

CDDS

Centre for

Developmental

Disability

Studies



The University of Sydney

OUTCOMES AND COSTS OF COMMUNITY LIVING: SEMI-INDEPENDENT LIVING AND GROUP HOMES

Roger J. Stancliffe Ph.D.

Sian Keane

February 1999

This project was supported by a research grant from the
NSW Ageing & Disability Department.

© Centre for Developmental Disability Studies, 1999.

ABSTRACT

This study reports a comparison of consumer outcomes and service costs for adults with intellectual disability living in group homes or semi-independently (i.e., with drop in staff support). Participants from these two setting types were individually matched on skills and challenging behaviour, so that any differences found could reasonably be said to be due to living and support arrangements not systematic differences in personal characteristics of participants. Outcomes examined included quality of life, safety, loneliness, personal care, domestic management, health care, money management, social network, use of mainstream community services, community participation, domestic participation, stability of place of residence, living companion turnover, and natural support.

Most of these outcomes did not differ significantly when group home and semi-independent participants were compared. Where significant outcome differences were evident, participants living semi-independently experienced better outcomes. Semi-independent participants showed more frequent and more independent use of community facilities, more participation in domestic tasks, and more empowerment (choice and control over their life). There were no instances of significantly better outcomes for group home participants.

Outcomes that might have been expected to present more problems to individuals living semi-independently, such as safety, loneliness, personal care, domestic management, health care, and money management, showed similar results for both group home and semi-independent participants. These findings indicated that the lower level of staff support provided to semi-independent participants was not associated with poorer outcomes. Moreover, mean scores indicated that outcomes for both groups were generally quite good. This suggested that semi-independent participants received sufficient support to achieve satisfactory outcomes and that group home participants may have received *more* support than they actually needed.

Per-person expenditure to provide the accommodation support service was significantly and substantially higher for group home participants. The major factor in this cost differential was the lower number of staff support hours provided to the semi-independent group. It was concluded that semi-independent accommodation support services were more cost effective. Implications for community living policy were discussed.

ACKNOWLEDGEMENTS

Sincere thanks are due to the many participants and community living staff who gave their time to provide the information for this report. We are also grateful to the management of the participating accommodation support services for their assistance and co-operation.

We gratefully acknowledge the research funding provided by the NSW Ageing and Disability Department and the assistance of the NSW Department of Community Services. The views expressed in this report are those of the authors and do not necessarily represent the views of the NSW Government, the Minister for Community Services, the Minister for Disability Services, nor Mr Peter Bunter¹ (Assistant Director-General, Policy and Planning NSW Department of Community Services). Likewise, the conclusions drawn in the report do not necessarily represent the policy of either Department and endorsement by either Department should not be assumed.

Noel Atkinson, Anne Whaite, Sue Balandin and Trevor Parmenter's assistance with aspects of the project was also much appreciated.

¹ The Department of Community Services' participation in this research project was the subject of a Research Agreement between DoCS and the Centre for Developmental Disability Studies. Mr Bunter was the signatory for DoCS.

TABLE OF CONTENTS

ABSTRACT.....	II
ACKNOWLEDGEMENTS	III
TABLE OF CONTENTS	IV
LIST OF TABLES	V
1. INTRODUCTION	1
1.1 OUTCOMES OF ACCOMMODATION SUPPORT SERVICES	1
1.2 MATCHING.....	2
1.3 COSTS OF ACCOMMODATION SUPPORT SERVICES	3
1.4 OBJECTIVES	4
2. RESEARCH METHOD.....	5
2.1 PARTICIPANT RECRUITMENT	5
2.2 MATCHING.....	5
2.3 PARTICIPANTS	6
2.4 SETTINGS	7
2.5 DATA COLLECTION AND ANALYSIS	9
3. CONSUMER INTERVIEWS.....	10
3.1 LONELINESS	10
3.2 SAFETY	12
3.3 QUALITY OF LIFE.....	14
4. STAFF QUESTIONNAIRE	17
4.1 PERSONAL CARE.....	17
4.2 DOMESTIC MANAGEMENT.....	18
4.3 HEALTH CARE.....	19
4.4 MONEY MANAGEMENT.....	20
4.5 SOCIAL NETWORK.....	21
4.6 USE OF MAINSTREAM COMMUNITY SERVICES	22
4.7 COMMUNITY PARTICIPATION	23
4.8 PARTICIPATION IN DOMESTIC TASKS	24
4.9 STABILITY OF PLACE OF RESIDENCE	25
4.10 STABILITY OF LIVING COMPANIONS.....	27
4.11 NATURAL SUPPORT.....	28
4.12 SUMMARY OF SEMI-INDEPENDENT AND GROUP HOME COMPARISONS.....	28
5. SERVICE COSTS	31
5.1 STAFF SUPPORT HOURS.....	31
5.2 RESIDENTIAL SERVICE COSTS	32
5.3 NEEDS BASED SERVICES	35
6. DISCUSSION	37
6.1 MATCHING.....	38
6.2 REASONS FOR BETTER OUTCOMES.....	39
6.3 GENERALISABILITY	40
6.4 POLICY IMPLICATIONS	40
6.5 NEEDS BASED SERVICE PROVISION.....	42
6.6 CAVEATS	43
REFERENCES.....	46

LIST OF TABLES

Table 2.1 Personal Characteristics of Participants.....	7
Table 2.2 Number of Participants with Other Disabilities	7
Table 2.3 Characteristics of Participating Residential Settings.....	9
Table 3.1 Item-by-Item Loneliness Data	11
Table 3.2 Number of Participants by Response to Safety Items	12
Table 3.3 Quality of Life Questionnaire Scores.....	15
Table 3.4 QOL-Q Empowerment Item Scores.....	16
Table 4.1 Personal Care Scores	18
Table 4.2 Domestic Management Scores	19
Table 4.3 Health Care Scores	20
Table 4.4 Money Management Scores	20
Table 4.5 Number of Participants with Friends and an Advocate	21
Table 4.6 Social Network Scores	22
Table 4.7 Mainstream Community Services Scores.....	23
Table 4.8 Community Participation Scores	24
Table 4.9 Index of Participation in Domestic Tasks, Mean Item-by Item Scores	25
Table 4.10 Mean Number of Changes of Address while a Client of Current Accommodation Agency.....	26
Table 4.11 Mean Number of Living Companions while a Client of Current Accommodation Agency.....	27
Table 4.12 Weekly Hours of Natural Support.....	28
Table 4.13 Mean Outcome Scores and Values of t	29
Table 5.1 Per Consumer Weekly Staff Support Hours	31
Table 5.2 Per Participant Annual Cost.....	34
Table 5.3 Results of Multiple Regression Analyses	36

1. INTRODUCTION

Do living environment and support arrangements affect lifestyle and achievement of positive outcomes by people with intellectual disability? Deinstitutionalization research has shown the answer to this question to be yes, with consistently better outcomes reported in community living settings (Emerson & Hatton, 1996; Larson & Lakin, 1989; Young, Sigafos, Suttie, Ashman, & Grevell, 1998). However, much less is known about the effects of different types of community living environments. This study contrasted outcomes for residents of group homes and semi-independent living services.

1.1 Outcomes of Accommodation Support Services

Available research that compared outcomes for individuals with intellectual disability living in group homes or semi-independently suggested better outcomes for semi-independent living services in a number of domains - quality of life, choice, satisfaction, self-esteem, independence, lifestyle normalisation, physical and social integration, participation in preferred activities, and personal well being (Burchard, Hasazi, Gordon & Yoe, 1991; Griffin, Rosenberg, Cheyney, & Greenberg, 1996; Howe, Horner, & Newton, 1998; Schalock, Keith, Hoffman & Karan, 1989; Stancliffe, 1995, 1997; Stancliffe & Wehmeyer, 1995). Family involvement and satisfaction have also been found to be higher in semi-independent living services (Kramer, Toombs & Mathison, 1996). On the other hand, loneliness, self-care, domestic management, personal safety, money management and health can be of concern for semi-independent residents (Amado, 1993; Halpern, Close, & Nelson, 1986). These potential problems may arise because of insufficient support. However, both the positive and negative findings are limited by a number of factors. Firstly, only a few such studies were available and almost all were from the United States (Amado, 1993; Burchard et al., 1991; Griffin et al., 1996; Halpern et al., 1986; Howe et al., 1998; Kramer et al., 1996; Schalock et al., 1989; Stancliffe & Wehmeyer, 1995). It remained to be seen whether this range of benefits and potential problems were found in Australian conditions. Secondly, in most studies the semi-independent group was made up of participants with *milder disabilities* (e.g., see Burchard et al., 1991), so the extent to which these better outcomes applied to individuals with greater support needs was not known. Finally, researchers mostly failed to control for differences in personal characteristics between group home and semi-independent residents, so it was not clear whether the better outcomes were due to differences in living environment or differences in personal characteristics. This was a fundamentally important issue because personal

characteristics, such as level of intellectual ability, were also strongly related to many outcomes, including choice, quality of life, and community participation.

To evaluate whether living environment (group home versus semi-independent living) affected outcomes, differences in personal characteristics needed to be held constant. One highly effective way to control the influence of personal characteristics was to *match* individuals in the two groups on the basis of important characteristics, such as adaptive and challenging behaviour. A study of this kind was unique, as no matched comparisons of outcomes for residents of group homes and semi-independent living services were known in the published research literature in Australia or elsewhere.

1.2 Matching

Traditionally, semi-independent living has been available only to individuals with the mildest disabilities who can succeed with low levels of paid staff support (1-20 hours per week), whereas group homes typically provide continuous staffing. Despite these large differences in support levels, and even though fully staffed group homes and semi-independent living services support consumers whose personal characteristics differ *on average*, these two types of accommodation serve populations whose abilities *overlap*. This was attested to by the fact that consumers successfully transitioned from group homes to semi-independent living (see Stancliffe & Whaite, 1997; Van Dam, & Cameron-McGill, 1995). Changing trends in service provision have also served to blur the differences between residents of group homes and semi-independent living services. In recent years, some people with higher support needs have gained access to individualised supported living arrangements, people who would not have been considered for traditional semi-independent living (Racino & Taylor, 1993; Van Dam & Cameron-McGill, 1995).

Why go to the trouble of matching participants from semi-independent settings and group homes on skills (adaptive behaviour) and challenging behaviour? There were two main reasons for doing so. The first concerns *research validity*. As noted, matching helped ensure that the personal characteristics of participants from the two community living types were equivalent, so that any differences in findings could validly be attributed to the different living arrangements.

The second reason involved *needs-based service provision*. Semi-independent living, by definition, involves *part-time* staff support, whereas group homes usually provide *full-time* staffing. Needs-based service provision implies that individuals with higher needs for support should receive more staff support hours and that persons with lower support needs should utilise less staff assistance. In a needs-based service delivery environment one can rarely, if ever, match

individuals from fully staffed group homes and people living semi-independently. However, there is mounting evidence that community living services are not strongly needs based (Department of Community Services, 1996; Stancliffe & Lakin, 1998). The degree to which this study was able to match semi-independent and group home participants may reflect the extent to which accommodation support provision is needs based. The higher the proportion of matches, the less needs based the service system from which participants were drawn.

1.3 Costs of Accommodation Support Services

No-one would disagree that better outcomes are highly desirable. However, if the costs of services that achieve better outcomes are markedly higher than the alternatives, such services are likely to remain confined to a fortunate few. Therefore, it was also essential to evaluate the costs of various accommodation support options. Research in the US and the UK has shown that costs differ greatly between accommodation models (Beecham et al., 1997; Campbell & Heal, 1995; Stancliffe & Lakin, 1998), but none of these studies specifically contrasted per-person expenditure in group homes and semi-independent living. Howe et al. (1998) compared supported living and traditional community living services and found no significant difference in service costs. Miano and Brail (1997) found that supported living services were substantially less costly than group homes in two US states, but did not differ in a third state. No such published Australian studies were known.

