

Disability Research Series

12

Dispersed or Clustered Housing for Disabled Adults: A Systematic Review

Prepared for the National Disability Authority by

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Executive Summary

Purpose of the review

The purpose of this review was (i) to find and summarise all the available research evidence on the quality and costs of dispersed community-based housing when compared with clustered housing, (ii) to assess the strength of the research and identify gaps in the evidence and (iii) to interpret the research to outline the benefits and drawbacks of each model.

Studies reviewed

This review found 19 papers based on 10 studies presenting data comparing dispersed housing with some kind of clustered housing (village communities, residential campuses or clusters of houses). This is a sizeable body of research reporting the experience of nearly 2,500 people from four different countries. The studies covered all eight domains of quality of life, providing information on about 80 different aspects of these domains. Five studies included data on different aspects of service design and operation and three presented comparative costs. Almost all of the studies used quantitative methods with robust approaches to measurement. All studies focused on people with intellectual disabilities.

Results

Dispersed housing has been found to be superior to clustered settings in at least some aspects of every

domain. Generally, clustered housing provides poorer outcomes than dispersed housing for people with intellectual disabilities. In terms of the quality of life domains of social inclusion, material well-being, self-determination, personal development and rights there are no studies reporting benefits of clustered settings. In the physical well-being domain, clustered settings have been found to be superior in hours of recreational activity, contact with dentists, psychiatrists and psychologists, some health screening, some aspects of safety, contact with family and friends, visitors to the home and satisfaction with relationships.

However, in many of these cases the better results refer only to village communities and not to campus housing or clustered housing. These serve a minority of the less disabled population and they depend on a supply of people willing to live communally with disabled residents. They are therefore an important part of the spectrum of service provision but they are only ever likely to occupy a niche in the market for care. They are unlikely to be a feasible option across the board for disabled people.

In terms of costs, the commonest finding is that clustered housing is less expensive than dispersed housing. However, this cost difference appears to be due to differences in staffing levels – i.e. fewer staff are provided to support people in clustered housing than in dispersed housing. In two of the three studies which examined costs controlling for this variable there was no statistically significant difference – in one case between specialised campus and specialised dispersed housing and in the other between samples matched for client characteristics.

Conclusion

There is much less evidence comparing clustered settings with dispersed housing than comparing other congregate care settings (such as institutions) with dispersed housing. The results should therefore be treated with caution. They do, however, present a broadly consistent picture.

Dispersed housing appears to be superior to clustered housing on the majority of quality indicators studied. The only exception to this is that village communities for people with less severe disabilities have some benefits; this is not, however, a model which can be feasibly provided for everyone. Clustered housing is usually less expensive than dispersed housing but this is because it provides fewer staff. There is no evidence that cluster housing can deliver the same quality of life as dispersed housing at a lower cost.

Introduction

Focus of the review

There is a large body of research carried out in many countries comparing different residential care models (see reviews by Kozma et al., in press, Emerson and Hatton, 1994, Young et al., 1998, Kim et al., 2001, Walsh et al., 2007, Mansell et al., 2007b). However, most of this research has focused on the transition from large institutions to smaller settings, especially to dispersed housing, in the community. In general, this research shows that dispersed housing in the community provides a better quality of life and is at least as cost-effective as congregate care. In some countries, clustered settings have been developed as an alternative to dispersed housing. This review examines the much smaller body of evidence comparing these services with dispersed housing. Its focus is the question whether, in developing services for people with disabilities, it is better to support people in ordinary housing dispersed among the general population or to support people in housing clustered together to form a separate enclave or community.

Proponents of dispersed housing argue that disabled people have a right to live in the mainstream of society, with the support they need to do this; and that it is better for people to be well-supported in this way (Campaign for the Mentally Handicapped, 1972, Wolfensberger, 1972, Nirje, 1976). They fear that the creation of separate communities of disabled people, however well-intentioned at the start, will inevitably lead to discrimination and disadvantage. They point to the experience of institutional care in the nineteenth and twentieth centuries as an example of this (Ryan and Thomas, 1987, Wolfensberger, 1975).

The proponents of grouping disabled people in separate communities argue that it is possible to achieve at least the

same benefits as in dispersed housing. They also propose three special advantages of grouping people together: that disabled people living in clustered settings will have a richer social life; that they will be safer; and that overall costs will be lower because of economies of scale (Segal, 1990, Cox and Pearson, 1995). They point to exploitation and abuse in dispersed housing as evidence that quality of life will not necessarily be better among the general population.

