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Research Article

Measuring the impact of housing on people with schizophrenia

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Abstract

Review of the available literature, from various countries, on housing options indicates that, for people with a mental illness, boarding houses are the least desirable type of community accommodation and that living in their own home is the most desirable type of accommodation. The present research project provides a more in-depth examination of people with schizophrenia and the impact of living in their own home compared to living in a boarding house. In this Australian study there were 3231 subjects, 3033 who were living in their own homes and 201 living in boarding house accommodation. The study used two instruments from the Mental Health Classification and Service Cost Project, specifically the Health of the Nation Outcomes Scale, which is a measure of current symptoms, and a shortened version of the Life Skills Profile, which measures global level of functioning. Results indicated that while there were no

differences in the level of psychiatric symptoms experienced, people living in boarding houses had less access to social support, meaningful activities and work;

they also had a significantly lower level of global functioning. These findings contradict the conventional wisdom that people with schizophrenia resort to living in boarding houses because of their level of disability and highlights an area of potential intervention for community health services.

Key words

boarding house, Health of the Nation Outcomes Scale, housing, Life Skills Profile, schizophrenia.

INTRODUCTION Consumers of mental health services report varying experiences of disability, but there are common concerns evident in their lives, including powerlessness or lack of autonomy, loneliness, loss, and the stigma of mental illness (Anthony, 1993). Stigma impacts on the many areas of their lives, for example consumers are often less accepted by the community and this contributes to exacerbation of their loneliness. However, there are also more optimistic aspects to their lives such as acceptance of the illness and the decision to fight back (Anthony, 1993).

Stigma has a significant impact on the lives of consumers of mental health services. Stigma results in the exclusion from social relationships by others, and it can also result in consumers excluding themselves from social situations to avoid the stigma and cope better with their mental illness. This experience of alienation results in feelings of loneliness and of being ostracized (Vellenga

& Christenson, 1994). Consumers report that acceptance is an important part of their staying well, particularly acceptance from their loved ones (Vellenga & Christenson, 1994). Studies into the impact of housing indicate that if consumers live in normal housing (i.e. housing that does not identify them as having a mental illness) that suits their needs, they are more accepted by the community, are less lonely and their quality of life is improved (Hodgins et al., 1990; wolff et al., 1996).

Could it be qualities of the housing itself or the consumer's response to the housing that is impacting on these improved outcomes?

LITERATURE REVIEW

Institutions working in mental health care within Australia and internationally have long recognized the importance of suitable housing for long-term rehabilitation of the mentally ill (Burdekin et al., 1993; National Mental Health Strategy, 1994b; Queensland Health, 1996; World Health Organization, 1990; Posey (1990) asserted that no component of a community mental health system is more important than decent, affordable housing. Quality affordable housing has been identified as being one of the most important aspects of community support services for people with long-term mental illness. Without the availability of quality affordable housing other treatment and rehabilitation approaches are jeopardized (Stroul, 1989; Moxam & Pegg, 2000). A study conducted

in the USA examined the relative contribution of housing versus psychiatric services and rates of hospital readmission among 69 chronic psychiatric patients

in two communities (Rosenfield, 1990). Results indicated that when people need both housing and psychiatric care, services for housing are a better predictor of success (determined by non-hospitalization) than the existence of a mental health service. The author concluded that the quality of housing had a critical effect on relapse. A much larger study (Baker & Douglas, 1990) that included 729 consumers of mental health services drew similar conclusions to Rosenfield's (1990) study. The authors found a causal relationship between the quality of housing and the global functioning and quality of life (QOL). They reported that

participants who remained in adequate and appropriate housing (as assessed by case managers) improved, while those in poor housing remained the same or deteriorated

in their level of functioning. One group moved and changed the quality of their housing during the study and participants who moved from poor quality housing to

better housing improved in their global functioning.