The *per-person* cost of traditional semi-independent living services, providing less than 20 hours support per week, might have been expected to be lower than a group home with full-time staffing. However, it was important to document the respective costs carefully in an Australian context to ensure that this expectation held true. It was also important to assess the magnitude of any differences. Moreover, this expected service-cost differential may not apply to semi-independent living service recipients with higher support needs, who each receive more than 20 hours paid support each week. Supporting five or six people simultaneously in a group home may result in similar or lower *per-person* costs than for such semi-independent participants.

Cost Effectiveness

This study compared *both* outcomes and costs for matched groups of adults with intellectual disability from group homes and semi-independent settings. Using the study's findings it was possible to determine the relative cost-effectiveness of these forms of accommodation support. This project provided a unique source of information for policy and research, as it was the first investigation to address this vital issue.

1.4 Objectives

1. Demonstrate that some current residents of group homes can be identified whose personal characteristics do not differ from selected individuals with intellectual disability living semi-independently.
2. Assess and compare a range of important lifestyle and satisfaction outcomes including quality of life, satisfaction, community participation, use of mainstream services, social network, personal safety, loneliness, health and self-care.
3. Assess and compare hours of support provided by paid staff and unpaid “natural” supports.
4. Assess and compare per-person service costs.
5. Compare the cost-effectiveness of group homes and semi-independent living.

2. RESEARCH METHOD

2.1 Participant Recruitment

Fifteen different accommodation support agencies² were approached and consumers from 13 of these agencies agreed to participate. It was important that consumers came from a number of agencies, so that the study's findings were not unduly influenced by the policies and practices of any single agency. Agency staff were asked to request participation by adult consumers who could take part in an interview, and to seek potential participants from group homes who had similar abilities to people living semi-independently, and vice-versa. Matching was done retrospectively, after all assessment data had been obtained. Matching was undertaken across agencies, in that there was no expectation that participants would need to be matched within a single agency.

Ethics review and informed consent. The research protocol was reviewed and approved by the Human Ethics Committee at the University of Sydney. All participants or their guardian provided written informed consent.

2.2 Matching

In total, 41 participants from group homes were interviewed. Data from staff informants were unavailable for three of these participants, four other participants were unable to respond to a substantial number of interview questions (mostly Quality of Life Questionnaire items), and three failed the response bias screening test and were omitted. This left 31 group home residents to be matched with participants who lived semi-independently. Four group home participants were unable to be matched, leaving 27 matched group home:semi-independent pairs. That is, 87% of eligible group home residents were matched with a semi-independent participant.

Matching criteria. Matching was completed on the basis of assessed adaptive and challenging behaviour scores derived from the *Inventory for Client and Agency Planning* (ICAP) (Bruininks, Hill, Weatherman, & Woodcock, 1986). The criterion for matching on challenging behaviour was that members of each group home:semi-independent pair had an ICAP General Maladaptive Index Score which differed by no more than 5 points (half of the scale's standard deviation). ICAP adaptive behaviour scores (known as Broad Independence) do not have a specified standard deviation, so the standard deviation for all participants was calculated and found

² Department of Community Services areas were regarded as separate "agencies" for this purpose.

to be 27.54. The criterion used for matching was that ICAP Broad Independence scores for members of each pair should differ by no more than half this standard deviation: by a maximum of 13 points. All matched pairs satisfied both of these matching criteria. Statistical comparison of the two groups revealed an excellent match on both adaptive and challenging behaviour. Findings of these comparisons are shown in Table 2.1.

Support Needs: ICAP Service Scores

The ultimate purpose of matching was to ensure that participants had *equivalent support needs*. By matching on the basis of ICAP adaptive and challenging behaviour, we assumed that support needs would be equated. There is strong evidence to suggest that adaptive and challenging behaviour provide the best available estimate of support needs when combined in the form of ICAP *Service Scores*. However, it is acknowledged that other factors, such as physical and mental health, also influence support needs. Therefore, we also sought information about the incidence of other disabilities among participants. This is reported in Table 2.2 below.

ICAP Service Scores combine overall adaptive behaviour (weighted 70%) and challenging behaviour scores (weighted 30%) into a single score which provides an index of the level of (staff) support needed. These scores range from 0-100, with higher scores indicating greater independence and less need for support. Bruininks et al. (1986) have shown ICAP service scores to be a good predictor of the amount of staff support required. This score is currently the best available published and validated index of support needs.

Average service scores are shown in Table 2.1 These scores did not differ significantly by group, indicating that semi-independent and group home participants' support needs did not differ significantly. Although participants were not specifically matched on service scores, the match was, in fact, very good. Service scores for 82% of participant pairs differed by no more than 4 points, and the largest difference was 12 points. Service scores ranged from 56 to 92 for semi-independent participants and from 54 to 93 for those from group homes. Bruininks et al. (1986) described service scores of 50 to 69 as indicating the need for "regular personal care and/or close supervision", scores from 70 to 89 as reflecting need for "limited personal care and/or regular supervision" and 90 or above as requiring "infrequent or no assistance for daily living". In short, all participants had moderate or low support needs.

2.3 Participants

There were 54 participants: 27 group home participants who were individually matched with 27 semi-independent participants. There were 13 men and 14 women from semi-independent settings with 18 men and 9 women from group homes. The two groups did not differ significantly

by gender (McNemar test for two related samples, $p=.27$). Other personal characteristics are summarised in Table 2.1 which shows that the groups were very well matched and did not differ on adaptive or challenging behaviour, ICAP service score or age.

Table 2.1 Personal Characteristics of Participants

Characteristic	Semi-independent		Group home		<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Adaptive behaviour	490.04	16.99	488.74	20.41	0.95	.35
Challenging behaviour	-7.19	5.26	-7.74	6.49	1.03	.31
ICAP Service score	75.22	8.01	74.04	10.14	1.49	.15
Age	38.76	9.99	44.90	16.15	-1.76	.09

Information was also obtained from staff about the presence of other disabilities. These data are summarised in Table 2.2.

Table 2.2 Number of Participants with Other Disabilities

Characteristic	Semi-independent		Group home		McNemar Test <i>p</i> =
	Yes	No	Yes	No	
	Autism	0	27	0	27
Blindness	0	27	0	27	na
Cerebral Palsy	1	26	1	26	1.0
Chronic health problem	2	25	5	22	.45
Deafness	2	25	2	25	1.0
Epilepsy	3	24	3	24	1.0
Psychiatric (formal diagnosis)	3	24	9	18	.11
Other	6	21	6	21	1.0

na McNemar Test not applicable as all participants were in the same category.

As Table 2.2 shows, the incidence of many other disabilities was identical in both groups. The slightly higher incidence of chronic health problems and psychiatric diagnoses among group home participants did not approach statistical significance. Together with ICAP service score data on support needs, these findings provide very strong evidence for the equivalence of semi-independent and group home participants' support needs. In summary, the two groups did not differ significantly on any of the characteristics measured, and were exceptionally well matched.

2.4 Settings

Identification of suitable settings. To undertake meaningful comparisons of residential service types, one must clearly define which services do and do not constitute examples of each type. The following definitions were used in the current study.

Semi-independent living: *Involves a household of 1 to 4 people living together with part-time support by paid staff from an accommodation support agency for people with a*

*disability. There is no regularly scheduled overnight staff support (including no sleepovers). On average, for at least 28 **waking** hours per week when residents are at home, the household is **without** paid staff support.*

Group home: *Involves a household of 3 to 7 people with **full-time** support (at least during waking hours) by paid staff from an accommodation support agency for people with a disability. There may be times on weekdays when all residents are attending their day programs and no staff are on duty. Night support may be provided by awake shift staff or sleepover staffing, or there may be no staff present when residents are asleep. Staff are present at all other times.*

Information about the resident numbers and hours of paid staff support showed that all participating residential settings conformed to these definitions. For semi-independent settings, resident numbers varied between 1 and 4, and weekly household paid staff support hours from 4 to 70 hours. None had paid night staffing, although two semi-independent participants lived in households with co-residents and therefore had access to *unpaid* support at night if necessary. Participating group homes housed between 3 and 7 consumers, and had from 89 to 280 weekly paid hours of staff support. Night staffing was provided for 25 of the group home participants. This involved awake night staff for 13 group home participants and sleepovers for 12. There was a strong relationship between agency auspice and the type of night staffing. Participating Department of Community Services (DoCS) group homes with night staffing *all* had awake night staff, whereas 80% of participating non-government group homes had sleepover night staffing. This relationship was significant, $\chi^2=15.38$, $p<.0001$. Presumably this finding reflects the differing staff employment conditions arising from the respective awards that apply to the government and non-government sectors.

Overall, participants were drawn from 12³ different accommodation support agencies in Sydney, the Blue Mountains, Newcastle and the NSW Central Coast. There were nine non-government agencies and three Department of Community Services Areas. Semi-independent participants lived in 20 different dwellings and were supported by 10 different agencies (7 non-government, 3 government). Six semi-independent participants received support from DOCS accommodation support services and 21 from non-government agencies. Group home participants were from 14 different community homes and 6 different agencies (4 non-government, 2 government). Twelve group home participants lived in DOCS homes and 15 were from non-government group homes. There was not a significant relationship between residence type (semi-independent versus group home) and auspice (DOCS and non-government agency), McNemar test,

³ The four semi-independent participants from the thirteenth participating agency happened not to be matched with any group home participants and so were not included in the present study.

$p=.21$. Four agencies served both semi-independent and group home participants. Average household resident numbers and staffing levels are shown in Table 2.3. The average length of time participants had lived in their current residence is also shown in this table, and did not differ significantly by residence type.

Table 2.3 Characteristics of Participating Residential Settings

Characteristic	Semi-independent		Group home		<i>t</i>	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Number of consumers	2.30	0.99	4.22	1.25	-6.02	.001
Weekly hours paid staff support to household ^a	19.80	12.69	160.41	49.63	-14.19	.001
Months living in current residence	33.04	33.45	34.44	37.30	-0.14	.90

^a Does not include unpaid sleepover hours or additional individual support to residents.

2.5 Data Collection and Analysis

Data about outcomes were obtained from personal interviews with participants conducted by CDDS project staff and from written questionnaires about participants completed by accommodation support staff. Details of the item content and findings from these interviews and questionnaires are presented in sections 3 and 4 respectively.

Matching was completed very successfully and study participants consisted of 27 matched group home:semi-independent pairs. With matched samples of this type it is appropriate to use statistics that take the matching into account. Therefore, when analysing scores, frequency counts and similar data, *paired samples* t-tests were used. Similarly, when comparing the number of participants in various categories, the McNemar test for related samples was employed.

3. CONSUMER INTERVIEWS

Consumer interviews consisted of questions about three major topics: loneliness, safety and quality of life. These topics were chosen because it was particularly important to obtain consumers' own views on these matters. More objective information was obtained from staff, and this is reported in section 4.

Safety was addressed using eight interview questions developed for the current study. Loneliness questions were a slightly modified 12-item version of Loneliness Questionnaire (Chadsey-Rusch, DeStefano, O'Reilly, Gonzalez, & Collet-Klingenberg, 1992). The 40-item Quality of Life Questionnaire (QOL-Q)(Schalock & Keith, 1993) was used to ask participants about their quality of life.

Response Bias Screening

To help ensure that participants' answers represented an accurate and reliable reflection of their views, response bias screening items were included in the participant interview. These consisted of oppositely worded pairs of yes/no and either/or questions to assess *acquiescence* and *recency* response biases. Acquiescence is a tendency to answer "yes" to yes/no questions even to the point of contradicting a previous answer. Recency refers to selecting the last alternative from an either/or or multiple choice question regardless of the content of the question. If present, either of these response biases can seriously jeopardise the validity of interview responses by people with intellectual disability. Any participant who failed any of the screening questions was eliminated from consideration for matching. All 54 participants passed both sets of screening items, so greater confidence may be placed in the accuracy of their answers than in the responses of unscreened participants.

3.1 Loneliness

Item content of the 12 loneliness items is summarised in Table 3.1, which also shows item-by-item and total mean scores by group.

Missing data. A small number of participants were unable to answer some loneliness items. In total, data for 3.1% of items were missing. To ensure that complete data on loneliness were available for all 54 participants, we substituted the group mean for any item that was not answered, so that semi-independent participants were allocated the item mean from the semi-independent group, and likewise for group home participants.

