Personalised support delivered by support workers for people with severe and persistent mental illness: a systematic review of patient outcomes.

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Abstract

**Aims:** Personalised Support services assist patients with severe and persistent mental illness (SPMI) to live with functional deficits by providing living skills, emotional support, community access, and advocacy. This paper aims to systematically review the evidence for personalised support.

**Methods:** Systematic searches of Medline, PsycINFO and Google Scholar (inception to March 2011) identified studies investigating patient outcomes for personalised support services. The quality of the selected studies was assessed. The strength of evidence for the three categories of patient outcomes (illness acuity, personal functioning, and patient satisfaction) was graded.

**Results:** Fifteen studies met inclusion criteria with most rated as having moderate or weak study designs. The selected studies evaluated programs for outpatients with SPMI. There was moderate strength of evidence for reducing illness acuity and improving patient satisfaction with services, and weak strength of evidence for improving personal functioning in studies published to date. Most programs delivered multiple service types, and no clear pattern of service types leading to specific patient outcomes could be discerned.

**Conclusions:** Although evidence published to date for personalised support is of variable quality, it suggests that services may be effective. More
research on the effects of personalised support subtypes on patient outcomes is required.

**Keywords**: Severe Mental Illness, Support, Psychosocial, Outcomes

**Declarations of Interests**

The authors have no conflicts of interest to declare.
**Introduction**

Clinical treatments alone are not sufficient to eliminate the symptoms and functional deficits associated with severe and persistent mental illness (Dixon et al. 2010). Services provided by clinical teams need to be complemented by services which support the person to live with functional deficits. These personalised support services, along with stable accommodation, have been identified as critical elements for optimal community care (Whiteford, 1994; Thornicroft & Tansella, 2004). While clinical services have been extensively evaluated (Thornicroft & Tansella, 2004), and increasing evidence exists for housing service types (Leff et al. 2009; Lloyd-Evans et al. 2009), there is limited research on personalised support.

In this paper we define personalised support as non-clinical, one-on-one support from a worker who has competencies in delivering support to a person with mental illness, but who may not have formal clinical training (Warner et al. 1998). Based on published literature from the USA, UK, Australia, New Zealand, Hong Kong and Scandinavia, personalised support can be broken down into four discrete service types: living skills; community access; emotional support; and advocacy. Living skills aim to improve the day to day functioning of patients through side by side instruction, role-modeling, corrective feedback and positive reinforcement and include services such as personal hygiene, budgeting and shopping (Bradshaw & Haddock, 1998; Clarkson et al. 1999; Dixon et al. 2010; Godley et al. 1988; Huxley et al. 2009; Kemp, 1997; Kleiner & Drews, 1992; Mak & Gow, 1996;
Meehan et al. 2011; Tauber et al. 2000; Warner et al. 1998; Weir & Rosen, 1989). Community access includes support in the activities of recreation and leisure, such as engaging in community events, peer based activities, recreation, music, art, and physical activities (Bradshaw & Haddock, 1998; Harris et al. 1999; Kemp, 1997; Kleiner & Drews, 1992; Mak & Gow, 1996; Meehan et al. 2011; Warner et al. 1998). Emotional support aims to assist patients in addressing acute and ongoing psychosocial stressors through activities including befriending, listening, providing practical problem solving, and management of stressors (Bradshaw & Haddock, 1998; Clarkson et al 1999; Godley et al. 1988; Harris et al. 1999; Huxley et al. 2009; Kemp, 1997; Kleiner & Drews, 1992; Mak & Gow, 1996; Meehan et al. 2011; Meek, 1998; Warner et al. 1998). Advocacy is speaking, acting or writing on behalf of a person to improve their welfare, (Clarkson et al. 1999; Kleiner & Drews, 1992; Meehan et al. 2011; Warner et al. 1998).

Several terms are used to describe the staff delivering personalised support. They include support worker (Manthorpe et al. 2010; Pace, 2010; Tipper et al. 2006), indigenous community member (Kleiner & Drews, 1992; Tauber et al. 2000; Nagel & Thompson, 2006), aftercare worker (Mak & Gow, 1996; Clarkson et al. 1999; Meek, 1998), peer support worker (Klein et al. 1998; Rivera et al. 2007; Reynolds et al. 2004), social cooperative worker (Thomas, 2004), personal helper and mentor (Department of Families, Housing, Community Services and Indigenous Affairs, 2010) and enabler (Kleiner & Drews, 1992). We endorse the definition of a support worker as “a person who is employed on an individual basis to foster independence and provide
assistance for a service user in areas of ordinary life such as communication, employment, social participation and who may take on secondary tasks in respect of advocacy, personal care and learning” (Manthorpe et al. 2010). Support workers have competencies in delivering support to a person with mental illness but may not have formal clinical training. Although some support workers may have lived experience of mental illness, this is not a pre-requisite.