In contrast, those participants who moved from good to poor quality housing were

found to have deterioration in their global functioning as well as their perceived

QOL. The authors concluded that quality of housing impacted significantly on the

community adjustment outcomes for consumers (Baker & Douglas, 1990). These findings

have been supported within other studies (Hodgins et al., 1990). There are a number of types of housing chosen by and for consumers. One form of accommodation

commonly used is boarding houses, which usually provide consumers with private or

shared bedrooms. The residents usually share facilities such as showers, kitchen

and living rooms (Slaughter et al., 1991). 'For-profit' boarding houses can be inexpensive but they can also be places where consumers are lonely and exploited

(Health Care Complaints Commission, 1996; Posey, 1990; Linhorst, 1991; Cleary et

al., 1998; Moxam & Pegg, 2000). An alternative form of housing is the 'community

group home', which includes relatively small community-based accommodation usually

run by non-government organizations that offers a level of support to the residents.

The houses provide support with living skills and facilitate access to rehabilitation

(Posey, 1990; Trieman, 1997). Based on a number of studies it is apparent that the

most desirable type of accommodation for consumers is to live in their own home with

people they choose (Anthony & Blanch, 1989; Carling, 1989, 1990, 1993; Baker & Douglas,

1990; Hodgins, 1990; Ridgeway & Zippel, 1990; Yeich et al., 1994; Strong, 1995; Trieman, 1997; Moxam & Pegg, 2000).

A 1997 Australian study found that many people with schizophrenia were living in substandard and often unstable accommodation. The authors concluded that a key determinant for the high rates of readmission for people with schizophrenia was the type of accommodation to which they are discharged (Berger et al., 1997). The evidence suggests that boarding houses are the least suitable community accommodation for consumers, while the most suitable form would be to live in their own home. While there is limited research in Australia that examines the general impact of housing on consumers as a generic group (Warren & Bell, 2000), there is even less that addresses the impact on people with schizophrenia.

Schizophrenia is the most common diagnostic group treated by public hospitals in Australia (Buckingham et al., 1998). People with schizophrenia respond differently to stress to the rest of the population, the nature of their illness means they can have difficulties in maintaining relationships (Keltner et al., 1999). It is therefore timely that a more detailed study be conducted to explore the impact of accommodation type on the mental health of people with schizophrenia by comparing those living in their own home with those living in a boarding house.

AIMS OF THE STUDY

The present study aimed to investigate the impact of accommodation on the mental health of people with schizophrenia living in two types of accommodation. The study specifically explored the impact of two types of accommodation: private homes and boarding houses.

DEFINITIONS

For the purpose of this study the following definitions will be used: boarding house will refer to privately operated 'for-profit' public accommodation. These venues consist of, sometimes shared but normally single, bedroom accommodation with shared facilities such as bathroom, kitchen and living areas. Private home will mean any privately owned or rented accommodation, usually a house or flat, where the person with schizophrenia lives alone or with family or friends of his/her choosing.

OBJECTIVE

The objective of the current study was to explore the differences between the type of housing people are discharged to and the patterns of illness. Patterns of illness were described by the severity of their symptoms and their level of functioning. Severity of symptoms was measured using the Health of the Nation Outcomes Scale (HONOS) and level of functioning was measured using a shortened version of the Life Skills Profile (LSP 16).

Study data

The present study drew on the information within the Mental Health Classification and Service Cost Project (MH-CASC, 1996) data set. The MH-CASC was a federally funded project that collected data on contacts made between people with a mental illness, including people with schizophrenia, and mental health professionals throughout Australia during 3 months at the end of 1996. The project aimed to determine whether clinical factors predicted service costs. The MH-CASC project collected data from 21 adult study sites representing approximately 25% of the Australian mental health sector in terms of inpatient beds, workforce numbers and expenditure, and were broadly representative of public and private sector

services nationally. The study cohort covered all age ranges, and had roughly equal numbers of males and females (Buckingham et al., 1998). Although the MH-CASC project focused on costing of mental health services, data pertaining to accommodation, symptoms and level of functioning were also collected. The project team produced multiple data sets and this present study used the Adult 3M data set. Each entry in the Adult 3M data set represented one patient receiving care from the adult mental health service.