Table 3.1 Item-by-Item Loneliness Data

Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
1. Feel alone	.96	.90	0-2	.62	.68	0-2
2. Find a friend when you need one	.30	.54	0-2	.28	.52	0-2
3. Hard to get people to like you	1.04	.90	0-2	1.04	.85	0-2
4. Have people to talk to	.11	.42	0-2	.26	.53	0-2
5. Easy to make friends	.48	.80	0-2	.26	.59	0-2
6. People like you	.26	.53	0-2	.48	.56	0-2
7. Lonely	1.00	.92	0-2	.52	.63	0-2
8. Have friends	.11	.32	0-1	.31	.61	0-2
9. Hard to make friends	.81	.92	0-2	.80	.78	0-2
10. Have lots of friends	.19	.56	0-2	.44	.68	0-2
11. Feel left out	.64	.73	0-2	.52	.63	0-2
12. People you can go to for help	.00	.00	0-0	.26	.59	0-2
Total	5.91	4.35	0-16	5.78	4.40	0-15.5

Note. Range of possible scores is 0-2 for each item and 0-24 for total scores. Higher scores indicate higher levels of loneliness.

There was no significant difference in total loneliness scores between participants living semi-independently and those in group homes, $t(26) = 0.12, p = .90$. Both groups had mean total scores of less than 6. A score of that magnitude indicates that the participant sometimes had problems with only 6 of 12 items, suggesting that loneliness was not a major concern. No participant's total score approached the scale maximum of 24, with the highest score being 16. Nevertheless, participants with high loneliness scores reported feeling lonely, not having friends and having difficulty making friends. The two group home participants with the highest loneliness scores (14 and 15.5) lived in a 6-person and 4-person household respectively. For these participants group living was not a protection against loneliness. For semi-independent participants, the two who reported being most lonely both lived alone (total loneliness scores of 16 and 12.8). This suggested that having no living companions may be associated with greater loneliness, so we compared loneliness scores for semi-independent participants who lived by themselves with those who shared accommodation with others. These comparisons revealed means of 7.81 (lived alone, $n=8$) and 5.11 (lived with others, $n=19$). These means did not differ significantly, $t(25) = 1.51, p = .14$. In summary, loneliness was a problem for some participants, but this was not significantly related to residence type, nor to living alone.

To evaluate the relationship between loneliness and quality of life, we calculated the correlation between loneliness and the four QOL-Q factors. Significant correlations were evident for QOL-Q Satisfaction ($r = -.61, p = .001$ group home; $r = -.44, p = .02$, semi-independent) and suggested that there was a significant relationship between loneliness and quality of life, with

greater loneliness being associated with lower quality of life. Correlations such as this do not show cause and effect, so do not prove that loneliness *caused* a reduction in quality of life. However, the notion that greater loneliness results in a more general diminution of quality of life appears worthy of further investigation.

3.2 Safety

Safety questions asked about being the victim of theft, assault, and accidental injury, and also included questions about feelings of safety at home and away from home. The item content is summarised in Table 3.2. Total scores were calculated by adding item scores for all eight safety items to yield a maximum possible total score of 16. Higher scores indicate greater safety. A small number of participants were unable to answer some safety items. Overall, data for 1.6% of items were missing. These missing data were estimated by substituting the group mean for that item. The mean total scores for semi-independent participants (mean = 14.58, SD= 1.56, range = 10 to 16) and participants from group homes (mean = 14.22, SD= 2.32, range = 6.00 to 16.00) did not differ significantly, $t(26) = 0.86, p = .40$.

The number of respondents who experienced problems with each of the eight safety issues examined are shown in Table 3.2.

Table 3.2 Number of Participants by Response to Safety Items

Item	Semi-Independent			Group Home		
	No problem	1-2 problems	3+ problems	No problem	1-2 problems	3+ problems
<u>AT HOME</u>						
1. Possessions stolen	24	2	1	20	3	4
2. Anyone hit or hurt you	24	3	0	21	2	4
3. Accidentally hurt	21	3	3	25	2	0
4. Feel safe	23	4	0	21	4	2
<u>AWAY FROM HOME</u>						
5. Possessions stolen	25	2	0	25	0	2
6. Anyone hit or hurt you	24	3	0	24	2	1
7. Accidentally hurt	21	6	0	26	1	0
8. Feel safe	21	5	1	20	7	0

Table 3.2 shows that a substantial majority of participants reported no problems in relation to each safety item. Across all eight items, 84.7% of responses by semi-independent participants and 84.3% from group homes indicated no safety problems. Details of the few incidents which had occurred were examined to identify the nature and source of the problems.

Safety at Home

Possessions stolen. Not all group home participants who had possessions stolen identified the thief, but all who did so mentioned that it was another resident of their group home. For the

semi-independent group, one stated that her boyfriend took her money on many occasions and two others mentioned theft by persons they did not know.

Being Hit or Hurt by Others. Most participants with problems of this kind mentioned another consumer (usually a fellow resident) as the troublemaker. In some cases, once this person had left the group home the participant experienced no further problems. One group home participant stated that a staff member hit him⁴.

Accident. In most cases these problems related to falls or, less frequently, to seizures. One participant was pushed by another resident.

Feeling safe. Interestingly, several people who reported minor problems at home with theft or being hit stated that they nevertheless felt safe at home. Others reported feeling unsafe and having *many* problems because of the repeated actions of other consumers as noted in previous questions. In other cases, people reported sometimes feeling unsafe for reasons unrelated to previous questions - when home alone, when others are nasty to you, when it is dark, noises at night, scared of the dog next door, and people knocking on the door. None of the participants mentioned seizures or falls as reasons for feeling unsafe at home.

Safety Away from Home.

Possessions stolen. Only one participant was the victim of a street crime (money snatched after going to the bank). Others had items (usually money) stolen by other consumers at work.

Being hit or hurt by others. One participant stated that “someone touched me on the train and I told my mum”. In cases where the perpetrator was identified, the incident involved another consumer (sometimes described as a friend), with a number of the incidents taking place at work.

Accident. Most incidents involved accidental falls. One participant reported being pushed out of a train carriage and falling. Another injured himself when kicking furniture in anger.

Feeling safe. A number of people indicated that they sometimes did not feel safe when out but could not identify a specific reason why. Others had concerns that they dealt with by staying home at night or not going out alone. Some mentioned specific issues: one participant felt unsafe on pension day when using an automatic teller machine because of being robbed under those circumstances many years ago; another participant mentioned feeling unsafe if being chased by people; another felt unsafe when there were fights at work involving others.

The participant with the lowest safety score (10) among the semi-independent participants experienced falls both at home and away from home resulting in hospitalisation for a knee injury, and had also been the victim of minor theft and a separate minor assault by a friend/acquaintance.

⁴ With the participant’s agreement, this issue was referred to senior staff within his accommodation support agency whom the participant trusted. The issue was resolved to the participant’s satisfaction.

The group home participant with the lowest safety score (6) was the victim of repeated theft and assaults, both at home and at work, from a particular fellow resident at the group home.

Overall, the safety situation was good, with the majority of semi-independent and group home participants experiencing no problems or a single minor problem. Nevertheless, like members of the wider community, some participants did have safety problems, but the incidence of these problems was not affected by the markedly lower staff presence in semi-independent settings. Most problems arose from the actions of other consumers (usually fellow residents) such as theft or assault, and these incidents typically occurred at home or at work. Only a very small number of participants were victims of the actions of strangers. This finding raises the issue of how to develop policies that satisfactorily balance the right to safety with the right of consumers with challenging behaviour to receive services. In situations where accommodation support is provided in *group* settings these rights can conflict.

Falls, and to a lesser extent seizures, were the most common cause of accidental injury. Falls were common enough to suggest that preventative measures may be necessary for some participants to minimise this problem. Major safety issues were doubtless of concern to the small number of participants who experienced them. Unlike loneliness, however, no significant correlations were found between safety total scores and quality of life scores.

3.3 Quality of Life

The *Quality of Life Questionnaire* (QOL-Q) has four factors each with 10 items:

- *satisfaction* (satisfaction with life in general and one's general living/social situations, fun and enjoyment)
- *competence/productivity* (as reflected in income-producing work and the person's feelings about their work situation)
- *empowerment/independence* (opportunity to exert control over one's environment and make choices in one's life)
- *community integration* (participation in community activities, use of community resources, and social contacts in the same manner as non-disabled people).

Each factor score is calculated by adding the scores from the 10 factor items and the total QOL-Q score is the sum all 40 items. All items yield scores of 1 to 3, with higher scores indicating better quality of life.

Missing data. Schalock and Keith (1993) specified that the individual's mean score for a QOL-Q factor may be used to impute the score for up to four items from that factor that the person

was unable to answer. This missing data procedure was followed where appropriate. In a small number of cases, participants had more than four items missing from a QOL-Q factor, so their score for this factor was not available. This resulted in one missing QOL-Q Satisfaction score for a group home participant, and two missing QOL-Q Competence/ Productivity scores for semi-independent participants. These three participants therefore also had missing QOL-Q total scores. With the matched pairs design, this meant that the equivalent data for the other member of the matched pair was also omitted from that analysis. The number of pairs with complete data for each QOL-Q score is shown in Table 3.3.

Table 3.3 Quality of Life Questionnaire Scores

QOL-Q Score	No. of matched pairs	Semi-Independent			Group Home		
		Mean	SD	Range	Mean	SD	Range
Satisfaction ^a	26	21.68	3.92	13-29	23.21	3.75	17-30
Competence/ productivity ^a	25	18.92	7.74	10-29	17.90	8.10	10-29
Empowerment/ independence ^a	27	24.11*	2.82	19-30	22.02	2.97	16-26
Community integration ^a	27	21.58	3.90	14-30	20.09	2.99	14-25.5
Total ^b	24	86.63	9.99	66.5-107	83.08	11.47	68-103

* $p < .05$ (two tailed)

a Range of possible scores 10 - 30.

b Range of possible scores 40 - 120

As shown in Table 3.3, semi-independent and group home participants' quality of life did not differ significantly, except for empowerment, where semi-independent participants reported significantly greater choice and control, $t(26)=2.57, p=.02$. Data from American comparison groups provide some basis for interpretation of the scores in Table 3.3. Schalock and Keith (1993) provide US "norms" for people with disabilities served by community living and employment agencies. Average QOL-Q scores in the present evaluation were similar to US scores for people with mild and moderate intellectual disability with similar living arrangements, suggesting that the quality of life assessed in the present study was typical of such settings.

However, QOL-Q competence/productivity scores were lower than their US equivalents. This reflected a difference in community expectations and service delivery between the US and Australia. In the US people with disabilities are expected to work (for pay) if they can, or attend a day program full time, and almost all do. The QOL-Q reflects this by giving the lowest score on most items to people who do not work for money. A number of participants were involved in

unpaid activities. As a result their QOLQ competence/productivity scores were very low, regardless of their satisfaction with the unpaid activities they engaged in.

The finding of greater choice in semi-independent settings is consistent with research findings in Australia (Stancliffe, 1997) and overseas (Burchard et al., 1991; Schalock, et al., 1989; Stancliffe & Wehmeyer, 1995). Stancliffe (1997) suggested that this may be due to differences in the amount of staff presence between group homes and semi-independent settings. If staff are not present, they cannot tell a resident to do or not do something, so the individual is freer to decide for him or herself. When unsupervised, residents are obliged by the absence of an authority figure to make most of their own decisions. In settings where staff are in attendance continuously, the very presence of staff may serve as a barrier to exercising choice freely or offer an easy alternative to deciding for oneself. Residents may be reluctant to voice or act on their true preferences while staff are present, but may defer to staff opinion, seek staff approval for a course of action, or find it easier if staff make the decisions. Another factor that may have influenced choice was the necessity to consider the needs and preferences of larger numbers of consumers in group homes, thereby diminishing the extent to which an *individual's* preferences could be met.

To assess the empowerment finding further, the 10 items from the QOL-Q Empowerment factor were examined. Item-by-item means are shown in Table 3.4. Means for semi-independent participants were higher for 9 of the 10 items, but this difference only reached statistical significance for items about when friends can visit and whether the person has a key to their home. The majority of semi-independent participants (63%) stated they were free to have friends visit whenever they wished, whereas the constraints of group living for the majority of group home participants (59%) were reflected by the need to ask others (staff and/or other residents) first. All semi-independent participants had a key to their home, but 22% of group home participants did not have a key.