In both cases, the arguments are made on the basis of idealised service models. So, when there is evidence of poor outcomes in dispersed housing or clustered housing, the proponents of each model argue that problems are not central to the model they favour but reflect weaknesses of service design, management or operation. This means that it is particularly important to study exemplary services – those which are thought to be achieving more of their potential – in choosing between service models.

The service models and their origins

Dispersed housing may be defined as apartments and houses of the same types and sizes as the majority of the population live in, scattered throughout residential neighbourhoods among the rest of the population. Two main kinds of dispersed housing have been developed in those countries which have begun the replacement of institutional care of disabled people. The first is the small group home (Mansell et al., 1987, Felce and Toogood, 1988, Lowe and de Paiva, 1991, Thomas et al., 1978). This is typically a property owned by a service-providing organisation (governmental or non-governmental) in which a small number of disabled people live with whatever support they require from paid staff. This is the dominant form of provision of dispersed housing in most countries at the present time (Mansell, 2006). The second type of dispersed housing is usually called 'supported living' (Allard, 1996, Horner et al., 1996, Kinsella, 1993) and involves the disabled person renting or owning their own home (which they may share with people they choose) and receiving the staff support they need as a domiciliary

service from an agency that they choose. The key difference is that in the second case the disabled person has the same housing rights as other citizens.

Dispersed housing models were first developed in the nineteen-sixties and nineteen-seventies. Typically, early examples supported people with less severe disabilities but by the nineteen-seventies examples were beginning to be developed of dispersed housing for people with more severe disabilities. From the early nineteen-eighties there was rapid development of dispersed housing to replace institutions, particularly for people with intellectual disabilities, in Scandinavia, the USA, Britain, Ireland, Australia and New Zealand (Mansell, 2006).

For the purposes of this review, clustered housing is defined as a number of living units forming a separate community from the surrounding population. Several different types of clustered housing have developed.

- Village communities were first set up after the Second World War. They are distinguished by having support workers, who are often unsalaried, and their families, living communally with disabled people to facilitate close personal relationships, and provide them a social and cultural framework for work, community service, worship and education. For example, there are 34 Camphill communities in the UK and Ireland supporting people with intellectual disabilities. Because such communities depend on life-sharing by non-disabled people and such people are in short supply, they are a relatively small part of the total amount of service provision.
- Residential campuses were often developed as part of the programme of closure of institutions and were modelled partly on village communities such as Camphill and Ravenswood and partly on residential services in the Netherlands and Belgium. They differ from village communities in two main ways: they usually serve much more disabled people; and they employ staff to provide support to residents. Like

village communities they are often self-contained, with day provision and other services on site.

- Cluster housing typically consists of a relatively small number of houses on the same site, for example, forming a cul-de-sac in housing for the rest of the population.

Although the proponents of these kinds of settings distinguish them from the large residential institutions for disabled people which still exist in many countries, it is important to recognise that large institutions were often built and organised on the campus model. Much of the research on large institutions is in fact research on residential campuses, albeit with larger living units, and is relevant to the issue of whether grouping disabled people in separate communities is desirable.

Housing models and different disability groups

There are marked differences between people with different disabilities in how their needs for accommodation and support are met. In all the countries which are replacing institutional care of disabled people with modern alternatives, the largest number of disabled people live at home with support from family and friends.

People with physical disabilities or with mental health problems will often live in their own homes with support from visiting staff. Clustered housing for people with physical disabilities does exist in the form of special villages or campuses (for example the David Lewis Centre, Manchester, for people with epilepsy; Barrowmore Village Settlement, Chester, for people with disabilities; and the War Memorial Village, Lancaster). Some of these settings are changing to become care homes as their residents age. For younger people with physical disabilities, new alternatives include direct payments and individual budgets, first developed by people with physical

disabilities, to support people to live in the way that they choose.

It is people with intellectual disabilities, and to a lesser extent people with long-term serious mental health problems, who are the largest groups in special accommodation. Clustered housing for people with intellectual disabilities is more widespread and includes village communities, residential campuses and clusters of houses. The search undertaken for this study found no studies of clustered housing for people with mental health problems.

The difference between disability groups is reflected in the research literature, which is entirely focused on people with intellectual disabilities.