SAMPLE

Study participants selected from the MH-CASC data set were required to meet the inclusion criteria of (i) aged between 18 and 65 years; (ii) have a primary International Classification of Diseases 10 diagnosis of schizophrenia and; (iii) live in either a boarding house or their own home. Participants who did not meet the criteria, or who had data missing in the three areas of age, diagnosis and place of residence, were excluded from the study.

INSTRUMENTS USED IN THE MH-CASC STUDY

Instruments used in the MH-CASC study included the HONOS and a shortened version of the LSP. These data provide a quantitative account of levels of functioning and severity of symptoms of people with schizophrenia. Accuracy and interrater reliability were assured as staff responsible for data collection for the MH-CASC project were trained in use of the instruments.

Health of the Nation Outcomes Scale

The HONOS was developed in the UK and is considered one of the most suitable instruments for measuring consumer outcomes in mental health services (Andrews et al., 1997). The scale was designed to be completed by clinicians and consists of 12 items that measure the severity of problems commonly presented by people with schizophrenia (Table 1).

The HONOS is a reliable, clinician-completed measure designed to assess health and social functioning (Stedman et al., 1997; Buckingham et al., 1998; Wing et al., 1998). A Cronbach's alpha of 0.73 (Stedman et al., 1997) and 0.76 (Wing et al., 1998) for the baseline HONOS total score have been reported; this indicates that the measure has high internal consistency. The measure was developed for use with psychiatric populations and it is reliable, valid and sensitive to change (Stedman et al., 1997; Buckingham et al., 1998; Wing et al., 1998). Ratings are made on a five point Likert-type scale where 0 represents no problems and 4 represents severe to very severe problems with the particular activity.

Life Skills Profile 16

The LSP (39) is a widely used instrument developed to measure function and disability in people with chronic mental illness (Mental Health Branch, 1999; Stedman et al., 1997). A Cronbach's alpha of 0.94 for the baseline

Table 1. Items in the Health of the Nation Outcomes Scale

Item number Item

- 1 Overactive, aggressive or agitated
- 2 Suicidal thoughts or behavior
- 3 Problem drinking or drug taking
- 4 Cognitive problems involving memory, orientation, understanding
- 5 Physical illness or disability
- 6 Hallucinations and delusions

- 7 Depressed mood
- 8 Other mental and behavioral problems
- 9 Supportive social relationships
- 10 Activities of daily living (ADL): overall disability
- 11 Suitability of the accommodation to the person's needs
- 12 Opportunity for useful and meaningful occupational and recreational activities

total score has been reported for the LSP 39; this indicates that the measure has high internal consistency for the instrument (Stedman et al., 1997).

The original form of the LSP had 39 items, was considered too long and it duplicated some of the items of HONOS. The MH-CASC team worked in conjunction with original developers of the LSP to develop the shorter LSP 16. The new shorter scale retained the psychometric strengths of the original scale and its component subscales (Hodgins, 1996; Rosen et al., 2001). In the revision process, 16 items were selected to cover four broad domains of withdrawal, antisocial behavior, self-care and compliance. Correlation scores for the LSP 16 and LSP 39 were 0.84, 0.94, 0.95 and 1.00, respectively, for the four domains with a total correlation score of 0.95 (Rosen et al., 2001).

Unlike the HONOS, the LSP 16 is less concerned with acute symptoms and more concerned with the person's more enduring living skills (Hodgins, 1996). The LSP 16 has 16 items (Table 2) and ratings are made on a four-point Likert-type scale, where higher scores represent more positive functioning. Staff completing the scale for the MH-CASC project were also trained in the use of this instrument to ensure accuracy and interrater reliability.