Table 3.4 QOL-Q Empowerment Item Scores

QOLQ Empowerment Item	Semi-independent	Group home	t-test (df=26)
1. Job or other daily activities	2.15	1.93	1.03
2. Spend money	2.26	2.28	-0.10
3. Use health care facilities	2.00	1.56	1.89
4. Things you do every day	2.70	2.56	0.81
5. When friends visit	2.44	2.04	2.27*
6. Key to your home	2.89	2.48	2.27*
7. Have a pet	1.96	1.85	0.45
8. Have a guardian	2.67	2.47	0.87
9. People living with you hurt you	2.52	2.41	0.50
10. Overall, your life is free	2.52	2.46	0.34

* $p < .05$ (two-tailed)

4. STAFF QUESTIONNAIRE

A total of 35 community living staff completed written questionnaires about participants. There were fewer staff informants than participants because some staff completed questionnaires about more than one participant. Where staff omitted questionnaire items or their responses were unclear or inconsistent, the investigators used telephone follow-up to clarify these matters. This helped ensure that data were as complete and accurate as possible.

Staff informants had known and worked with participants for an average of 39.83 months (semi-independent) and 38.77 months (group home). Duration of staff informants' contact with participants did not differ significantly by group, $t(26) = 0.10$, $p = .92$.

The staff questionnaire sought information the following outcomes⁵: personal care, domestic management, health care, money management, social network, use of mainstream community services, community participation, participation in domestic tasks, stability of place of residence, living companion turnover, and natural support. These were essentially factual issues which could be answered accurately by a well informed third party, such as a staff member who had known the person well for an extended period.

The data reported in sections 4.1 to 4.4 below share an important characteristic. The outcomes evaluated -- personal care, domestic management, health care, and money management -- were assessed on the basis of how regularly the outcome was achieved, *regardless of who completed the task*. The questions did not address whether the consumer attempted the tasks independently, but only that the activities were undertaken regularly, irrespective of whether they were done *by* the participant or by others *for* the participant. Therefore, it is important that the study's findings concerning these matters not be interpreted in terms of how well or how independently a task like teeth cleaning was done. Rather, it was a measure of the regularity with which it took place, not the degree of independence involved

4.1 Personal Care

These four questions addressed basic personal hygiene and asked about regular teeth cleaning, hair washing, showering/bathing and wearing clean clothes. Staff respondents rated whether each item was "never", "rarely", "sometimes", "usually" or "always" true. These

⁵ The term "outcome" is used in this report to describe activities, participation and achievements in participants' daily lives that are a direct or indirect result (outcome) of the accommodation support services they receive.

responses were allocated a score of 0 to 4 respectively, so higher scores indicated better personal care.

Item-by-item and total scores are shown in Table 4.1. Semi-independent and group home participants' total scores did not differ significantly, $t(26)= 1.16, p= .26$. This finding indicates that the lower level of staff support provided to semi-independent participants was not associated with poorer personal care.

Table 4.1 Personal Care Scores

Personal Care Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Teeth cleaned daily	3.04	1.02	0-4	2.46	1.42	0-4
Hair washed twice weekly	3.41	0.80	1-4	3.44	0.94	0-4
Shower/bath daily	3.63	0.49	3-4	3.61	0.49	3-4
Wears clean clothes	3.33	0.62	2-4	3.11	0.80	1-4
Total	13.41	2.29	7-16	12.63	3.05	4-16

Note. Range of possible scores is 0-4 for each item and 0-16 for total scores.

The range of scores in Table 4.1 shows that there were some individuals with unsatisfactory personal care, but they were found in both types of living arrangements.

Scores for teeth cleaning were influenced by the fact that three group home and one semi-independent participant had no teeth, so their teeth were never brushed. To ensure this did not affect the overall finding concerning personal care, the total scores were compared again omitting data from these participants (and the other member of the matched pair). This comparison too revealed no significant group difference, $t(22)= 0.28, p= .79$.

4.2 Domestic Management

These questions dealt with basic domestic management and cleanliness. The four items asked about changing bed sheets, household tidiness, kitchen cleanliness, and keeping the bathroom and toilet clean. Staff responded to the same rating scale as was described for the personal care items, so higher scores indicated better domestic management. As in section 4.1, the issue addressed was whether these tasks were undertaken regularly, regardless of whether they were done *by* the consumer or by others *for* the consumer.

Item-by-item and total scores are shown in Table 4.2. Semi-independent and group home participants' total scores did not differ significantly, $t(26)= -0.13, p= .90$, indicating that extended periods without staff presence in semi-independent settings was not associated with poorer domestic management.

Table 4.2 Domestic Management Scores

Domestic Management Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Bed sheets changed	3.56	0.85	1-4	3.48	0.80	2-4
House tidy	3.48	0.58	2-4	3.39	0.63	2-4
Kitchen clean	3.44	0.58	2-4	3.43	0.57	2-4
Bathroom & toilet clean	3.11	0.93	0-4	3.37	0.56	2-4
Total	13.59	2.42	7-16	13.67	2.09	8-16

Note. Range of possible scores is 0-4 for each item and 0-16 for total scores.

The mean scores indicated that domestic management typically was quite good. Total scores around 13.5 showed that all four tasks were “usually” or “always” completed. Nevertheless, there were a small number of participants with low scores, suggesting that reasonable cleanliness and tidiness were not achieved by these individuals. However, these problems were not exclusive to a particular accommodation type.

4.3 Health Care

These nine items addressed issues of routine health care and healthy lifestyle. They asked about dental check ups, dental treatment, medical check ups, medical treatment, taking medication, smoking, balanced diet, alcohol use, and exercise. The response alternatives and scoring system were the same as described for the personal care items. Higher scores indicated better health care.

Item-by-item and total scores are shown in Table 4.3. Semi-independent and group home participants’ total scores did not differ significantly, $t(26) = 1.28, p = .21$. Scores for dental care were influenced by the four participants with no teeth mentioned previously. To check if this issue affected the health care comparison, data from these four participants (and the other member of the matched pair) were omitted. This comparison also indicated no significant difference between groups, $t(22) = 0.82, p = .42$.

Mean total scores over 30 were equivalent to average ratings between “usually” and “always” for all nine items, and indicate that average health care outcomes were quite good. As with other outcomes, there were a few participants with poor outcomes for various items. The group home resident with the lowest total health care score (20) was a man who smoked daily and never exercised, sometimes ate a balanced diet, and did not have annual dental check ups because he has no teeth. Other health care outcomes were satisfactory for this man. Among semi-independent participants, the individual with the poorest total score (22.5) was a woman who only “sometimes” completed each of the following activities: had annual dental check ups, had needed dental treatment, smoked, ate a balanced diet, and exercised.

Table 4.3 Health Care Scores

Health Care Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Dental check-up yearly	3.39	1.15	0-4	3.09	1.11	0-4
Dental treatment when needed	3.70	.87	0-4	3.72	.59	2-4
Medical check-up yearly	3.96	.19	3-4	3.91	.28	3-4
Medical treatment when needed	3.85	.36	3-4	3.91	.28	3-4
Takes medication correctly	3.67	.55	2-4	3.72	.53	2-4
Smokes daily ^a	3.63	.93	0-4	2.92	1.81	0-4
Healthy, balanced diet	2.93	1.00	0-4	3.15	.66	2-4
Drinks alcohol 2 or more days/week ^a	3.37	1.01	0-4	3.15	1.17	0-4
Exercises 30+ minutes/week	2.96	1.13	1-4	2.56	1.25	0-4
Total	31.46	3.37	22.5-35	30.17	4.13	20-36

a These items had scoring reversed so that “always”=0 and “never”=4.

Note. Range of possible scores is 0-4 for each item and 0-36 for total scores.

4.4 Money Management

This scale was made up of three items about problems with money management. The response scale differed from that used in sections 4.1 to 4.3 and was framed in terms of the frequency of these problems: “never” (score=4), “once” (3), “2-3 times” (2), “4-6 times” (1) “many times” (0). The higher the score the better the money management. Because some financial problems were likely to occur infrequently (for example, unpaid bills), staff respondents were reminded to answer these questions only in relation to money problems that had occurred during the time the participant had lived in their current living arrangement. As noted, these money items were not concerned directly with participants’ money skills, but with the occurrence or absence of problems with money management, regardless or whether the participant of staff actually managed the money. Item-by-item and total scores are shown in Table 4.4. Semi-independent and group home participants’ total money management scores did not differ significantly, $t(26) = -1.68$, $p = .11$.

Table 4.4 Money Management Scores

Money Management Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Exploited financially or money stolen	3.26	1.16	0-4	3.22	1.13	0-4
Run out of money before next pension	3.44	1.25	0-4	3.93	.38	2-4
Bills unpaid	3.63	1.08	0-4	3.96	.19	3-4
Total	10.33	2.60	3-12	11.11	1.26	8-12

Note. Range of possible scores is 0-4 for each item and 0-12 for total scores.

A total score of 9 is equivalent to having experienced one problem with each of the three items. The observed means of around 10 and 11 indicated that, on average, participants only once

had a problem with one or two items, so the mean total scores indicated quite good money management overall. However, there were a few participants who encountered more frequent difficulties. Two group home participants and three from semi-independent settings had money stolen or been financially exploited on four or more occasions.

With two exceptions, no group home participants had problems with running out of money or failing to pay bills, probably because this aspect of their lives was closely supervised and managed by staff. As one group home house manager commented “staff manage (the) budget to ensure this doesn’t eventuate”. In another group home, the staff member noted that “for rent and food an automatic withdrawal has been organised” to come out of the participant’s bank account on pension day, so the participant never ran out of money for food or failed to pay bills.

Three semi-independent participants had encountered repeated problems with running out of money and bill paying. The staff questionnaire did not directly ask whether these problems were continuing or had been remedied. One semi-independent participant had a total score of 4 because of many problems with running out of money and unpaid bills. The staff respondent commented that these problems were “why she receives budgeting support”, suggesting that increased staff support had been provided to overcome these difficulties. Some participants were fully supported by staff with money management and consequently never experienced problems. For example, one staff respondent commented that “money management (is) assisted by staff” in relation to a man living semi-independently who had encountered no money management problems. In one semi-independent household utility bills were reportedly “paid by staff”, so there were no unpaid bills.

4.5 Social Network

There were a total of eight social network questions which asked about contact with friends, family and advocates. The number of participants with friends outside the residential setting and with an advocate is shown in Table 4.5. The McNemar test for two related samples revealed no significant difference between the semi-independent and group home participants in the number with outside friends ($p = .75$) or an advocate ($p = .55$).

Table 4.5 Number of Participants with Friends and an Advocate

Item	Semi-Independent		Group Home	
	Yes	No	Yes	No
Has friends (other than family, paid staff or fellow residents)	21	6	23	4
Has someone who provides advocacy/ personal support (not paid staff)	19	8	16	11

Staff were asked to indicate the number of friends and family members the participant had spent time with (face to face or by telephone) in the past three months, and the frequency of these contacts during that time. One staff member supporting a semi-independent participant felt unable to estimate the number of friends and the frequency of contact with friends or family. This reduced the number of participant pairs to 26 for these three items. The groups did not differ significantly on any of these social network items: number of friends, $t(25) = -0.56, p = .58$; frequency of contact with friends, $t(25) = 1.00, p = .33$; number of family members, $t(26) = 0.00, p = 1.00$; and frequency of contact with family members, $t(25) = 1.19, p = .24$. Mean scores on these items are shown in Table 4.6.

Table 4.6 Social Network Scores

Social Network Item	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
<u>FRIENDS</u>						
Number of friends contacted in last 3 months	4.08	4.72	0-20	4.92	6.91	0-30
Frequency of contact with friends in last 3 months	18.88	25.66	0-90	13.04	18.48	0-90
<u>FAMILY</u>						
Number of family members contacted in last 3 months	2.26	2.19	0-8	2.26	1.38	0-4
Frequency of contact with family in last 3 months	25.81	69.94	0-324	8.46	17.24	0-90

As Table 4.6 shows, there was considerable variability in the size of participants' social networks, with some individuals spending time with many friends from outside the residential setting and others having no outside friends. Frequency of contact also varied widely from none to daily contact. As noted, the variability in social networks was not related systematically to the type of setting the participant lived in. Contact with outside friends was described as "enjoyable" or "very enjoyable" for 95% of semi-independent participants and 96% from group homes.