This paper reviews the evidence for the effectiveness of personalised support for people with severe and persistent mental illness. Specifically, it aims to examine the quality of program evaluations conducted to date, evaluate the effects of programs on patient outcomes, review which service types have been evaluated, and assess the quality of the evidence for personalised support.
Methods

Search Strategy

We reviewed existing systems for classifying support services for people with mental illness in the Australian literature (Australian Institute of Health and Welfare, 2003; Australian Institute of Health and Welfare, 2008; Australian Institute of Health and Welfare, 2010; Wood & Pennebaker, 2004) and identified indicative activities (listed in Table 1), which were then used to generate appropriate search terms. Medline MeSH search terms ("social support" OR "rehabilitation" OR "respite care" OR "recreation" OR "patient advocacy" OR "consumer advocacy" OR "crisis intervention" OR “activities of daily living” or “community health aides) AND “psychotic disorders”) were modified to fit with analogous PsycINFO Descriptors and Google Scholar advance search terms. Searches of Medline, PsycINFO and Google Scholar from year of inception to March 2011 returned 1596 articles. An additional 27 articles were retrieved from review article reference lists and citation searches of older key articles, bringing the total to 1623.

(Table 1 about here)

Selection Criteria

Articles were reviewed at title level to identify those that: were focused on patients with severe and persistent mental illness; evaluated support workers
delivering personalised support services for individual patients; and measured patient outcomes. 1521 articles were excluded at title level, and 55 more excluded after review of their abstracts. 54 articles were reviewed at the full text level of which 38 articles were rejected, leaving 16 articles for inclusion.

As personalised support can overlap with other mental health community support sector services, we created a set of parameters to delineate which services were in scope. Firstly, because supported accommodation provides both housing plus support, we only included studies that described and evaluated the personalised support component of services that housed patients, rather than supported accommodation as a whole. Secondly, supported employment was defined as out of scope for this review as it targets vocational outcomes.

Data Extraction and Synthesis

We adapted the “PICO” (patient/intervention/comparator/outcome) framework (Guyatt et al. 2011) by including an assessment of study quality. Information on the quality of the evidence is essential to allow policy makers and service providers to have confidence in evaluations of services (Guyatt et al. 2008). Quality of selected articles was assessed using the Effective Public Health Practice Project’s Quality Assessment Tool for Quantitative Studies (QATQS), which rates studies on: selection bias; study design; confounders; blinding; data collection methods; withdrawals and dropouts; intervention integrity; and
analysis; to give an overall rating of: strong; moderate; or weak (Thomas, 1998). This tool was selected based on recommendations from a systematic review of quality assessment tools (Deeks et al. 2003).

We developed a template for collating information extracted from the 11 identified studies. The template fields included: patient characteristics (diagnosis and service setting); study descriptors (study design, brief description of study, and quality rating); intervention (including service types, description of intervention and presence of peer support workers); comparison group (yes or no, brief description if yes); and outcomes (patient outcomes evaluated and study results).

Key patient based outcomes were identified, and the evidence from the selected studies relating to each outcome was grouped together. Using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guidelines (Barbui & Cipriani, 2011; Balshem et al. 2011), and taking into account the quality of the relevant studies, an assessment was made of the strength of evidence for each patient based outcome (Balshem et al. 2011).
Results

Patient characteristics

The systematic review identified sixteen studies that evaluated the outcomes of personalised support programs for people with severe and persistent mental illness. The included studies are summarised in Table 2. All studies examined programs targeted at outpatients with severe and persistent mental illness. One targeted chronically depressed women (Harris et al. 1999). Six studies specifically included patients recently discharged from long term psychiatric hospitals (Kleiner & Drews, 1992; Mak & Gow, 1996; Meehan et al. 2011; Mowbray et al. 1988; Reynolds et al. 2004; Rivera et al. 2007). No other specific patient characteristic identifiers were noted by the included studies.

Quality of Evidence for Effectiveness of Personalised Support

The quality of the design of each of the eleven selected studies was rated using the QATQS (Thomas 1998). Four studies used a randomised control trial (RCT) design: two were rated as being of strong quality (Harris et al. 1999; Rivera et al. 2007), while one used non-validated outcome measures and was rated of moderate quality (Godley et al. 1988) and another had a small sample size and limited description of participants and was rated moderate (Reynolds et al. 2004). Three used a non-randomised control design; two were rated as being of moderate quality (Mak & Gow, 1996;
Tauber et al. 2000); and one was rated as being of weak quality (Klein et al. 1998). Three used a single cohort design and were rated as being of moderate quality (Meehan et al. 2011; Clarkson et al. 1999; Muir et al. 2010). The remaining six were descriptive studies; all were rated as being of weak quality (Bradshaw & Haddock, 1998; Huxley et al. 2009; Kemp, 1997; Kleiner & Drews, 1992; Meek, 1998; Mowbray et al. 1988).