During the MH-CASC study researchers compiled scores from items within the LSP 16 to generate four 'domains' of withdrawal, antisocial behavior, self-care and compliance. Withdrawal domain uses ratings from items 1, 2, 3 and 8; the antisocial domain uses ratings from 7, 13, 14, and 15; the self care domain uses ratings from items 4, 5, 6, 9, and 16 and the compliance domain uses ratings from items 10, 11 and 12. The ratings on the domains were added and divided by the number of items of the domain, for example for the withdrawal domain items 1, 2, 3 and 8 were added and the sum divided by 4 to gain a score for the domain. Thirteen of the 16 items of the LSP 16 were summed to form an overall disability index. Items excluded in this index were those that formed the compliance domain, that is, items 10, 11 and 12 (MH-CASC, 1998)

ETHICAL CONSIDERATIONS

Prior to commencement, this study received ethical approval from the Queensland University of Technology Ethics Committee and the Gold Coast Health Service Ethics Committee. The databases accessed were de-identified by the Commonwealth Department of Health and therefore posed no threat to disclosure of personal information by an agency to which the Commonwealth Privacy Act applied.

VARIABLES AND DATA ANALYSIS

Housing type was used as the independent variable in an unpaired t-test, using the total scores for the HONOS and the LSP 16 instruments as the dependent variable. Analysis to further explore levels of functioning and severity of symptoms were undertaken using the subscales of HONOS and LSP 16. Housing was again used as the independent variable and the respective subscales as dependent variables.

RESULTS

Health of the Nation Outcomes Scale

The HONOS data analysis revealed a significant difference between the groups of people with schizophrenia living in boarding houses and those in

their own home on the total of the first 10 items, and a number of the individual items (Table 3). These items included: cognitive problems involving memory, orientation,

□
Housing for persons with schizophrenia

Table 2. Items in the Life Skills Profile 16

Item number	Item
1	Does this person generally have difficulty with initiating and responding to conversation?
2	Does this person generally withdraw from social contact?
3	Does this person generally show warmth to others?
4	Is this person generally well groomed (e.g. neatly dressed, hair combed)?
5	Does this person wear clean clothes, or ensure that they are cleaned if dirty?
6	Does the person generally neglect his/her physical health?
7	Is this person violent to others?
8	Does this person generally make and/or keep up friendships?
9	Does this person generally maintain an adequate diet?
10	Does this person generally look after and take his/her prescribed medication (or attend for prescribed injections on time) without reminding?
11	Is this person willing to take psychiatric medication when prescribed by a doctor?
12	Does this person cooperate with health services (e.g. doctors and/or other health workers)?
13	Does this person generally have problems (e.g. friction, avoidance) living with others in the household?
14	Does this person behave offensively (includes sexual behavior)?
15	Does this person behave irresponsibly?
16	What sort of work is this person generally capable of (even if unemployed, retired or doing unpaid domestic duties)?

Table 3. Comparison of own home and boarding house accommodation using the Health of the Nation Outcomes Scale (HONOS)

Items (mean + SD)	Own home (n = 3033)	Boarding house (n = 201)	DF	T-value	P-value
1. Aggression	1.76 (1.21)	1.81 (1.17)	3232	-1.35	0.177
2. Suicide	1.31 (0.898)	1.24 (0.76)	3232	1.00	0.3172
3. Substance abuse	1.55 (1.18)	1.56 (1.14)	3232	-0.115	0.9081
4. Cognitive	1.79 (1.16)	2.07 (1.25)	3232	-3.20	0.0014
5. Physical	1.43 (0.99)	1.71 (1.13)	3232	-3.74	0.0002
6. Delusion hallucinations	2.44 (1.43)	2.47 (1.44)	3232	-0.37	0.7143
7. Depressed mood	1.77 (1.10)	1.71 (0.985)	3232	0.79	0.4277
8. Other MH problems	1.68 (1.34)	1.73 (1.25)	3232	-0.52	0.6048
9. Social relations	2.64 (1.41)	2.93 (1.44)	3232	-2.79	0.0053
10. Overall disability	2.21 (1.30)	2.77 (1.36)	3232	-5.90	< 0.0001
11. Living opportunity	1.77 (1.23)	2.26 (1.34)	3232	-5.48	< 0.0001
12. Work recreation	1.95 (1.33)	2.21 (1.43)	3232	-2.70	0.0070
HSX 10	18.40 (7.73)	19.87 (7.93)	3232	-2.60	0.0093