Substantial variability was also evident in family contact. For those with family contact, it was "enjoyable" or "very enjoyable" for 81% of semi-independent participants and 88% from group homes.

4.6 Use of Mainstream Community Services

In an era when government policy specifies that mainstream community services should be available to available to the *entire* community, including people with disabilities, it was of interest to establish how often participants made use of various mainstream community services provided by government, non-government agencies, and private providers. These are services that are

available to the public, not just to people with disabilities. Staff informants were asked whether participants used the following 10 mainstream community services: Housing Department, adult education courses, a tax agent or accountant, community nurse, counsellor, public hospital, medical practitioners (GPs & specialists), dentist, Commonwealth Employment Service (CES), and the Home Care Service of NSW. The CES changed its name and role during the project, so data about this service may be inconsistent.

Mainstream community services used by semi-independent and group home participants were compared. The groups did not differ on the number of community services ever used, $t(26)=1.10$, $p=.12$; the number of community services used in the last three months, $t(26)=0.12$, $p=.91$; and the frequency of community service use in the last three months, $t(26)=1.11$, $p=.28$.

Table 4.7 Mainstream Community Services Scores

Mainstream Community Services Score	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
No. of services ever used ^a	4.70	1.44	1-8	4.19	1.96	1-8
No. of services used in last 3 months ^a	2.22	1.05	0-4	2.19	1.18	1-5
Frequency of use in last 3 months	10.70	16.71	0-87	6.85	6.25	2-26

a Range of possible scores 0-10.

The most frequently used services were medical practitioners and adult education courses. No participants had used a tax agent or accountant in the last three months.

4.7 Community Participation

Staff were asked to indicate which of a list of 18 community places participants used. These places included retail settings (local shops, chemist, video store, supermarket, bank, clothing/ department store), sport, leisure and entertainment facilities (theatre/movies, hotel/ registered club, park, restaurant, watching live sport, public beach/swimming pool, sporting facility to participate in sport or exercise), and services (public transport, hairdresser/ barber, library, community education, church). It was emphasised that these places needed to be *in the community*. In-home services or places on the campus of residential institutions were not counted. Staff specified which services the participant used, how often the participant had used them in the past three months, and whether use usually involved staff support. Group means are shown in Table 4.8.

Table 4.8 Community Participation Scores

Community Participation Score	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
No. of community places used ^a	11.67	2.29	7-17	11.67	2.54	5-15
Frequency of use in last 3 months	159.78	69.22	62-332	128.85	62.75	38-282
No. community places used without staff support ^a	9.22	4.38	0-17	6.22	5.12	0-15

a Range of possible scores 0-18.

Comparisons between semi-independent and group home participants revealed that the groups did not differ on the number of community places used, $t(26)= 0.00$, $p= 1.00$. However, semi-independent participants had significantly higher scores for frequency of use of community places, $t(26)= 2.09$, $p= .05$, and number of community places used without staff support, $t(26)= 2.80$, $p= .01$.

4.8 Participation in Domestic Tasks

This variable was assessed using the *Index of Participation in Domestic Tasks* (Raynes, Sumpton, & Pettipher, 1989), a 13-item scale assessing participation in household cleaning, cooking, shopping and related tasks. Item scores are 0 if the person does not participate in the task, 1 if participation involves staff help, and 2 if the person completes the task with no staff help. Therefore, a higher score indicates more participation and more *independent* participation in these tasks. The total score is the sum of the item scores and ranges from 0 to 26. Semi-independent participants scored significantly higher (mean = 19.37, SD = 3.71, range = 13 - 26) than those from group homes (mean = 16.96, SD = 4.40, range = 8-24), $t(26)= 2.13$, $p= .04$. Semi-independent participants participated significantly more fully and more independently in domestic tasks.

To examine this finding more closely, individual item scores were contrasted. These scores are shown in Table 4.9. Semi-independent participants had higher item scores on 11 items, equal on one (food shopping) and lower on one (garden), and participated significantly more in meal preparation, washing up and shopping for supplies (i.e., non-food domestic supplies). It was interesting to note how little participation either group had in looking after the garden. In some cases this was due to the fact the participant lived in a flat and gardening was not an option.

Table 4.9 Index of Participation in Domestic Tasks, Mean Item-by Item Scores

Item	Semi-Independent	Group Home
1. Shopping for food	1.33	1.33
2. Preparing meals	1.52*	1.19
3. Setting table	1.85	1.74
4. Serving meals	1.74	1.26
5. Washing up	2.00**	1.74
6. Cleaning kitchen	1.63	1.48
7. Cleaning living & dining rooms	1.56	1.41
8. Cleaning own bedroom	1.67	1.48
9. Cleaning bathroom & toilet	1.37	1.11
10. Shopping for supplies	1.37*	1.04
11. Doing own washing	1.81	1.56
12. Doing own ironing	1.15	1.07
13. Looking after the garden	.37	.56
Total score	19.37*	16.96

Note. Range of item scores is 0-2 and the range of possible total scores is 0-26.

* $p < .05$, ** $p < .01$ (two-tailed)

4.9 Stability of Place of Residence

The stability of each participant's place of residence was assessed by asking for information on the number of changes of address experienced in the past three years. This involved only "permanent" addresses, not overnight or short-term visits. It was assumed that staff informants would only have access to information on address changes that had taken place during the participant's involvement with their current accommodation support agency. If the person had been with the agency for less than three years, staff were asked to provide information on the number of address changes only during that period, and to specify the period's duration.

Analysis of residential stability data was complicated by the fact that data for semi-independent participants (mean = 33.26 months) were drawn from a significantly longer period than group home participants (mean = 27.63 months), $t(26) = 2.25$, $p = .03$. For example, there were five group home residents who had been with their current accommodation support agency for less than 12 months. Only two semi-independent participants were in this situation. Because group home participants had a shorter reporting period for address changes, there was a real possibility that the data from staff questionnaires *understated* the likely number of moves for this group relative to semi-independent participants.

Therefore, we completed two sets of analyses, the first with the original (raw) data from staff questionnaires, and the second with *adjusted* residential stability data⁶ which took into

⁶ Simply prorating all data as if they had been drawn from a full three year period would be likely to exaggerate the number of moves for participants who had been with the accommodation agency for a short time. Therefore, for participants who had been with the agency for 12 months or less, their reported number of changes of address was multiplied by 3 to prorate it to a three year period. All others with a

account differences in the reporting period. The first analysis showed that semi-independent and group home participants did not differ significantly, $t(26) = 0.54, p = .60$. Mean reported number of residential moves (raw data) and the adjusted means are shown in Table 4.10. The second analysis also revealed no significant difference when the adjusted residential stability data were compared, $t(26) = -0.55, p = .59$.

Table 4.10 Mean Number of Changes of Address while a Client of Current Accommodation Agency

Data type	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
No. of changes of address (raw data)	1.26	1.29	0-5	1.11	0.93	0-3
No. of changes of address (adjusted for reporting period)	1.51	1.60	0-6	1.71	1.69	0-6

Although the residential stability of the two groups did not differ, there were some individuals who had experienced a high number of moves. The individual with the highest number of moves (5), a person living semi-independently, was said to have moved because she “didn’t get on with neighbours/ other clients” and now lives alone.

There was a wide variety of reasons for residential moves, many of them quite positive. For example, among the 18 semi-independent participants who had moved, 7 moved to transfer to a more independent setting. A further 4 relocated because they received an allocation of accommodation from the Department of Housing and so were able to move out of a private rental setting. Other reasons for moving related to only one or two participants. Some of these reasons were positive (a move to better standard of accommodation), some related to service provision (an initial placement in a group home with 24 hour staffing for assessment and a subsequent move to semi-independent living), and some moves resulted from problems (difficulties with neighbours, the property was sold).

There were 18 group home residents who had changed address. Once again, a variety of reasons applied. A number of people had moved to group homes from large congregate settings, some had experienced compatibility problems with residents at their previous address, others moved to a more suitable location or more pleasant housing. One person moved because he was seen to need a residence with more staff support.

reporting period of less than 36 months had their reported number of moves adjusted by dividing this figure by the number of months in the reporting period and multiplying by 36.

4.10 Stability of Living Companions

Changes of living companions can take place in at least two ways: if the participant changes address and moves in with new living companions, or if other residents move in or out of the participant's home. Staff informants were asked to specify the number of companions the participant had lived with in the past three years. This involved counting only "permanent" residents, not overnight or short-term visitors. *All* household residents were counted, including co-residents, even if they were not clients of the accommodation agency. It was assumed that staff informants would only have access to information on living companions during the participant's involvement with their current accommodation support agency. If the person had been with the agency for less than three years, staff were asked to provide information on the number of living companions only for that period and to indicate the length of the reporting period. Means are shown in Table 4.11.

For simple comparisons of raw data, group home participants had significantly more living companions than those from semi-independent settings, $t(26) = -2.47, p = .02$. However, this difference may reflect nothing more than the larger number of people who live in group homes, an inherent characteristic of this accommodation type. Of greater interest was *turnover* of living companions. This was calculated by subtracting the number of *current* household residents, not counting the participant, from the total number of living companions during the last three years. The difference indicated living companion turnover - that is, the number of former living companions who no longer lived with the participant. Mean turnover is shown in Table 4.11. There was no significant difference in living companion turnover between semi-independent and group home participants, $t(26) = -.80, p = .43$.

Table 4.11 Mean Number of Living Companions while a Client of Current Accommodation Agency

Data type	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
No. of living companions (raw data)	3.41	2.93	0-12	5.89	3.40	3-15
Living companion turnover	2.04	2.61	0-10	2.67	2.67	0-10
Living companion turnover (adjusted reporting period)	2.76	4.02	0-15	3.38	3.60	0-15

As previously noted in section 4.9, data for semi-independent participants were drawn from a significantly longer period than for group home participants⁷. This problem also affected information about living companions and was likely to result in *understating* group home living companion turnover relative to semi-independent participants. To compensate, all living companion data were adjusted as if they had been drawn from a full three year period, in the same manner as was described in section 4.9. There was no significant difference between semi-independent and group home participants, $t(26) = -1.55, p = .13$, in living companion turnover adjusted for reporting period.

4.11 Natural Support

Staff informants were asked to indicate whether participants received any natural support in addition to paid staff support. *Natural* support was defined as regular (at least monthly) support from a person who was *not paid* to provide it. Support was described as “providing active help, advice or guidance, not simply spending time with the person socially”. Nine semi-independent participants and six from group homes received natural support. The McNemar test revealed no significant difference between groups in the number of participants with natural support ($p = .51$).

Staff also specified the average number of hours per week of natural support. Mean weekly natural support hours are shown in Table 4.12. Natural support hours did not differ significantly by group, $t(26) = 0.00, p = 1.00$.

Table 4.12 Weekly Hours of Natural Support

Data type	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Weekly hours of natural support	0.65	1.27	0-5	0.65	1.73	0-8

4.12 Summary of Semi-Independent and Group Home Comparisons

All of the outcome comparisons reported in this sections 3 and 4 involving matched pairs t-tests are summarised in Table 4.13. This table shows that semi-independent and group home participants did not differ significantly on most outcomes, but where significant differences were evident, they *all* favoured the semi-independent group. Analysis of data from participant interviews indicated that semi-independent participants' scores were significantly better on one of seven

⁷ Changes of address and living companion turnover were the *only* issues to be affected by the difference in reporting period, because these were the only matters where staff informants were asked to provide information covering the last *three years*. Other items in the staff questionnaire related to the current situation, or activities within the past three months.

outcomes, QOL-Q empowerment. Three of 18 outcomes derived from the staff questionnaire significantly favoured the semi-independent group: a) frequency of use of community places, b) number of community places used without staff support, and c) participation in domestic tasks.