(Table 2 about here)

**Patient outcomes**

The selected studies investigated a wide range of patient based outcomes. These were grouped into three domains: personal functioning (including interpersonal interactions, problem solving and living skills); illness acuity (including symptoms, rehospitalisation and forensic contact); and satisfaction with support workers. A summary of the evidence for each of the outcome domains is given below.

*Personal Functioning*

Nine studies discussed the effect of personalised support on personal functioning, broadly encompassing interpersonal interactions, problem solving, quality of life and living skills (Bradshaw & Haddock, 1998; Clarkson et al. 1999; Godley et al. 1988; Meehan et al. 2011; Tauber et al. 2000; Muir et al. 2010; Reynolds et al. 2004; Rivera et al. 2007; Klein et al. 1998).
The first study, rated to be of strong quality, was a randomised control trial of 203 patients randomly assigned to peer assisted case management (n=70), case management without peer assistance (n=66) or standard clinic based care (n=67) (Rivera et al. 2007). In the peer intervention group, support workers with lived experience of mental illness engaged participants in social activities and helped develop supportive social networks. On the Pattison Network Inventory (Stein et al. 1995), a measure of social networks, all three groups showed improvement. The group receiving peer-assisted case management showed an increase in the number of contacts, but this was due to contact with peer assistants and clinical staff, rather than family or outside friends. There were no significant differences over time or between groups on the Lehman Quality of Life Inventory (Lehman 1988), a measure of subjective and objective dimensions of quality of life.

The second study, rated to be of moderate quality, was a non-randomised case control study, provided all patients in the program with a specific skills training program (Tauber et al. 2000). The 45 patients in the intervention group received additional living skills support from a support worker, while the 40 patients in the control group did not. The supported group had significantly higher scores on the Assessment of Interpersonal Problem Solving Skills scale, a test of patient’s abilities to navigate social situations (Donahoe et al. 1990), at six and 12 months follow up. There were no differences in symptoms or skills learning and retention.
The third study, rated as being of moderate quality, followed a single cohort of 37 patients for six months (Clarkson et al. 1999). They received case management and a community support worker service. The study showed statistically significant decreases in patients’ number of friends and contacts on the Social Network Schedule, a measure of friends and contacts (Leff et al. 1990), an increase in their social functioning needs on the Camberwell Assessment of Need, a measure of social, functioning and health needs (Phelan et al. 1995), and no change in quality of life on the Lancashire Quality of Life Profile, a measure of perceived life quality (Oliver, 1991). It appears that support workers may have obviated the need for independent friends, confounding the measures of friends and contacts.

The fourth study, a single cohort study of moderate quality (n=85), evaluated a housing and support program that provided four to five hours per day of support to assist in maintaining tenancy, develop living skills and participate in the community (Muir et al. 2010). After two years the percentage of patients with established friendships had increased significantly from 67% to 91%.

The fifth study, a small, moderate-quality randomised control trial of outpatients recently discharged from extended hospitalization compared 11 patients receiving assistance with transition to outpatient services (discharge liaison from a nurse, and peer support from a support worker with lived experience of mental illness) with an undescribed “treatment as usual” comparison group (n=14) (Reynolds et al. 2004). Personal functioning was rated using the Colorado Client Assessment Record (Herman & Mowbray,
1991). Both the control and intervention group showed significant improvements in social and role functioning, with no difference between the groups.

The sixth, a pilot non-randomised control trial of weak quality, compared 10 patients receiving 6 months of services from support workers with lived experience of mental illness and intensive case management to a control group of 20 patients receiving intensive case management alone (Klein et al. 1998). On the Lehman Quality of Life Inventory (Lehman 1988) the intervention group reported small but statistically significant differences compared to controls at the end of the study on the living, income and health subscales, but not on the family or friends subscales.

Three studies showed no change in personal functioning. The first study, rated as being of moderate quality, was a randomised control trial that used non-validated measures created for the study to assess outcomes (Godley et al. 1988). Twelve patients were assigned to each of case management as usual or case management plus 3 hours per week of support worker contact providing living skills and emotional support. The study showed trends towards better social and recreational skills, medication adherence and independent living skills, but these did not reach statistical significance.