The situation in Ireland is summarised in Volume 3 of the European report on Deinstitutionalisation and Community Living – Outcomes and Costs (DECLOC) (Beadle-Brown and Kozma, 2007). Analysis of the Health Research Board reports for 2006 from the intellectual disability database and also from the physical disability database highlighted a range of accommodation options available for people with disabilities. People with physical disabilities for whom data was available (n=505) were in the majority of cases supported in their own home or a smaller residential units (less than 10 places) in the community. However, there were still 205 places reported for people with physical and sensory disabilities in larger settings such as hospitals, nursing homes and specialist units, and an additional 43 people/places in residential complexes or campuses.

Mulvaney, Barron and McConkey (2007) pointed out that 60% of people with intellectual disabilities using residential services in Ireland still live in 'special living' settings which are generally larger and congregate in nature and include the 7% in hospital accommodation. From the analysis of the data presented in Beadle-Brown and Kozma (2007) related to people with intellectual disability (data was available for 8,073 people), almost 400 people were in psychiatric hospitals, a further 181 in nursing home settings

and 3,334 people were in residential centres. The average size of residential centres was 41 but could be as large as 220 places (Mulvaney et al., 2007). These centres and the group homes in the community are of three types: five-day a week placements, where residents return to their family every weekend; seven-day a week placements where people return to their family for holiday periods; and full-time settings. In addition, almost 600 people were in what was called 'intensive placements', many of which were in larger complexes. More recent data for 2008, from a census carried out on behalf of the Health Service Executive Working Group on Congregate Settings, shows that there were just over 4,000 people with intellectual, physical or sensory disabilities living in congregate settings of more than ten persons. These data exclude people in intentional village communities and mental health residential centres.

Although detailed information about the situation for people with mental health problems was not available, the DECLOC report highlights that almost 3,500 people were in psychiatric hospitals (46% of whom were long-stay patients). Those not in hospitals generally lived in group homes with varying levels of support – 50% of community-based places were in homes with 24-hour support.

Assessing quality and costs

How should different service models be compared? Different services and different researchers in different countries have different ways of characterising the quality of supported accommodation for disabled people. In recent years there has been a sustained attempt by researchers in intellectual disability to develop a consensus on the concept of quality of life (Schalock et al., 2002). This provides an overarching structure into which different elements can be fitted consistently. The structure has eight domains (Box 1) and has been used in this report to organise the analysis of research.

Box 1: Quality of life domains and indicators

Domain	Indicators
Social inclusion	Community integration/participation, social inclusion, residential environment, role (lifestyle and adaptive/problem behaviour), supports (services and satisfaction with them), acceptance, status.
Physical well-being	Health (safety, healthy environment, physical condition, etc), leisure, physical well-being, activities of daily living, recreation, nutrition, mobility, health care.
Interpersonal relations	Interactions (at work, with staff, etc), family, interpersonal relations, friendships (affiliation and loneliness), supports (e.g. social networks), intimacy, affection.
Material well-being	Employment, financial, ownership, security, socio-economic status, shelter, transport.
Emotional well-being	Contentment (with work, residence, supports, satisfaction with community, satisfaction with services, etc), emotional well-being (general, personal, psychological well-being), self-concept, freedom from stress, spirituality, happiness.
Self-determination	Autonomy, choices, personal control, decisions, self-direction, self-determination, resident influence, self-advocacy.
Personal	Education and habilitation, skills,

development	personal competence, fulfilment, purposeful activity, advancement/development.
Rights	Privacy/respect, freedom, basic human rights, citizenship (voting, etc), access, civic responsibilities, activities related to local and national governments (e.g. participation and consultation), due process of law.

The quality of life framework provides a comprehensive framework for considering the outcomes experienced by people using services. In addition, most research also provides information about service characteristics such as structure (how many people live there, how many staff support them, in what sort of environment) and process (how staff plan and organise the support they give, how decisions are made, how staff interact with the people they support).

The evaluation of costs of services has just as many complexities (see, for example, Mansell et al., 2007b). These can be summarised, for the purposes of this review, as three criteria (Box 2). First, measurement of costs needs to be **comprehensive**: it needs to include all the costs involved in supporting the person. For example, if people in a campus setting use a day centre on site but people in dispersed housing use day centres or supported or sheltered employment in the community then the costs of day support are likely to be included in the cost of the campus but not in the cost of the dispersed housing. Second, comparison of costs needs to be made on a **'like-for-like'** basis: the same things need to be compared. For example, if people in campus settings are more or less disabled than people in dispersed housing, the amount of staff support they need will differ because of the differences in their disability as well as because of any difference in the service model. Third, cost comparison needs to take account of **long-term effects**. For example,

if people move out of one kind of service to another they may need higher levels of support at the beginning than later on.