DF, degrees of freedom; MH, mental health; HSX 10, sum of the first 10 items.

understanding; physical illness or disability; supportive other mental health problems usually associated with social relationships; activities of daily living (ADL); hospital admissions. overall disability; suitability of the accommodation to the person's needs and; opportunity for useful and

Life Skills Profile 16

meaningful occupational and recreational activities. However, it was found that this same population living The LSP 16 data

analysis revealed a significant difference in boarding houses were significantly more likely to be placed between the groups of people with schizophrenia admitted to hospital (Browne et al., 2002) even though living in boarding houses and those living in their own there was no difference determined in the level of home on the total of the first 13 items, thus implying an aggression, suicidality, delusions/hallucinations, and overall higher level of disability for people living in boarding houses. There was a significant difference between the two groups on the self-care subscale, the compliance subscale and the antisocial behavior sub-scale (Table 4). However, there was no difference on the withdrawal subscale.

DISCUSSION

Health of the Nation Outcomes Scale data

Results of the analysis of the HONOS data indicated there was no difference between the two groups of people with schizophrenia living in boarding houses and those living in their own homes on the agitated/ aggressive scale, the suicidal thoughts scale, the problem drinking/drug taking scale, the hallucinations/delusions scale and the other mental and behavioral scales.

The results indicated significant differences on the HONOS between the two groups in the cognitive scale, the physical illness scale, supportive relationships scale, the ADL scale, the suitability of the accommodation scale and the opportunity for useful and meaningful occupational and recreational activities scale. On all of these items people in boarding houses had higher scores, reflecting a greater problem. The results from the overall score for the HONOS (i.e. HSX 10, which is made up of the total of the first 10 items of the HONOS) indicated that people with schizophrenia living in boarding houses had significantly higher overall scores than people living in their own homes.

Unexpectedly, the results indicated that people with schizophrenia living in boarding houses are no more likely to have problems with their psychiatric symptoms than people living in their own home. However, they are more likely to have greater difficulty in the areas of their social supports, activities of daily living and having useful and meaningful work and recreational activities.

Life Skills Profile 16 data

Unlike the HONOS, the data collected by the LSP 16 is less concerned with acute symptoms and more concerned with enduring living skills. There was no significant difference between the groups on the withdrawal domain, indicating both groups were at least interested in making social contacts with others. The results indicated that there was a significant difference between the groups on the overall measure of the LSP 16, the self-care domain, the compliance domain and the anti-social domain. People with schizophrenia who lived in their own homes scored higher on these domains, thereby indicating a higher level of functioning.

The antisocial domain was especially interesting in that the problems for people living in boarding houses tended to relate to friction with other boarding house residents and violence, and not around offensive irresponsible behavior. This finding is supported by previous work (Posey, 1990; Linhorst, 1991; Cleary et al., 1998).

Table 4. Comparison of own home and boarding house accommodation using the Life Skills Profile 16

Own home (n = 3033) Boarding house (n = 201)