The second study, rated as being of moderate quality, followed a single cohort of 181 recently discharged long term hospitalised patients for seven years (Meehan et al. 2011). They received support worker services plus clinical
case management and public housing program. There was no change on the Living Skills Profile, a measure of function and disability (Rosen et al. 1989), over the seven years. Patients’ need for support worker hours per week reduced from 26.3 hours to 21.5 hours, suggesting a possible improvement in patients autonomous personal functioning.

The third study, rated as being of weak quality, was a descriptive study of nine patients receiving a volunteer befriending service (Bradshaw & Haddock, 1998). It found that that 67% of the patients reported that the service improved their confidence in social situations (Bradshaw & Haddock, 1998).

**Illness Acuity**

Eight studies addressed illness acuity in terms of: rehospitalisation (Kleiner & Drews, 1992; Mak & Gow, 1996; Klein et al. 1998; Muir et al. 2010; Reynolds et al. 2004; Rivera et al. 2007); forensic contact (Meehan et al. 2011; Mak & Gow, 1996); and changes in symptoms (Meehan et al. 2011; Harris et al. 1999; Reynolds et al. 2004).

The first study, rated as being of strong quality, was a randomised control trial of a befriending program for chronically depressed women in inner London. It involved 40 patients in the intervention arm and 40 in a waitlist control group (Harris et al. 1999). After one year, a statistically significantly larger proportion of the befriended group (65% vs 39%) had achieved remission on an adaptation of the Present State Examination (Finlay-Jones et al. 1980).
The second study, a strong-quality randomised control trial of peer assisted intensive case management described above reported that the intervention and control groups all had similar reductions in hospitalisations (Rivera et al. 2007).

The third study, a moderate-quality single cohort study of housing and support described above, reported a decrease in hospitalisations over the 2 years of the study (Muir et al. 2010).

The fourth study, rated as being of moderate quality, was a non-randomised matched control program that provided 18 months of support worker services to 32 patients following discharge from a halfway house and compared them to 32 matched controls (Mak & Gow, 1996). Those who received support worker assistance had significantly fewer re-hospitalisations (12.5% vs 46.1%) and forensic contacts (3.1% vs 15.6%), although scores on the Brief Psychiatric Rating Scale (Overall & Gorham, 1962) were not significantly different.

The fifth study was the seven year single cohort study described above. It reported a reduction in forensic contacts (Meehan et al. 2011). Twenty two percent of participants were under a forensic order at time of entry into the study, while only 2.7% of participants committed an offence over the 7 years of the study. However, there was no reduction of illness acuity on the Health of the Nation Outcome Scales (Wing et al. 1998).
The sixth study, a small, moderate-quality, randomised control trial of nurse and peer assisted community transition, described above, reported that both the intervention and control group had reduced symptoms on an unnamed symptom scale, but that there was no-significant difference between the intervention and control groups in terms of rehospitalisations (Reynolds et al. 2004).

The seventh study, a weak-quality pilot non-randomised control trial of peer support workers described above reported that in the intervention group had zero inpatient days during the 6 month study period, compared to an average of 15 days for the control group (Klein et al. 1998).

The eighth study, rated as being of weak quality, was a descriptive study of a support worker program targeting long term hospitalised patients (Kleiner & Drews, 1992). This study reported "lower rates of readmission for the community program" compared to unmatched “hospital-based control programs”, however very little empirical data were provided and limited information was given on study methodology.

*Satisfaction with Support Workers*

Six studies reported data on satisfaction with support workers using un-validated measures created for each study (Clarkson et al. 1999; Huxley et al. 2009; Kemp, 1997; Meehan et al. 2011; Meek, 1998; Mowbray et al. 1988).
The first, the six month cohort study described above, reported that participants were satisfied with their support workers, but that there was no statistically significant change in levels of satisfaction with workers over the six months of the study (Clarkson et al. 1999).

The second, the seven year cohort study described above, reported high levels of satisfaction with support workers, but also noted that levels of satisfaction did not significantly change over the duration of the study (Meehan et al. 2011).

The other four studies were all descriptive studies that were rated as being of weak quality and examined patients’ perceptions of support workers through semi-structured interviews with convenience samples of patients (Huxley et al. 2009; Kemp, 1997; Meek, 1998; Mowbray et al. 1988). Patients reported that support workers valued them, were non-judgmental, viewed them as whole people, allowed them to be open and honest, allowed them to make their own choices, had a recovery focus (Huxley et al. 2009), were attuned to their needs (Kemp, 1997; Mowbray et al. 1988), and were client centered (Meek, 1998).