Box 2: Criteria for cost comparison

Criterion	Definition
Comprehensiveness	Inclusion of all costs
'Like-for-like' comparison	Ensuring comparison on the basis of the same elements costed in the same way
Long-term	Taking account of differences in costs at different stages of the process being studied

Since resources are limited, comparing services on the basis either of quality or of costs alone does not help decision-makers choose the best service model: this requires costs and benefits to be weighed against each other in an assessment of **cost-effectiveness**.

Purpose of the review

The purpose of this review is:

1. To find and summarise all the available research evidence on the quality and costs of dispersed community-based housing when compared with clustered housing.
2. To assess the strength of the research and identify gaps in the evidence.
3. To interpret the research to outline the benefits and drawbacks of each model.

Method

Study selection and data sources

Studies for this review were identified in the following way. First, searches were carried out of the five relevant academic databases: Web of Science, Social Care Online, Google Scholar, PubMed and EBSCO. The searches used a combination of key terms adjusted where necessary for individual databases (see Appendix 1 for details). The relevant studies from this stage, together with other papers and reports expressing opinions about clustered housing, were then used as the basis for citation searches using Web of Science to identify other papers citing those discovered. Finally, the references used in these papers were studied to locate any studies not already identified.

The criteria for inclusion in the review were as follows:

- Papers were included if published in English
- Papers could use either quantitative or qualitative methodology
- Papers had to compare in some sense dispersed community housing and clustered housing (whether described as such or not, and so included studies of services which comprise a number of living units forming a separate community from the surrounding community, such as village or intentional communities, as well as those where several dwellings are grouped together)
- Papers had to consider a population of residents who were disabled (including people with an enduring physical, sensory, mental health or intellectual impairment)

- Papers had to have evaluated outcomes for residents and/or costs of service provision
- Papers were included if published after 1990

19 papers met the above criteria and were included in the review (see Appendix 2).

Assessment and classification of studies

The methodological adequacy of studies included was assessed and reported using the standard classification developed by Khan et al., (2001) at the Centre for Reviews and Dissemination at the University of York (see Box 3).

In addition, the evidence regarding quality and outcomes from the included studies was classified using the comprehensive range of quality of life outcomes identified by an international expert panel (Schalock et al., 2002) (see Box 1).

Evidence about costs was assessed against the three criteria set out in the European study *Deinstitutionalisation and Community Living: Outcomes and Costs* (Mansell et al., 2007b) – comprehensiveness, ‘like-for-like’ comparison and long term perspective (see Box 2).

Box 3: CRD Classification of methodology

Level	Description
1 Experimental studies	A study in which some conditions, particularly decisions concerning the allocation of participants to different intervention groups, are under the control of the investigator
2 Quasi-experimental studies	A study in which the allocation of participants to different intervention groups is controlled by the investigator but the method falls short of genuine randomisation and allocation concealment
3 Controlled observational studies	A study in which natural variation in interventions among study participants is investigated to explore the effect of the interventions on outcomes
3a Cohort studies	Comparison of outcomes between participants who have received an intervention and a group that has not
3b Case control studies	Comparison of interventions between participants with the outcome (cases) and those without the outcome (controls)
4 Observational studies without control groups	Cross-sectional studies - examination of the relationship between outcomes and other variables of interest as they exist in a defined population at one particular time; before-and-after studies - comparison of findings in study participants before and after an intervention; case series - description of a number of cases of

	an intervention and outcome (without comparison with a control group)
5 Expert opinion	Based on e.g. desk research or consensus

Data extraction

For the 19 papers included in the review data were extracted and recorded into a table according to authors, date of publication, publication title and title of study, country of research, affiliated institution, design, details of participants (including type of disability, number of participants in whole study and type of accommodation), measures used in the research, costing methodology (where applicable), reliability and validity measures (where used or reported), CRD evidence level, statistics used, discussion of statistical power, outcomes in each quality of life domain (emotional well-being, interpersonal relations, material well-being, personal development, physical wellbeing, self determination, social inclusion and rights), other findings, costs and methodological issues. Of the papers considered, six commented on costs (one of which considered costs and no outcome domains), though these six papers only related to three studies. Twelve papers looked at more than one of the above outcome domains.