Items	(mean + SD)	(mean + SD)	DF	T-value	P-value
1. Conversation	2.24 (1.64)	2.01 (1.03)	3232	-2.86	0.0042
2. Social withdrawal	2.22 (1.16)	2.20 (0.93)	3232	-0.11	0.9094
3. Warmth	2.30 (0.99)	2.19 (0.93)	3232	-1.65	0.0986
4. Grooming	2.23 (1.06)	1.98 (0.99)	3232	-4.78	< 0.0001
5. Clean	2.35 (1.11)	1.89 (1.03)	3232	-6.15	< 0.0001
6. Neglect health	2.28 (1.12)	1.81 (1.03)	3232	-6.28	< 0.0001
7. Violent	2.24 (1.30)	1.70 (1.09)	3232	-6.74	< 0.0001
8. Friendships	2.24 (1.10)	2.29 (1.02)	3232	0.73	0.4659
9. Diet	2.26 (1.21)	1.74 (1.02)	3232	-6.92	< 0.0001
10. Medication	2.31 (1.29)	1.99 (1.56)	3232	-3.85	0.0001
11. Psychiatric medication	2.24 (1.08)	1.91 (0.97)	3232	-4.61	< 0.0001
12. Cooperate with health professionals	2.30 (1.06)	1.89 (0.91)	3232	-5.87	< 0.0001
13. Prob other house	2.27 (1.15)	1.94 (1.03)	3232	-4.38	< 0.0001
14. Offensive behavior	2.30 (1.29)	1.68 (1.11)	3232	-7.42	< 0.0001
15. Irresponsible behavior	2.38 (1.23)	1.98 (1.11)	3232	-5.04	< 0.0001
16. Work capable	2.38 (1.23)	2.43 (1.15)	3232	0.59	0.5548
Subscales					
LSP 13	29.76 (11.10)	25.81 (10.31)	3232	-5.23	< 0.0001
Withdrawal	2.20 (0.98)	2.17 (0.90)	3232	-0.51	0.6049
Self care	2.32 (0.95)	1.94 (0.94)	3232	-5.49	< 0.0001
Compliance	2.30 (1.09)	1.91 (0.97)	3232	-5.48	< 0.0001
Antisocial	2.33 (1.19)	1.83 (1.02)	3232	-6.62	< 0.0001

DF, degrees of freedom; Prob other house, problems with other residents.

Limitations of the study

The present study used archival data to compare the experiences of people with schizophrenia who lived in boarding houses with those living in their own homes. The MH-CASC study design was aimed at assessing costs of mental health services and not at exploring the housing experiences of people with schizophrenia. This meant that more specific questions such as discharge data and the reason for re-admission could not be asked of the data.

CONCLUSION

The HONOS data did not indicate that people with schizophrenia in boarding houses had more psychiatric symptoms, but rather less opportunity for social support. The LSP 16 data indicated that overall functioning was lower for people living in boarding houses, however, they remained interested in making social contact. These results contradict commonly held beliefs in mental health services.

The HONOS data supports the recovery literature that suggests social support and stability are important in the maintenance of consumers' mental health (Anthony, 1993; Vellenga & Christenson, 1994; Nikkonen, 1996). Both the HONOS and LSP 16 data support the literature on housings' suggestion that when consumers live with people of their own choice and in accommodation that suits them they do better on all measures (Anthony & Blanch, 1989; Carling, 1989, 1990, 1993; Baker & Douglas, 1990; Hodgins et al., 1990; Howie the Harp, 1999; Posey, 1990; Ridgeway & Zipple, 1990; Rosenfield, 1990; Tazman, 1993; Yeich et al., 1994; Strong, 1995; Berger et al., 1997; Trieman, 1997; Moxam & Pegg, 2000; Warren & Bell, 2001).

Browne et al. (2002) found that people with schizophrenia who were discharged to a boarding house on the Gold Coast (Queensland, Australia) were far more likely to be readmitted to hospital than those who had been discharged to their own homes. There is an assumption that people with schizophrenia live in boarding houses because of their level of disability and that this could explain their higher hospital admission rates. If this were true the HONOS would have shown that people living in boarding houses

had significantly worse psychiatric symptoms, but it did not. It could be argued that a lack of access to a self selected supportive social network, meaningful activities and work are the reason people in boarding houses are more commonly readmitted. If this is supported then it appears that if community health service staff were able to address these issues it would be possible to lower the costs of readmission while concurrently helping their clients lead more satisfying and meaningful lives.

This research leaves a number of questions unanswered. There is need for further research that investigates the reasons for readmission and mental health status of people with schizophrenia coming to hospital from boarding houses and their own homes. There is also need to further investigate the unexpected results that indicate that, although there is no symptom difference between the two groups, people in boarding houses seem to have less opportunity for social support and meaningful activities. Could this lack of social support and meaningful activities be impacting on their mental health increasing their need for readmission?

It seems timely that a study be undertaken to explore the phenomena in an attempt to develop a theoretical explanation of why these differences exist between the groups. Findings from such a study would have far-reaching implications in terms of the focus of care for people with schizophrenia

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