**Peer Delivered Services**

Four studies described personalized support services delivered by support workers with lived experience of mental illness, referred to in the literature as
“peers” (Klein et al. 1998; Mowbray et al. 1988; Reynolds et al. 2004; Rivera et al. 2007), however only limited improvements in patient outcomes could be ascribed to peer support worker interventions.

The strong-quality randomised control trial study of peer assisted intensive case management reported no differences in outcomes between the peer-assisted intervention and the control groups (Rivera et al. 2007). The small, moderate-quality, randomised control trial of nurse and peer assisted community transition reported that both the intervention and control groups had reductions in illness severity and improvements in interpersonal functioning and quality of life (Reynolds et al. 2004). The other two studies were of weak quality, with one showing small changes in quality of life and re-hospitalisation favouring the intervention group (Klein et al. 1998); and the other reporting satisfaction with peer support workers (Mowbray et al. 1988).

### Service Types

An attempt was made to examine outcomes specifically associated with the four key service types: living skills; community access; emotional support; and advocacy. Multiple service types were delivered within programs in nine of the eleven identified studies. This made attributing outcomes to specific service types within a multicomponent program challenging. Of the two studies where only one service type was described, one was descriptive study of emotional support (rated as being of weak quality) which measured patients opinions of support workers but reported no other patient outcomes (Meek,
1998), and the other was a case-control study (rated as being of moderate quality) which examined support workers providing living skills support as an adjunct to a specific living skills training program that may not be generalisable to other personalised support services (Tauber et al. 2000). No clear pattern of service types within programs leading to specific outcomes could be discerned. As a result, an evaluation of efficacy of specific service types could not be undertaken at this time.


**Discussion**

In our study we found that, using GRADE guidelines (Balshem et al. 2011), and assessing the quality of the relevant studies, the strength of evidence for personalised support services on patient based outcomes was weak to moderate.

The strength of the evidence for personalised support services improving personal functioning is weak in the studies published to date. A variety of non-comparable measures were used. Five studies showed significant changes from baseline. Only one reported greater improvement for the intervention than for the controls, however the intervention was tied to a specific skills training program that may not be generalisable to other personalised support services (Tauber et al. 2000). Two other controlled studies showed that the intervention and control arms both demonstrated improvements in social functioning (Rivera et al. 2007; Reynolds et al. 2004). An uncontrolled trial reported improvements from baseline (Muir et al. 2010). Three studies reported no change (Bradshaw & Haddock, 1998; Godley et al. 1988; Meehan et al. 2011). One uncontrolled trial found that personal functioning significantly worsened (Clarkson et al. 1999). The reduction in personal functioning appears to have been partially a result of support workers reducing the need for independent friends (Clarkson et al. 1999). Another study reported that an increase in the number of contacts for the intervention group was due to visits with peer assistants rather than new friends (Rivera et al. 2007). This raises the possibility that support workers
create a perverse incentive to become dependent on the social interactions of their services, rather than assisting patients to developing new social networks.

There is moderate strength of evidence for improvement in illness acuity. An uncontrolled study of moderate quality reported reduction in illness acuity (Muir et al. 2010), while a randomised control trial of strong quality reported that both intervention and control groups had reduced illness acuity from baseline (Rivera et al. 2007). Two other studies reported mixed results (Meehan et al. 2011; Reynolds et al. 2004). Two patient groups for which there is evidence of improvement in illness acuity are women with depression and patients who have recently been discharged from hospital.

The strength of the evidence for service satisfaction is moderate. All six studies, rated to be of moderate or weak quality, found evidence that patients were satisfied with support worker services (Clarkson et al. 1999; Huxley et al. 2009; Kemp, 1997; Meehan et al. 2011; Meek, 1998; Mowbray et al. 1988).

The strength of evidence to date for peer support worker interventions is weak. Four studies described personalised support services delivered by support workers with lived experience of mental illness and were of strong (Rivera et al. 2007), moderate (Reynolds et al. 2004), and weak quality (Klein et al. 1998; Mowbray et al. 1988). The studies with strong and moderate quality showed no difference between the peer delivered intervention and controls (Rivera et al. 2007; Reynolds et al. 2004), whereas the weak quality studies
reported small improvements in personal functioning and illness acuity (Klein et al. 1998) and satisfaction with peer support workers (Mowbray et al. 1988).

**Strengths and Limitations**

This is the first study to attempt to systematically review the literature for evidence regarding personalised support services. The quality of the research to date has been inconsistent and this introduced some limitations to our study. Firstly, the provision of service types varied to such a degree that it was difficult to draw definitive conclusions about the effectiveness of programs. Similarly, patient related outcomes were challenging to assess due to the use of disparate outcomes measures. Secondly, these services were targeted at people with severe and persistent mental illness, who are a heterogeneous group. This further complicates drawing conclusions on service efficacy. Thirdly, the majority of the studies evaluated provided multicomponent programs, precluding the attribution of outcomes to specific service types.