Data presentation

Findings are presented at two levels. First of all, information about the papers and the studies they represent are presented at a general level, including a mapping of the quality of life domains and costs covered by each study. Secondly, each study included is presented in detail including a description of the participants, methods, the findings and the strengths, weaknesses and CRD quality rating for each study. For each study, a summary table is provided to illustrate whether the findings highlight

advantages for campus/clustered settings, dispersed housing or where no differences are found between the two settings.

In the presentation of individual studies, where inferential analysis has been conducted, differences between settings have been included where they are statistically significant. Tests of statistical significance estimate the likelihood that differences found between groups are real differences rather than being due to chance. In some cases, authors present non-significant differences as representing a trend towards a particular result. These have not been included in the review on the basis that differences which do not reach statistical significance cannot be assumed to be other than due to chance. Where inferential analysis has not been conducted differences between settings as identified by the authors of the paper are reported.

Higher rates of psychotropic medication use have been presented in the summary tables as a disadvantage. Although medication may be appropriately given, it is arguable that better psychological and physical health would not require as much medication and there is evidence of overuse of psychotropic medication in residential services for people with intellectual disabilities (Ahmed et al., 2000, Brylewski and Duggan, 2004).

RESULTS

Introduction

Of the 19 papers included in the review, 14 papers related to studies conducted in the UK, one in the UK and Ireland, two in Ireland alone, one in the Netherlands and one in Australia. There were no studies identified which were carried out in the USA or Canada. The majority of the papers used quantitative methodology (18 of 19) and one was a small scale qualitative study. 15 papers reported studies with a cross-sectional design and 3 were longitudinal studies (with a cross-sectional element also included). The size of studies ranged from 11-910 participants. All 19 papers reported findings relevant to people with intellectual disabilities – no other user groups were identified in the literature.

The majority of the papers report on studies which included large samples (11 of 19 papers refer to studies which had 500 participants or over). However, nine of the papers drew data from the same study – the study of 500 people in village communities, National Health Service (NHS) residential campuses and dispersed houses in the community, funded by the English Department of Health. The two papers by Hatton et al., (1995 and 1996) were also based on a single study. Therefore, the papers included in the review reported findings from 10 different studies. Only six papers reported on costs and these referred only to three studies.

The following terms referring to residential accommodation were used in the studies included in the review:

For cluster or campus settings

Village communities, residential campuses, campus style further education facilities, campus home on the grounds of an old hospital, campus bungalows, houses on the edge of care facilities, clustered supported living, campus settings, intentional village communities, cluster housing, hospital homes¹, specialist units on the site of previous mental handicap hospitals¹.

For dispersed community-based settings

Dispersed housing (which include group homes and supported living), community-based, specialised community-based group homes, ordinary community-based group homes, group homes in the community, dispersed supported living, small group homes, residential homes, staffed house or apartment, community-based residential support, residential care homes in the community¹.

Other service types

Residential care homes in the community¹, hospital, hospital homes¹, specialist units on the site of previous mental handicap hospitals¹.

Quality of the studies included

In terms of design, 17 of the papers studied included in the review were rated as evidence level 3a, because they compared outcomes between participants in different kinds of setting. Two studies were level 4 because they were

¹ Terms that could be considered in more than one category – e.g. small residential community homes could be under dispersed housing, larger homes could be more like nursing homes/hospitals. Some units or homes within the groups of hospital could be small and part of a campus or cluster, others could be large and just one or two of them on the site.

observational without a control group comparison. Most of these studies are natural experiments – exploring differences that occur because of the situation people are in rather than the manipulation of an independent variable. Experiments and quasi-experiments (levels 1 and 2 of the CRD classification) are less likely in social care, because the researcher is not usually in a position to assign participants to different groups. Five papers reported data from matched samples of participants across the settings (one paper including two matched groups) although in other studies the authors did attempt to control for these differences in participant characteristics by statistical means, using analysis of variance and regression analysis. Thus, the majority of these studies are relatively rigorous comparisons given the subject matter.

Domains covered by each study

Box 4 summarises the number of papers addressing each domain of the quality of life framework together with quality of care and costs. The most common domain explored was physical well-being. The least commonly reported domain was that of material well-being. Only six papers reported on cost-related data and these only referred to three studies.

Appendix 3 provides a detailed mapping of the domains covered by the papers reviewed.

