. 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22
24. exp "Quality of Life"/
25. exp Homeless Persons/
26. exp Patient Readmission/
27. functioning.tw.
28. homelessness.tw.
29. vocation$.tw.
30. community engagement.tw.

31. exp Crime/
32. outcome$.tw.
33. evaluation.tw.
34. 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33
35. 3 and 10 and 23 and 34
36. limit 35 to (English language and yr="2002 -Current")

The search strategy for Scopus and Cinahl was:
TITLE-ABS-KEY(transitioning OR deinstitutionalisation) AND TITLE-ABS-KEY
(psychiatric patients AND PUBYEAR > 2001 AND (LIMIT-TO(LANGUAGE, "English"))