**Implications**

There is an emerging consensus on the major components of personalised support and the outcomes that these services can deliver. This study provides an organising framework for personalised support with the identification of four service types, and three key patient outcome domains. Although personalised support programs may be effective in improving patient
outcomes or preventing deterioration in functioning, the evidence to date is of insufficient quality to prove or refute this. Future, higher quality research on the effect of specific service types on patient outcomes would be of use to develop programs targeted at specific patient needs. This is particularly timely given the recent call by the Grand Challenges on Global Mental Health group for more research into efficacy of interventions for serious mental disorders delivered by lay health workers (Collins et al. 2011).

Conclusions

Personalised support services grew out of a need to assist patients with functional deficits. Services evolved from unstructured charity services to a major component of the mental health service sector. In Australia, funding to the broader non-government sector, the main provider of personalised support services, has grown more than 7 fold in the period from 1993-2008 (Department of Health and Ageing, 2010) and growth is likely to continue. However, the evidence to date for the effectiveness of personalised support services has not been well established. If the goal of these services is to help patients overcome functional deficits though a rehabilitation model, funding for quality research and evaluation of programs, including information of patient outcomes, is needed.

There is moderate evidence that personalised support services can reduce illness acuity, notably for chronically depressed women and patients transitioning from long term hospitalisation, and there is moderate strength of
evidence for patient satisfaction with services. However, the evidence is of inconsistent quality, and is weak for personal functioning. Programs may be effective, but, to date, insufficient resources have been invested in service evaluation in this sector. More focused research on the efficacy of key types of personalised support should be undertaken. In particular, studies should be designed to evaluate a single service type against a single outcome, determined prior to the commencement of the study. Identifying how to tailor these services to specific patient needs will assist efficient service delivery.
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Table 1. Relevant categories from Australian classification systems describing support services for people with mental illness

<table>
<thead>
<tr>
<th>CSTDA NMDS†</th>
<th>NCCS‡</th>
<th>NMDS-MHE§</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.01 Learning and life skills development</td>
<td>AO1.3.03 Living skills development</td>
<td>Independent Living Skills</td>
</tr>
<tr>
<td>2.03 Behaviour/specialist intervention</td>
<td>AO1.3.01 Social and Personal development AO1.2.04 Grief Counseling</td>
<td>Psychosocial Support</td>
</tr>
<tr>
<td>6.01 Individual Advocacy</td>
<td>AO1.2.01 Individual advocacy</td>
<td></td>
</tr>
<tr>
<td>1.06 In-home accommodation support</td>
<td>AO1.4.05 Social Support, escorting, visiting, and personal transport</td>
<td></td>
</tr>
<tr>
<td>2.07 Other community support</td>
<td>AO1.4.05 Social Support, escorting, visiting, and personal transport</td>
<td></td>
</tr>
<tr>
<td>4.01 Own Home Respite</td>
<td>AO2.6.01 Respite care</td>
<td>Respite</td>
</tr>
<tr>
<td>3.02 Recreation/holiday programs</td>
<td>AO1.3.02 Recreation/leisure</td>
<td>Recreation</td>
</tr>
</tbody>
</table>

† Commonwealth State/Territory Disability Agreement National Minimum Data Set (Australian Institute of Health and Welfare 2008)
‡ National classifications of community services (Australian Institute of Health and Welfare 2003)
Table 2 – Studies evaluating patient outcomes of support worker delivered personalised support services for individual patients