Table 4.13 Mean Outcome Scores and Values of t

Outcome	Semi-Independent	Group Home	Matched pairs <i>t</i> (df=26)
PARTICIPANT INTERVIEW			
Loneliness	5.91	5.78	0.12
Safety	14.58	14.22	0.86
<u>Quality of Life Questionnaire</u>			
QOL-Q Satisfaction ^a	21.68	23.21	- 1.54
QOL-Q Competence/Productivity ^a	18.92	17.90	0.50
QOL-Q Empowerment	24.11	22.02	2.57*
QOL-Q Social belonging	21.58	20.09	1.56
QOL-Q Total score ^a	86.63	83.08	1.36
STAFF QUESTIONNAIRE			
Personal care	13.41	12.63	1.16
Domestic management	13.59	13.67	-0.13
Health care	31.46	30.17	1.28
Money management	10.33	11.11	- 1.68
No. of friends contacted in last 3 months ^a	4.08	4.92	-0.56
Frequency of contact with friends ^a	18.88	13.04	1.00
No. of family members contacted in last 3 months	2.26	2.26	0.00
Frequency of contact with family ^a	25.81	8.46	1.19
No. mainstream community services ever used	4.70	4.19	1.10
No. mainstream community services used last 3 months	2.22	2.19	0.12
Frequency of mainstream community service use	10.70	6.85	1.11
No. community places used	11.67	11.67	0.00
Frequency of community use	159.78	128.85	2.09*
No. community places used without staff support	9.22	6.22	2.80**
Domestic participation	19.37	16.96	2.13*
No. changes of address (adjusted for reporting period)	1.51	1.71	-0.55
Living companion turnover (adjusted for reporting period)	2.76	3.38	-1.55
Natural support hours per week	.65	.65	0.00

* $p < .05$, ** $p < .01$ (two tailed)

^a Data not available for between one and three participants.

Most of the outcomes examined did not assess the degree of independence with which the participant undertook the task. The only criterion was that the outcome was achieved. For example, a maximum score on money management was attained if the participant had encountered no money problems, regardless of whether this outcome was achieved by participants managing their own finances, or by staff doing it for them. The *only* two outcomes for which higher scores were given for *independent* participation – domestic participation and use of community places without staff support – *both* showed significantly better outcomes for semi-independent participants. It seems probable that, had other outcomes been assessed in terms of the degree of *independent* participation – outcomes such as personal care, health care, money management, and use of

mainstream services – that these outcomes would also have significantly favoured semi-independent participants. However, this proposition was not evaluated and so remains speculative.

A number of the outcomes examined, such as loneliness, safety, personal care, domestic management, health care, and money management, were issues where one might expect that lower levels of staff support would be associated with poorer outcomes. If this were the case, then semi-independent participants would have achieved significantly worse scores. The findings did not support this expectation. For all the outcomes mentioned, the two groups did not differ. This indicated that semi-independent participants received sufficient support to enable them to achieve these outcomes at a similar level to their counterparts in group homes.

Although outcomes for the two groups were mostly similar, this in itself did not imply that the outcomes were satisfactory. Conceivably, they could have been equally poor. However, inspection of the group means relative to the various scale maximums suggested clearly that, on average, outcomes approached these maximums and so should be seen as quite good. A small number of participants did experience some unsatisfactory outcomes, but these problems were not exclusive to a particular accommodation type.

5. SERVICE COSTS

5.1 Staff Support Hours

Information about weekly paid staff support hours⁸ for the entire household was obtained from staff as part of the staff questionnaire. This information checked by service managers/administrators. In a few cases this resulted in small corrections. The corrected weekly household paid staff hours were then divided by the number of consumers in the household to calculate staff support hours *per consumer*. Where information was provided on additional residential staff hours of individual support, these figures were added to the per consumer figure for the individual concerned. Comparison revealed that group home participants each received significantly more staff support, $t(26) = -9.19, p < .001$. The difference was substantial. Group home participants averaged 300% more paid support hours⁹. Mean support hours are shown in Table 5.1.

Table 5.1 Per Consumer Weekly Staff Support Hours

Variable	Semi-independent			Group home		
	Mean	SD	Range	Mean	SD	Range
Weekly hours paid staff support per consumer ^a	10.53	7.53	2.00-30.00	42.12	17.81	20.00-71.00

a Does not include unpaid sleeper hours.

It was suggested in section 1.3 that semi-independent participants would not necessarily receive fewer per consumer staff support hours than group home participants in all cases. This suggestion was supported by the findings. There was some commonality between groups in per person staff support hours, with hours overlapping for 22% of participants. Eight group home participants had fewer than 30 weekly staff support hours, and four semi-independent participants received 20 or more staff hours. This finding indicated that, although the groups differed substantially on average, not all group home participants received more staff support than all semi-independent participants. Similarly, there was wide variation in support hours among semi-independent participants and among group home participants.

Given that staff costs have been found to make up 77% to 87% of expenditure on accommodation services (Stancliffe & Lakin, 1998), the findings reported in Table 5.1 indicated

⁸ Household paid staff support hours were the total number of paid staff hours provided to all consumers who lived in the household. This included all staff who worked in the house and provided direct support to residents. It did not include purely administrative or supervisory staff who did not provide direct support to these residents. It did not include unpaid hours such as the unpaid portion of sleeper shifts.

that service costs were likely to be higher for group home participants than for those from semi-independent settings.

5.2 Residential Service Costs

Information about service costs was obtained from agency management and administrators. Once expenditure information was received it was checked by project staff for any inconsistencies. In several cases, when these inconsistencies were drawn to the attention of the informants, corrections were made and accurate figures provided. Informants were asked to supply information on the per person annual cost of:

- a) direct staff support to the participant's household
- b) administrative costs, including the cost of administrative staff
- c) other costs of running the community living service, such as housing and equipment
- d) additional individual staff costs funded from a participant's individual funding.

Managers/administrators were provided with detailed written guidelines about what expenditure to include in each of these categories and how to calculate per person costs. Most households received facility based funding (funding for the house as a whole, not individual funding for individual residents). Therefore, no attempt was made to separately apportion household service provision costs to individual participants according to the specific costs required to support that individual, because no consistent or valid way of doing this was available. Informants were asked to calculate per person costs by dividing household costs by the number of consumers living in the household. With two exceptions, annual per person costs were determined in this way.

The exceptions involved two participants from the same group home whose staff support was paid for with separate individual funding packages. To calculate staff costs for the present study, the funding in each package was allocated solely to the relevant participant as the full amount of his staff support costs. Other expenditure on staff support within the household was not considered. In cases where a participant had *some* individual funding but was *also* supported by general household funding, an appropriate proportion of household funding was added to the individual funding when calculating overall annual cost to serve this participant.

All cost data were taken from the 1997-98 financial year, except for two services that used their 1998-99 budgets. Given the current low level of inflation, no adjustment was made to the figures for these services to equate them to the real value of 97-98 dollars.

⁹ These figures did not include up to 5x7=35 weekly household hours of unpaid sleepover staffing in group homes with that form of night

Despite the detailed instructions to informants and careful checking of the information supplied for accuracy, it is possible that some inconsistencies in financial data remain between agencies. Agencies followed differing accounting conventions, and definitions of what constituted administrative expenses varied across agencies. In single purpose accommodation support agencies it is clear that all administrative costs should be charged against the accommodation service. In large multi-purpose agencies, the best way to allocate administrative and other costs to the various activities, including accommodation services, is more open to interpretation. In large agencies it can be difficult to track down and apportion the cost of administration that is remote from the residential service.

In addition, there were many variations in tenancy arrangements that affected expenditure on housing by agencies. Some participants rented their house or flat directly from the Department of Housing or a private landlord, and the agency had no financial involvement in housing. In other cases the property was leased by the agency, with rental subsidy provided by the agency in some cases. Some properties were owned by the agency. These arrangements are not fully comparable and may have served to cloud some cost comparisons. This issue became particularly important when tenancy arrangements differed systematically between semi-independent and group home participants. For example, 17 semi-independent participants lived in Housing Department premises, compared to only 4 group home residents. Therefore, two sets of cost comparisons between semi-independent and group home participants were completed. The first involved direct support staff costs only (made up of a proportion of household staff costs plus any individual staff costs). The second involved total costs, consisting of staff costs, administrative costs and other costs (including housing). Given these issues, direct support staff costs appeared to provide the fairest comparison across services

Missing Data. A small amount of cost data were not available from our informants. For example, administrative costs were not available from one DoCS group home in which two participants lived. This was estimated by substituting the average administrative costs supplied for participants from other DoCS group homes from that DoCS Area. “Other” operating costs (housing, travel etc.) were not available from another DoCS group home. These data too were estimated in the same way.

Descriptive statistics for expenditure on residential staff and total expenditure are shown in Table 5.2.

staffing. Inclusion of these unpaid hours would have made the difference between groups even more pronounced.

Table 5.2 Per Participant Annual Cost

Cost type	Semi-Independent			Group Home		
	Mean	SD	Range	Mean	SD	Range
Residential staff	\$10,366	\$6,313	\$1,872- \$28,528	\$53,318	\$31,770	\$13,142- \$105,774
Total	\$14,602	\$8,531	\$5,268- \$44,371	\$64,105	\$33,301	\$21,488- \$123,251

Comparison of semi-independent and group home participants on the per person cost of accommodation support staff showed that group home participants' costs were significantly higher than semi-independent participants, $t(26) = -7.28, p < .001$. Average per person expenditure on staff in group homes was 414% higher than for semi-independent participants. The finding for total per person expenditure on residential services was similar. Group home participants' mean total costs were significantly higher than semi-independent participants, $t(26) = -8.03, p < .001$. Per person group home total costs exceeded those for semi-independent participants by 339% on average.

Although there were vast differences between groups in average costs, there was some overlap. Nine group home participants had staff costs that were lower than the most costly semi-independent participant (\$28,528) and three semi-independent participants had annual staff costs of equal to or greater than \$18,720, the least costly staffing from group homes¹⁰.

As Table 5.2 shows, there was a wide range in per person annual expenditure. Among group homes the lowest per consumer expenditure on staff was \$13,142. This involved a participant with an individual package, but this amount may well have understated substantially the cost of the support he actually received¹¹. The next lowest figure on staff expenditure was \$18,720 annually. This was in a seven person household operated by a non-government agency with 140 weekly paid hours of staff support and a sleepover shift every night of the week. Only three hours of each sleepover shift were paid under the current Social and Community Services (State) award, so only 21 sleepover shift hours were included in the total of 140. The highest per person group home expenditure on staffing was \$105,774 annually in a government group home housing 3 consumers with 24 hour paid staffing (i.e., awake night shift, not sleepovers) and 206 paid staff hours per week for the household.

For semi-independent settings, the lowest expenditure for staff was \$1,872 per annum. This related to a house operated by a non-government agency housing two consumers which

¹⁰ See the following paragraph for an explanation of why the participant with a group home staff cost of \$13,142 was not used in this comparison.

¹¹ This person lived in a non-government group home with two other consumers. It is questionable whether his package of \$13,142 was sufficient to pay for the staff support he received there. The household had 116 hours paid staff support per week, with 7 day sleepover night staff. A second participant from this house had an individual package of over \$32,000 per year. The third resident, who did not participate in the study, was said to have a much higher package still.

received a total of four hours of paid staff support per week. This house also accommodated two individuals without disability who were unpaid co-residents recruited by the accommodation support agency. The mostly costly semi-independent participant lived in a three consumer household and received 29.7 hours paid staff support¹² each week at an annual cost of \$28,528.

5.3 Needs Based Services

The large cost and staffing differences between group home and semi-independent participants suggested that participants' accommodation services were not needs based. However, it was possible *within each service type*, that staffing and expenditure were allocated on the basis of need. For example, semi-independent participants with high support needs may have received more staff support, at greater cost, than semi-independent participants with less need for support. There was substantial variation in staffing and costs among participants from each accommodation type. It was of considerable research and policy interest to know whether support needs and/or service attributes were related to this variation in staffing and costs. To examine such issues we needed to evaluate *several variables simultaneously*. Therefore, these analyses used a statistical technique called *multiple regression*, which allows the influence of a number of predictor variables to be evaluated at the same time, and takes into account the relationships between predictor variables.