Box 4: Number of papers addressing each domain

Domain	Number of papers
Social inclusion	7
Interpersonal relationships	11
Material well-being	4
Emotional well-being	6
Physical well-being	12
Self-determination	7
Personal development	6
Rights	5
Staffing/quality of care/staff support	5
Costs	6

The remainder of this section presents each of the 19 papers included in the review in detail. Each study is numbered so that they can be identified in the master tables (Table 19 and Table 20).

1. Mansell and Beasley (1993)

Description of the study

Mansell and Beasley (1993) reports a longitudinal evaluation of the effectiveness of community-based residential services, individually designed for people who, in addition to their severe or profound learning disability, had very serious challenging behaviour. It was carried out in South-East England. Observations were made over

three years, tracking individuals in both pre- and post-move settings. The study focused on transfer from institutions to community living but includes some data on campus housing.

The study involved 18 participants. At the beginning of the study, 10 lived on ordinary hospital wards in two large institutions and eight lived in special units reserved for people with the most challenging behaviour in those institutions. At the time the paper was written, 11 people had moved to community-based services. Each community service was individually designed for one or two people in the study group, usually living with one or two people with less severe disabilities in a staffed group home or apartment. Three of these 11 people moved to houses that were on the same site as other residential facilities on National Health Service campuses (one of approximately 70 and one approximately 40 places in urban areas of South London). In two cases, this was a temporary move pending relocation to dispersed housing.

The design of the study was a multiple baseline design across individuals. The data collected included direct observations of resident and staff activity, staff allocation and aspects of the physical environment. Observations represented 'composite days' in the lives of each individual, being taken over three week days with a few days of each other to cover the period between 8am and 7pm so that at each data point there were 1,980 observations of activity for each person. Information was collected on seven occasions over three years. Inter-rater reliability was assessed across codes, individuals and data points and was between 84% and 95% on each occasion.

In addition to the observations, staff allocation to each living unit was recorded on each visit by examining duty rotas. The number of staff and service users in the same room was recorded every 5 minutes. The material richness and space of the physical environment were recorded once for each living unit and included the space shared by people, the number of rooms locked and the amount and type of furniture.

Findings

Comparability

The eight people living in dispersed housing were five men and three women with an average age of 37.5 years (range 34-42). Their average score on Part One of the Adaptive Behavior Scale (ABS) (Nihira et al., 1974) was 92 (range 54-154). The three people living in cluster houses included two men and one woman, aged on average 36 years (range 35-38) with average ABS Part One scores of 104 (range 49-211). Those remaining in hospital at the time the paper was written included five men and two women, average age 29 years (range 19-38) with average ABS Part One scores of 86 (range 45-110). No analysis of comparability is attempted in this paper.

Staffing ratios were higher in community-based services. Staff were present in the same room as participants for more time in houses (91%) than in the campuses (86%) or hospitals (74%).

Results

People living in dispersed houses were less likely to be in the company of people who had competing needs to their own. They were more likely to be the only resident in the room (dispersed housing 63% time, campuses 42%, hospital wards 33%, special units 27%). The quality of staff performance also differed between the houses and other types of setting. People living in hospital types of service received staff contact for, on average, 7% (hospital wards) and 9% (special units) of the time, compared with 13% in the 'campus' houses and 26% in the dispersed houses. The contact from staff included direct assistance in the houses in 11% of observations, compared with 4% in the 'campus' houses and 2% in the hospitals.

The activity level of participants is presented but not analysed by setting type.

Table 1: Summary of relevant findings from Mansell and Beasley (1993)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
No other resident in room	✓		
Staff contact	✓		
Staff assistance	✓		

Strengths and weaknesses of the study

The study provides evidence at level 3a on the CRD scale. It is an observational study involving time-series and cross-sectional comparisons. The measures involved are quantitative, widely used and robust.

The study was not designed to compare campus and dispersed housing models, has a very small sample of people with extreme characteristics and the data are not suitable for between-group statistical analysis.

The campuses were relatively large and were only transitional placements for two of the three people concerned. One was closed shortly after this study and the other is being closed as part of the UK Government's decision to phase out campus provision.

Conclusion

The study suggests that dispersed housing is superior to campus housing on the measures presented but the limitations of the study design make this finding of limited use. The study did not address costs.