<table>
<thead>
<tr>
<th>Study</th>
<th>Diagnosis</th>
<th>Service Setting</th>
<th>Study Design</th>
<th>Brief Description of Study</th>
<th>Quality Rating</th>
<th>Service Types</th>
<th>Description of Intervention</th>
<th>Peer Support Workers</th>
<th>Comparison Group</th>
<th>Patient Outcome(s) Evaluated</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bradshaw &amp; Haddock (1998), UK</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Descriptive</td>
<td>Interviews of non random sample of 9 participants using existing service</td>
<td>Weak</td>
<td>Living Skills, Community Access, Emotional Support</td>
<td>Befriending of people with SPMI by volunteers</td>
<td>No</td>
<td>None</td>
<td>Interpersonal functioning</td>
<td>67% of patients reported increased confidence in social situations</td>
</tr>
<tr>
<td>Clarkson et al. (1999), UK</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Single Cohort Study</td>
<td>Interviews at two time points 6 months apart of all consenting eligible patients (n=37)</td>
<td>Moderate</td>
<td>Living Skills, Emotional Support, Advocacy</td>
<td>Community support worker service for “hard to reach” or vulnerable patients.</td>
<td>No</td>
<td>None</td>
<td>Interpersonal functioning, quality of life, &amp; satisfaction with support workers</td>
<td>Patients had significantly fewer friends and social contacts and increased social functioning needs. They were satisfied with support workers at baseline and this did not change. There was no change in other needs met or quality of life.</td>
</tr>
<tr>
<td>Godley et al. (1988), USA</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>RCT</td>
<td>24 patients randomly assigned to intervention (n = 12) or control (n=12), Pre-test, post-test design.</td>
<td>Moderate</td>
<td>Living Skills, Emotional Support</td>
<td>Case management plus 3 hours per week community support worker program for psychiatric rehabilitation, medication compliance, stressor management, and physical activity.</td>
<td>No</td>
<td>Treatment as usual (case management)</td>
<td>Interpersonal functioning</td>
<td>No statistical significance between the groups. Patients in intervention group trended towards better social and recreational skills, engagement in more physical activities, better independent living skills and better medication adherence.</td>
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<tr>
<td>Harris et al. (1991 part 1), UK</td>
<td>SPMI (Women with Chronic Severe Depression)</td>
<td>Outpatient</td>
<td>RCT</td>
<td>Intention to treat design. Randomly assigned to intervention (n=40) or waitlist control (n=40), Blinding of evaluators not stated.</td>
<td>Strong</td>
<td>Emotional Support, Community Access</td>
<td>Befriending of women with chronic, severe depression by volunteers, for at least one hour a week for a year</td>
<td>No</td>
<td>Wait-list control.</td>
<td>Remission of illness</td>
<td>Intervention group had significantly higher remission rate than controls</td>
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<tr>
<td>Study (Year, Country)</td>
<td>Design</td>
<td>Setting</td>
<td>Methodology</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Outcomes</td>
<td>Support Workers</td>
<td>Satisfaction</td>
<td>Comments</td>
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<td>Huxley et al. (2009), UK</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Descriptive</td>
<td>Semi-structured interviews with 21 support workers and 16 patients</td>
<td>Weak</td>
<td>Living Skills, Emotional Support</td>
<td>Support workers service for patients in public case management</td>
<td>No</td>
<td>None</td>
<td>Qualitative data revealed that both workers and patients valued the relationship they developed. Patients reported that support workers were non-judgmental, viewed them as whole people and allowed them to make their own choices with a recovery focus.</td>
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<tr>
<td>Kemp (1997), UK</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Descriptive</td>
<td>&quot;Action Research&quot; interviews with patients and support workers</td>
<td>Weak</td>
<td>Living Skills, Community Access, Emotional Support</td>
<td>Support worker visiting service for patients in supported accommodation</td>
<td>No</td>
<td>None</td>
<td>Patients reported that support workers were attuned to their needs and were enjoyable to work with.</td>
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<tr>
<td>Kleiner &amp; Drews (1992), USA/Norway</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Descriptive</td>
<td>Limited methodology available, no description of measures and no data provided</td>
<td>Weak</td>
<td>Living Skills, Community Access, Emotional Support, Advocacy</td>
<td>8-12 month program of support worker service for recently discharged long term hospitalised patients. Support provided live-in or visiting.</td>
<td>No</td>
<td>None</td>
<td>&quot;Lower rates of readmission for the community program&quot; (no data provided).</td>
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<tr>
<td>Mak &amp; Gow (1996), Hong Kong</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Non-Randomised Control Trial</td>
<td>Intervention (n=32), Control (n=32). Group assignment process not stated. Blinding of assessors</td>
<td>Moderate</td>
<td>Living Skills, Community Access, Emotional Support</td>
<td>18 month Support worker service for recently discharged long term hospitalised patients living in half-way houses.</td>
<td>No</td>
<td>None</td>
<td>The patient group receiving support worker services was found to have greater and better employment prospects, better mental status with less hospitalisation and less law-breaking behaviour than the control group.</td>
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<tr>
<td>Meehan et al. (2011), Australia</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Single Cohort Study</td>
<td>181 patients enrolled, followed up for structured interviews at 5 weeks post discharge and at 6, 18, 36 and 84 months post discharge</td>
<td>Moderate</td>
<td>Living Skills, Community Access, Emotional Support, Advocacy</td>