Paid staff hours. For weekly per person paid staffing hours in group homes, the predictor variables examined were: a) ICAP service score (as an index of participants' support needs), b) number of consumers living in the household, c) paid hours of night staff support per week, d) government or non-government service auspice. The regression equation explained 67% of the variance in group home staffing ($R^2=.67$). Details of the analysis are shown in Table 5.3. Consumer numbers and night support hours were significant predictors. Settings with more consumers had fewer per person staff hours. The higher the number of paid night staffing hours, the higher the per-person staff hours. Staffing was not significantly related to participants' support needs.

For semi-independent participants the regression equation predicting per person paid support hours was not significant, $F(3,23)= 1.65, p=.21$. Therefore, none of the predictor variables was considered to significantly predict staff hours.

Staffing costs. The analysis yielded a significant regression equation which explained 74% of the variance in per person group home staff costs ($R^2=.74$). Details of the analysis are shown in

¹² Staff support was made up of 5.7 hours support per week (this participant's share of household staffing) and 24 hours per week of

Table 5.3. Only ICAP service score failed to reach significance. Per-person staff costs were *lower* in group homes with more consumers, and fewer hours of paid night staffing, and in non-government agencies. These findings suggested that group home staffing costs were related to structural factors like size, night staffing and auspice, but not to participants' support needs.

For semi-independent participants the regression equation predicting per person staff costs was not significant, $F(3,23)= 1.22, p=.32$. Therefore, none of the variables were significant predictors of staff hours.

Table 5.3 Results of Multiple Regression Analyses

Dependent Variable Predictor Variable	Semi-Independent			Group Home		
	Beta	<i>t</i>	<i>p</i>	Beta	<i>t</i>	<i>p</i>
Per Person Paid Staff Hours						
ICAP service score	Regression equation			-.14	-1.11	ns
No. of consumers	not significant.			-.48	-3.73	.001
DoCS or NGO	Not applicable - no night staff.			.16	1.18	ns
Weekly paid night staff hours				.44	3.41	.003
Per Person Staff Cost						
ICAP service score	Regression equation			-.17	-1.53	ns
No. of consumers	not significant.			-.35	-3.04	.006
DoCS or NGO	Not applicable - no night staff.			.45	3.81	.001
Weekly paid night staff hours				.33	2.90	.008

ns not significant

Group home staffing and costs were not related to participants' need for support, but were significantly linked to service related factors such as residence size, auspice and night staffing. Group homes therefore, could not be considered to be needs based services. Arguably, group homes provided a level of support regardless of whether individual participants needed that amount or not. Although that semi-independent services appeared more individualised, we found no direct evidence that semi-independent accommodation services' staffing or costs were needs based. However, support needs (ICAP service score) did approach significance in semi-independent regression analyses of staffing ($p=.08$) and costs ($p=.09$).

6. DISCUSSION

This study reported on a comparison of consumer outcomes and service costs for adults with intellectual disability living in group homes or semi-independently. Participants from these two setting types were individually matched on skills and challenging behaviour. In addition, group home and semi-independent participants did not differ significantly with respect to age, gender, ICAP service scores, incidence of other disabilities (e.g., epilepsy), or service auspice. Therefore, any group differences found could reasonably be said to be due to living and support arrangements rather than to systematic differences in personal characteristics of participants.

Outcomes examined included quality of life, safety, loneliness, personal care, domestic management, health care, money management, social network, use of mainstream community services, community participation, domestic participation, stability of place of residence, living companion turnover, and natural support. Most of these outcomes did not differ significantly. Where significant differences were evident, participants living semi-independently experienced better outcomes. They showed more frequent and more independent use of community facilities, more participation in domestic tasks, and more empowerment (choice and control over their life). There were no instances of significantly better outcomes for group home participants. Both outcomes that assessed the degree of *independent* participation (independent use of community facilities, participation in domestic tasks) yielded significantly better outcomes for semi-independent participants. It is suggested that, had more of the outcome measures evaluated *independent* participation, more findings may have favoured the semi-independent group. However, this proposition was not tested.

Outcomes that might have been expected to present more problems to individuals living semi-independently, such as safety, loneliness, personal care, domestic management, health care, and money management, showed similar results for both group home and semi-independent participants. These findings indicated that the lower level of staff support provided to semi-independent participants was not associated with poorer outcomes. The fact that mean scores generally were in the higher (more desirable) parts of the scoring range for “positive” outcomes such as safety and health care, and remained at the lower (more desirable) part of the range for “negative” outcomes such as loneliness, indicated that outcomes for both groups were generally satisfactory. This suggested that semi-independent participants received sufficient support to achieve satisfactory outcomes and that group home participants may have received *more* support than they actually needed.

The finding that semi-independent participants achieved equivalent or better outcomes than group home participants should be seen within the larger research context of better outcomes in smaller and more normalised living environments. One may describe the following accommodation types as falling along a size and normalisation continuum: institutions, hostels, group homes, semi-independent or supported living, and independent living. There is a substantial body of research involving comparisons between two or more of these accommodation types that shows better outcomes in hostels than institutions, group homes than hostels, and so on (Burchard et al., 1991; Emerson & Hatton, 1996; Griffin et al., 1996; Howe et al., 1998; Larson & Lakin, 1989; Schalock et al., 1989; Stancliffe, 1995, 1997; Stancliffe & Lakin, 1998; Stancliffe & Wehmeyer, 1995; Young et al., 1998).

Cost Effectiveness

Per-person staff support hours and per-person expenditure to provide accommodation support services were both significantly and substantially higher for group home participants in the current study. On the basis of the outcome and cost findings, it was concluded that semi-independent accommodation support services were more cost effective than group homes.

6.1 Matching

It was noted in section 2.1 that 87% of eligible group home residents were matched with a semi-independent participant. This may have represented an overstatement of the success of matching because, prior to matching, some group home participants were excluded because of difficulties with their interview responses. Even if one included all 38 group home participants for whom ICAP data were available, successfully matching 27 of these represented a matching rate of 71% - a very high figure.

It could be argued that successful matching did not imply that the group home residents received too much support, and that it is equally logical to conclude that the semi-independent participants received too little. Matching, in itself, does not favour one or other of these interpretations. Had semi-independent participants shown *poorer* outcomes, the latter interpretation may have been tenable, in that it could reasonably have been argued that poorer outcomes for semi-independent participants were the result of insufficient staff support. However, the finding that semi-independent participants achieved equal or better outcomes, and that these outcomes were generally good, made this interpretation untenable. This study's findings suggest strongly that group home participants were being *over-supported*.

6.2 Reasons for Better Outcomes

What was it about semi-independent living and the associated support arrangements that resulted in some better outcomes and lower costs? Without question, the major factor in lower costs was the lower number of staff support hours provided to semi-independent participants. Other matters, such as semi-independent participants taking greater financial responsibility for housing and living costs, may also have made an incremental contribution to the lower cost of semi-independent living.

Significant group differences were observed for only 4 of 25 outcomes. It was noted in section 4.12 that both outcomes that assessed *independent* participation – domestic participation, and use of community places without staff support – favoured semi-independent participants. It could be argued that items in the QOL-Q Empowerment scale also reflected independence, in that making choices without help or guidance from others received a higher score on some items. When discussing the QOL-Q finding in section 3.3, we emphasised the importance of extended periods without staff presence in promoting empowerment. Arguably, absence of staff not only ensured independent choice making, but also independent performance of many other activities. It was not surprising that semi-independent participants completed domestic tasks like washing up more independently, because there were no staff available to help. The semi-independent living environment not only provided opportunities for independent participation, it demanded independent participation. This issue also may have subtly affected the *way* staff supported participants in semi-independent settings. The more obvious need for semi-independent participants to achieve independence may have focused staff efforts more clearly on attaining that level of proficiency. In group homes there was not the same urgency to achieve independence, because there was almost always someone available to provide help or advice.

Directions for Future Research

Factors other than accommodation type are known to affect outcomes in accommodation services. Felce (1998) noted the importance of procedural factors, such as staff deployment, training, working methods and service orientation, in influencing the quality of staff and resident activity. The next wave of research contrasting community living service types should evaluate these procedural factors to determine whether differences in the *way* staff work in semi-independent and group home settings (for example) help account the differences in outcomes.

6.3 Generalisability

Group home participants in the present study were *not* intended to be representative of group home residents as a whole. Rather, group home residents with moderate and low support needs were enrolled in the study. It would be unwise to assume that anything approaching the reported level of matching could be achieved for group home residents with higher (more) support needs. Nevertheless, given that the participants in this study represented a very small proportion of community living service recipients throughout NSW, it is possible that there are many more group home residents with similar abilities to whom the findings of this study would be applicable.

The current findings should *not* be applied to *all* individuals with intellectual disability in receipt of accommodation support services. It seems self-evident that there are many individuals with *high* support needs who definitely require the 24 hour support they currently receive and who are likely to continue to need that level of support for many years. It is not suggested that those individuals are receiving too much support or should move to semi-independent living arrangements.

There were no people with autism or blindness among participants, and a relatively small proportion of people with epilepsy (11%). Therefore, one should be cautious about generalising the findings to individuals with these characteristics. There were some individuals with epilepsy who lived semi-independently, but none of them lived alone. There were too few participants with epilepsy to test the statistical significance of the relationship between the presence of epilepsy and living with others, so it was not clear whether this observation was merely a chance finding. However, it did suggest that, like other members of the community with a serious chronic health problem, participants with epilepsy may have found it easier to live with a companion than to live alone. For example, one participant had epilepsy that was sufficiently serious for her to go to hospital at times following seizures. She lived semi-independently with a partner (who also received accommodation support from the same agency). Disabilities like epilepsy, rarely preclude people from living semi-independently, but may make it more dangerous for them to live alone.

6.4 Policy Implications

Provision of supported community accommodation in NSW is heavily skewed toward group homes, whereas access to appropriate support for semi-independent living is relatively limited. This study showed that some current residents of group homes in NSW did not need the high levels of staff support they received, and that they may achieve similar or better outcomes, at lower cost, by living semi-independently. Hopefully, services have progressed beyond the point

where management priorities dictate where and how people will live, so these findings should not be interpreted to mean that all group home residents with moderate or low support needs *must* live semi-independently. However, such individuals should be given the opportunity and the support to live semi-independently if they choose.

The most common barrier (cited for 56% of group home participants) identified by staff informants to group home participants moving to semi-independent living was that the participant lacked the skills to cope without constant staff support. Given that these participants were matched on skill with participants already living semi-independently, this suggested that different staff informants reached different conclusions about the skills required for semi-independent living. It may be that group home staff with no experience of semi-independent living find it difficult to imagine residents from their group home living with drop-in staff support. Developing methods of comprehensive, objective assessment of support needs, and validly linking this to support provision, would assist in decision making about the appropriateness of semi-independent living for individual consumers.

In individual cases, specific factors may have precluded semi-independent living for some group home participants. For example, five group home participants were said to have serious chronic medical conditions which would prevent them from living semi-independently. These conditions included asthma and food addiction, diabetes and depression, anxiety about being left alone, and angina. Like epilepsy, these matters do not automatically rule out semi-independent living, but are a question of judgement as to what constitutes an acceptable balance between risk and independence. Obviously, decisions on who is able to live semi-independently need to be made in the light of the full complexity of the individual's situation, not simply on the basis of some predetermined level of competence on an ICAP assessment or the results of any other instrument.

Miano and Brail (1997) commented on New Jersey's planned closure of residential institutions and noted that one option for creating additional group home placements for those leaving institutions was "for people now living in group homes who no longer need such intensive supervision to move to more independent placements" (p. v). The findings of the present study are consistent with this proposition. One appropriate policy and service response to our findings may be to increase emphasis on the provision of semi-independent living services.

Other policy-related findings concerned issues of loneliness and safety. Loneliness was of concern only for a small number of participants, but it was an important issue for those individuals. It was notable that this problem was not solved simply by living in a group setting, as individuals from group homes also experienced loneliness. Significant correlations were found between loneliness scores and Quality of Life Questionnaire Satisfaction scores, with greater loneliness associated with lower quality of life. This finding suggested that the experience of

loneliness may have more widespread ramifications for satisfaction with one's life and quality of life generally.