2. Dockrell et al., (1995)

Description of the study

Dockrell et al., (1995) reports an evaluation of a specialist assessment and treatment unit for people with mild learning disabilities and challenging behaviour (65% of whom had a diagnosis of mental illness). It was carried out in South-East England. It tracked 34 people (typically male, young, dangerous and on medication) and gives their destination/situation at 6 months. There were seven people whose destination was a campus home – these were homes for about six people located on campuses of between 40 and 100 people. There were three people in hospital homes – small to medium sized units in the grounds of a hospital. There were eight people in community homes and five people who went to their own home or a parental home. There were 11 people who at six months were still in institutional settings.

The design of the study was a point-in-time survey. Information collected included the level of adaptive and maladaptive behaviour (using the Vineland Adaptive Behavior Scale (Sparrow et al., 1984) and the ABS Part 2), though these data are not presented in this paper. In addition, keyworkers were interviewed and ratings made (low, medium and high) of each type of home on six criteria:

- Personal privacy - having a single or shared bedroom
- Choice/autonomy - freedom of access to facilities in the establishment
- Participation in domestic activities - contributions to cooking, cleaning, etc
- Freedom - whether the establishment is locked or not, freedom to make visits outside
- Access to neighbourhood - the proximity to local shopping area

- Use of community facilities - the frequency of use of cinemas, swimming pools, etc

It is important to note that these ratings were of the **opportunity** for achievement in the domain, rather than actual performance:

“In this study no attempt was made to measure quality of life directly. Instead a comparison was made of quality of life opportunities offered in different care settings - hospital homes, campus homes and community homes. This is not the same as quality of life or quality of care, but is an attempt to assess the extent to which it is, in theory, possible for clients to achieve a reasonable quality of life” (p.897).

Costs were calculated for two hospital homes, two community homes and one campus home. The cost estimates included both running costs and rent (or imputed rent) for buildings and equipment.

Findings

Comparability

No information is presented on the characteristics of people resident in each type of setting. Day-time staffing ratios were higher in dispersed housing (0.75 staff to 1 service user) than in campus homes (0.45:1) and hospitals (0.3:1).

Results

Dispersed housing was scored ‘high’ on all six domains. Campus housing scored ‘high’ on choice, participation in domestic activities and use of community facilities; ‘medium’ on freedom/level of security and access to neighbourhood; and ‘low’ on personal privacy. Hospital settings scored ‘medium’ on choice, participation in domestic activities and freedom/level of security and ‘low’ on personal privacy, access to the neighbourhood and use of community facilities.

The cost per place per year of dispersed houses was Stg £64,000; of campus houses Stg £36,000; and of hospital houses Stg £27,000. Differences in cost largely reflect differences in staff ratio. The authors' comment that in the context of treatment outcome these may not be equivalent:

“While a campus home may prepare clients for a campus life, the community home may prepare clients for either low service intensity support or eventual 'discharge' from the health authority's services. This reinforces the point that it is important to consider care for this client group in a dynamic model” (p.899).

Table 2: Summary of relevant findings from Dockrell et al., (1995)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Personal privacy	✓		
Choice/autonomy		✓	
Participation in domestic activities		✓	
Freedom	✓		
Access to neighbourhood	✓		
Use of community facilities		✓	
Cost			✓

Strengths and weaknesses

The study provides evidence at level 4 on the CRD scale. It is an observational study involving a cross-sectional comparison. The measure of 'opportunity for quality of life' is crude and not validated.

The study was not designed to compare campus and dispersed housing models, has a very small sample of people with extreme characteristics and the data are not suitable for between-group statistical analysis. The study is primarily focused on outcome of treatment rather than comparing service models.

The cost information presented does make an attempt at comprehensiveness and like-for-like comparison and the authors do comment on the possibility that costs might diminish over time. However, the lack of comparability of the groups makes cost-effectiveness judgements impossible.

The campuses were relatively large. One was closed shortly after this study and the others are being closed as part of the UK Government's decision to phase out campus provision.

Conclusion

The study suggests that dispersed housing is superior to campus housing on the quality measures presented, but is more expensive. The limitations of the study design make this finding of limited use.

3. Hatton et al., (1995) and 4. Hatton et al., (1996)

These papers relate to the same study. Hatton et al., (1995) explores the quality and costs of four different service models for 40 adults with multiple disabilities (especially sensory disabilities) in England. Hatton et al., (1996) uses the same data to explore predictors of outcome.