<td>Support worker in addition to public mental health case management and public housing for recently discharged long term hospitalized patients</td>
<td>No</td>
<td>None</td>
<td>The use of support worker hours per week decreased significantly from 26.3 hours to 21.5 hours. Forensic contacts decreased. Measures of functioning and illness severity were not significantly different over time.</td>
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<tr>
<td>Meek (1998), UK</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Descriptive</td>
<td>Structured interviews of 14 patients</td>
<td>Weak</td>
<td>Emotional Support</td>
<td>Support worker service in a public mental health community team</td>
<td>No</td>
<td>None</td>
<td>Patients reported that support workers were client centred. Patients reported the personal qualities and interpersonal skills of the workers were most important.</td>
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<tr>
<td>Study</td>
<td>Setting</td>
<td>Type</td>
<td>Description</td>
<td>Intervention vs. Control</td>
<td>Outcomes</td>
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<td>Tauber et al. (2000), USA</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Non-Randomised Control Trial. First 40 skills training participants (Control) not given support worker, next 45 participants (intervention) had support worker. Outcome measures collected immediately after training, and 6 and 12 months after training.</td>
<td>Moderate Living Skills</td>
<td>Patients received skills training plus support from a support worker of their choosing. No patients received skills training but did not have a defined support worker. Interpersonal functioning. The intervention group had significantly better Interpersonal functioning than controls at 6 and 12 month follow ups. There was no difference in symptoms, or skills learning and retention.</td>
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<td>Muir et al. (2010), Australia</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Single Cohort Study. Evaluation of 85 consumers receiving four to five hours a day personalised support program for more than two years.</td>
<td>Moderate Living Skills, Community Access, Emotional Support</td>
<td>Patients received four to five hours a day of support to assist in maintaining tenancy, develop living skills and participate in the community. No</td>
<td>Interpersonal functioning. Patients maintained housing tenancy, had fewer rehospitalisations, developed new friendships and were more engaged in community activities.</td>
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<td>Rivera et al. (2007), USA</td>
<td>SPMI</td>
<td>Outpatients recently discharged from extended hospitalisation</td>
<td>RCT. 255 patients randomly assigned to peer assisted case management, case management without peer assistance or standard clinic based care. 203 patients completed 12 month follow up.</td>
<td>Strong Community Access, Emotional Support</td>
<td>Support workers with lived experience of mental illness engaged participants in social activities. Yes</td>
<td>Two comparison groups: &quot;Strengths based&quot; case management and clinic base services. Interpersonal functioning, quality of life, physical activity, independent living skill, illness acuity, satisfaction with support workers &amp; rehospitalisation. All three groups improved on measures of days hospitalised, symptoms, living skills and satisfaction.</td>
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<tr>
<td>Reynolds et al. (2004), UK</td>
<td>SPMI</td>
<td>Outpatients recently discharged from extended hospitalisation</td>
<td>RCT. 25 patients were randomly assigned to control (14) or experimental (11). Three patients were lost to follow up from each group. Experimental services were provided over 5 months with data collected at baseline and month 5.</td>
<td>Moderate Living Skills, Community Access, Emotional Support</td>
<td>Participants were assisted with transition to outpatient services with discharge liaison from a nurse, and peer support from a support worker with lived experience of mental illness. Yes</td>
<td>Treatment as usual (not described). Interpersonal functioning, illness acuity, treatment satisfaction, quality of life. Both groups showed reductions in symptom severity, and improvement in interpersonal functioning and quality of life. There was no difference in rehospitalisation.</td>
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<td>Study</td>
<td>Country</td>
<td>Setting</td>
<td>Study Design</td>
<td>Support Description</td>
<td>Methodology</td>
<td>Outcome</td>
<td>Footnotes</td>
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<tr>
<td>Mowbray et al. (1988), USA</td>
<td>SPMI</td>
<td>Outpatients</td>
<td>Descriptive</td>
<td>Brief descriptions of three peer support worker demonstration programs providing support for recently discharged patients</td>
<td>Three programs were described which provided assistance with social activities, living skills and emotional support provided by support workers with lived experience with mental illness</td>
<td>Yes</td>
<td>The projects demonstrated the support workers with lived experience of mental illness could provide support for patients.</td>
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<tr>
<td>Klein et al. (1998), USA</td>
<td>SPMI</td>
<td>Outpatient</td>
<td>Non-Randomised Control Trial</td>
<td>Living Skills, Community Access, Emotional Support</td>
<td>Participants received 6 months of services from support workers with lived experience of mental illness and intensive case management</td>
<td>Yes</td>
<td>The intervention group had lower rates of hospitalisations, and higher perceived quality of life.</td>
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</table>

Footnotes
† - Based on the Effective Public Health Practice Project, Quality Assessment Tool For Quantitative Studies (Thomas 1998)
SPMI = Severe and Persistent Mental Illness
RCT = Randomised Control Trial
Minerva Access is the Institutional Repository of The University of Melbourne

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