Safety outcomes were mostly quite good. The most striking aspect of the safety findings was that the perpetrators of most theft and assault were other consumers, frequently fellow residents. In group living situations the right to safety can conflict with the right of consumers with challenging behaviour to receive accommodation support services.

Falls were the most common cause of accidental injury. Given the ageing of the population of people with intellectual disability, this is likely to become an increasingly important issue. It would be useful to draw from findings concerning prevention of falls among elderly people to provide guidelines for accommodation settings for people with intellectual disability who are at risk of falling.

6.5 Needs Based Service Provision

Accommodation service staffing and costs were not needs based in the current study. Group home and semi-independent participants were very well matched, but staffing and costs differed dramatically. Needs based provision was also examined *within* each service type using regression analysis. This showed clearly that group home staffing and costs were *not* significantly related to support needs (ICAP service scores¹³), but only to service-related factors like residence size, night staffing and service auspice. There was no evidence that semi-independent staffing costs were needs based. The smaller resident numbers and more flexible staffing arrangements in semi-independent settings made it plausible that these services could have operated on a individual needs basis more easily than group homes. These same considerations made it likely that the relationship with consumer characteristics would have been stronger in semi-independent settings. However, in the current study, with relatively small participant numbers, semi-independent staffing and costs were not significantly related to support needs. It should be noted that few participants were in receipt of individual funding packages (only one semi-independent participant had this type of funding), so the data did not enable us to evaluate whether individual funding resulted in needs based services.

Readers may be surprised that accommodation services were not needs based. In fact, this is a reasonably common finding in the international literature. The Department of Community Services (1996) found resource input to DoCS group homes was not needs based. In Minnesota, Stancliffe and Lakin (1998) found no relationship between group home staffing or costs and

consumers' adaptive or challenging behaviour. These investigators but did report that staffing and costs were significantly associated with service-related factors such as licensing status, auspice (government/private), group home size, and staff ratio. In the UK Felce and Perry (1995) also found variations in staffing were not significantly related to resident characteristics. However, Felce (1996) noted that some other UK studies have shown a (weak) link between costs, staffing and support needs.

A fundamental issue that arises from these findings concerned the need to identify the policy, funding and service arrangements that effectively provide needs based accommodation services. At present little is known about this issue beyond the fact that good intentions are not sufficient. The services systems examined in the research cited in the previous paragraph all were intended to be needs based, but few in fact were.

Why is the current accommodation support system not clearly needs based? One reason for this is limited availability of community living places. Often a consumer must accept the placement available and does not have the luxury of selecting from a range of alternatives the placement that best matches his/her needs. It is also likely that, during placement decisions, the focus is on ensuring that *sufficient* staff support is available, and less concern is aroused if the support is over generous. Even when it is clearly recognised that a consumer is currently receiving too much staff support, it can be difficult to address that issue in a group service setting. It may not be possible to reduce staff support if fellow residents require existing support levels. Finally, in the absence of individual funding, it is challenging to redistribute facility level funding to provide more individualised services.

6.6 Caveats

In addition to matters mentioned already, there are several other issues that need to be considered when evaluating the findings of the current study and the validity of the conclusions reached.

One limitation of the data on per-person staff support arose because, in most settings, an *average* per-person amount was imputed by dividing total paid *household* staff hours by the number of residents. In a group home, staffing had to be sufficient to support the most needy individuals and may have been more than was actually required by the participants in the current study. If group home participants in the current study were the most competent in their household, and if they required the least staff support, then the average staff support hours used in this study

¹³ As noted in section 2.2, ICAP service scores are made up of a weighted combination of ICAP adaptive behaviour (70%) and

may have overstated the actual support hours received by that individual. Of course this issue also applied to semi-independent households with more than one consumer. However, this matter was of minor importance given that, on average, group home participants received 300% more staff support per-person than those from semi-independent settings.

A related limitation relevant to the current research study's findings on needs based services was the way in which individual staff support and costs data were obtained, due to averaging across all consumers in a setting. As noted in sections 5.1 and 5.2, *individual* staffing and costs were mostly calculated by using *household* data and dividing by the number of consumers in the household. This was the most valid approach under the circumstances, but it had the effect of eliminating variation in individual needs, staffing and costs *within* settings. This may have placed a ceiling on the degree to which our data would show a service to be needs based, but should not have eliminated all trace of needs based provision

Some group home participants may only have been in group homes temporarily and perhaps would soon transition to more independent living arrangements. At least one group home participant moved subsequently to a new setting with less than 24 hour support. If this situation were widespread, it could be argued that the system was working well and that, over time, people would transition to more appropriate living arrangements. However, the present study was a *cross-sectional* study which provided a snapshot of the lives of participants at a single point in time, so it could not evaluate this proposition. In fact, there were few signs that such transitions were commonplace. In fact, there was evidence that appropriate semi-independent placements were quite difficult to obtain. For five of the group home participants, the only barrier to semi-independent placement reported by staff informants was "lack of semi-independent placements". For two other group home participants available semi-independent placements were said by staff not to provide enough support.

It was not feasible to obtain direct observational data about such a wide array of outcomes for such a large number of participants. Data from the staff questionnaire were based on service records and staff experience and opinion. Even though staff were well informed, such information is not the same as direct observational data. However, it has been shown that staff reports of this kind can be an excellent and highly reliable substitute for direct observation. For example, Felce and Perry (1995) found that the *Index of Participation in Domestic Tasks* (Raynes et al., 1989) correlated very highly ($r=.84$) with independent observations of participation in domestic activity, and suggested that this scale provided a very valid substitute for direct observation.

Staff supporting semi-independent participants had fewer hours of contact with that person than did group home staff. This may have influenced the representativeness of the information

available to staff informants and so could have affected the accuracy of the data they provided. One effect of this could have involved under-reporting by staff from semi-independent settings because they were more frequently not present when activities or social contacts took place. On the other hand, considerable effort was expended by the investigators to obtain accurate data..

Conclusion

This study evaluated a large variety of outcomes. Where significant differences were found, they consistently favoured the semi-independent group. The rigorous matching of skills (adaptive behaviour) and challenging behaviour, the absence of significant group differences for all other personal characteristics assessed, the screening of participants for response biases, the thorough cross checking and follow-up of staff data, the careful data analysis, and the consistency of the findings all point to the validity of the following conclusion. Better outcomes and lower costs may be attributed to the nature of the living and support arrangements in semi-independent settings, rather than to greater ability or skill on the part of semi-independent participants.

REFERENCES

- Amado, R. N. (1993). Loneliness: Effects and implications. In A. N. Amado (Ed.), *Friendships and community connections between people with and without developmental disabilities*, (pp. 67-84). Baltimore: Paul H. Brookes.
- Beecham, J., Knapp, M., McGilloway, S., Donnelly, M., Kavanagh, S., Fenyo, A., & Mays, N. (1997). The cost-effectiveness of community care for adults with learning disabilities leaving long-stay hospital in Northern Ireland. *Journal of Intellectual Disability Research*, *41*, 30-41.
- Bruininks, R. H., Hill, B. K., Weatherman, R. F., & Woodcock, R. W. (1986). *Examiner's manual. ICAP Inventory for Client and Agency Planning*. Allen, TX: DLM Teaching Resources.
- Burchard, S. N., Hasazi, J. E., Gordon, L. R., & Yoe, J. (1991). An examination of lifestyle and adjustment in three community residential alternatives. *Research in Developmental Disabilities*, *12*, 127-142.
- Campbell, E. M., & Heal, L. W. (1995). Prediction of cost, rates, and staffing by provider and client characteristics. *American Journal on Mental Retardation*, *100*, 17-35.
- Chadsey-Rusch, J., DeStefano, L., O'Reilly, M., Gonzalez, P., & Collet-Klingenberg. (1992). Assessing the loneliness of workers with mental retardation. *Mental Retardation*, *30*, 85-92.
- Conroy, J. W. (1996). The small ICF/MR program: Dimensions of quality and cost. *Mental Retardation*, *34*, 13-26.
- Department of Community Services. (1996). *Community living. Supported accommodation for people with disabilities*. Sydney: author.
- Emerson, E. & Hatton, C. (1996). Deinstitutionalization in the UK and Ireland: Outcomes for service users. *Journal of Intellectual and Developmental Disability*, *21*, 17-37.
- Felce, D. (1996). Community housing costs. *Tizard Learning Disability Review*, *1*, 39-43.
- Felce, D. (1998). The determinants of staff and resident activity in residential services for people with severe intellectual disability: Moving beyond size, building design, location and number of staff. *Journal of Intellectual & Developmental Disability*, *23*, 103-119.
- Felce, D. & Perry, J. (1995). The extent of support for ordinary living provided in staffed housing: the relationship between staffing levels, resident dependency, staff:resident interaction and resident activity patterns. *Social Science and Medicine*, *40*, 799-810.
- Griffin, D. K., Rosenberg, H., Cheyney, W., & Greenberg, B. (1996). A comparison of self-esteem and job satisfaction of adults with mild mental retardation in sheltered workshops and supported employment. *Education and Training in Mental Retardation and Developmental Disability*, *31*, 142-150.

Halpern, A. S., Close, D. W., & Nelson, D. J. (1986). *On my own. The impact of semi-independent living programs for adults with mental retardation*. Baltimore: Paul H. Brookes.

Howe, J., Horner, R. H., & Newton, J. S. (1998). Comparison of supported living and traditional residential services in the state of Oregon. *Mental Retardation*, 36, 1-11.

Kramer, G., Toombs, L., & Mathison, G. (1996). *Community residential services program evaluation. Report 2: Detail of findings*. Jefferson City, Missouri: Missouri Department of Mental Health, Division of Mental Retardation/Developmental Disabilities.

Larson, S. & Lakin, K. C. (1989). Deinstitutionalization of persons with mental retardation: Behavioral outcomes. *Journal of the Association for Persons with Severe Handicaps*, 14, 324-332.

Miano, M. M., & Brail, R. K. (1997). Transitions and backfilling: The movement of group home residents to more independent settings. New Brunswick, New Jersey: Rutgers, The State University of New Jersey, Center for Urban Policy Research.

Racino, J. A., & Taylor, S. J. (1993). "People first". Approaches to housing and support. In J. A. Racino, P. Walker, S. O'Connor, & S. J. Taylor (Eds.). *Housing, support and community. Choices and strategies for adults with disabilities* (pp. 33-56). Baltimore: Paul H. Brookes.

Raynes, N. V., Sumpton, R. C., & Pettipher, C. (1989). Manchester, U.K.: The University department of Social Policy and Social work,

Schalock, R. L., & Keith, K. D. (1993). *Quality of life questionnaire*. Worthington, Ohio: IDS Publishing Corporation.

Schalock, R. L., Keith, K. D., Hoffman, K., & Karan, O. C. (1989). Quality of life: Its measurement and use. *Mental Retardation*, 27, 25-31.

Stancliffe, R. J. (1995). Choice and decision making and adults with intellectual disability. Unpublished doctoral thesis, Macquarie University, Sydney.

Stancliffe, R. J. (1997). Community living-unit size, staff presence and resident's choice-making. *Mental Retardation*, 35, 1-9.

Stancliffe, R. J. & Lakin, K. C. (1998). Analysis of expenditures and outcomes of residential alternatives for persons with developmental disabilities. *American Journal on Mental Retardation*, 102, 552-568.

Stancliffe, R. J., & Wehmeyer, M. L. (1995). Variability in the availability of choice to adults with mental retardation. *Journal of Vocational Rehabilitation*, 5, 319-328.

Stancliffe, R. J., & Whaite, A. (1997). *Watagan project evaluation*. Sydney: The University of Sydney, Centre for Developmental Disability Studies.

Van Dam, T., & Cameron-McGill, F. (1995). Beyond group homes. *Interaction*, 8(3), 7-13.

Young, I., Sigafoos, J., Suttie, J., Ashman, A., & Grevell, P.(1998). Deinstitutionalisation of persons with intellectual disabilities: A review of Australian studies. *Journal of Intellectual & Developmental Disability*, 23, 155-170.