The four service models were:

- Specialised institution-based units (15 people in two units)
- Specialised campus time-limited further educational service (16 of 38 people in small, usually 5-person apartments)
- Specialised dispersed housing (four residents living in three houses provided by one agency and four residents in one of three homes provided by another agency)
- Ordinary dispersed housing (eight people living in houses managed by three agencies).

In addition, some data are presented for five people before their move from an institution.

The study used a group comparison design. Information collected included: (i) non-participant observation of patterns of staff and resident activity over composite 12-hour days covering 08:00-20:00; (ii) resident:staff ratios in the setting and the room, collected during observations; (iii) the Disability Assessment Schedule (Holmes et al., 1982) by interview with care staff; (iv) scheduled activities collected by interview with care staff; (v) a shortened version of the Group Home Management Interview (Pratt et al., 1980); (vi) frequency and nature of outings and frequency of visits to residence from family or friends from daily records; and (vii) the cost of services collected using the Client Service Receipt Interview (Knapp et al., 1992), cost and price information collected at facility and agency levels and costing of the capital value of buildings. Inter-rater reliability data were collected for the observational measure and calculated using product-moment correlations (campus) and Cohen's kappa (other units). Only data achieving acceptable levels of inter-rater reliability were presented.

Findings

Comparability

One-way analysis of variance on resident needs and characteristics showed that the groups were comparable in terms of level of intellectual disability, the proportion with visual and hearing impairments, gender, total and subscale scores on the Disability Assessment Schedule. Residents in the ordinary dispersed housing and in the specialised institution-based units were older than residents in the campus or the specialised dispersed housing.

Staff ratios were higher in the campus houses (0.69 staff to 1 service user) and ordinary dispersed houses (0.67:1) than in the institutions (0.38:1) but were not significantly different from each other or from the specialised dispersed housing (0.61:1) or the institution-based special units (0.5:1); staff ratios observed in the room were higher in the campus houses (0.69:1) than in the institutions (0.32:1), the institution-based units (0.43:1) or the specialised dispersed housing (0.49:1), but not the ordinary dispersed housing (0.52:1).

Results

In terms of social climate, the campus houses had higher levels of block treatment than either type of dispersed housing. Institutions had greater social distance than campus houses, specialised and ordinary dispersed housing, but not institution-based units; these units had greater social distance than either type of dispersed housing but were not significantly different from the campus houses. Institution-based units had greater levels of depersonalisation than campus houses, specialist or ordinary dispersed housing. Residents of specialised dispersed housing had more hours of scheduled activity (38.5) than institutions (8.0), institution-based units (16.2) and campus houses (15.7) but were not significantly different from ordinary dispersed housing (26.6).

Residents in campus houses had fewer contacts with health and welfare professionals (average 10.3 contacts in preceding four weeks) than those in other service settings

(specialised dispersed housing 50.4, ordinary dispersed housing 43.6, institution-based units 64.0, institutions 48.0). No difference was found in the number of visits received from friends/family across service models. Residents of specialised and ordinary dispersed housing had significantly more outings than residents in institution-based units and campus houses (average number of outings per week: specialised dispersed housing 24.6; ordinary dispersed housing 29.7; institution-based units 4.6; campus housing 6.8).

Significant differences between service models were found in the contact received from staff. People living in specialised dispersed housing received a higher rate of positive staff contact than in any other service model (average rate per hour in specialist dispersed housing 23.3, institution-based units 8.0, campus houses 7.3, ordinary dispersed housing 1.9, institutions 1.9). They also received more overall staff contact than those in institutions, and more direct assistance than those in institutions or ordinary dispersed housing, but were not different from campus houses on these measures. People living in campus houses received more staff care - "providing care for residents without encouraging their participation (e.g. medical assessments, dressing the resident rather than using instruction to encourage resident participation in dressing)" than in institutions or specialised dispersed housing (average percentage time in campus houses 5.6%, institutions 1.1%, specialised dispersed housing 1.2%).

Table 3: Summary of relevant findings from Hatton et al., (1995) and Hatton et al., (1996)

Measure	Dispersed housing better	No difference	Campus /cluster housing better
Block treatment	✓		
Social distance		✓	
Depersonalisation		✓	
Scheduled activity	✓ ²	✓ ¹	
Contacts with health and welfare professionals	✓		
Number of visits from family/friends		✓	
Number of outings	✓		
Total staff contact		✓	
Positive staff contact	✓ ²	✓ ¹	
Staff assistance		✓	
Staff care		✓ ¹	✓ ²
Resident constructive activity		✓	
Challenging behaviour		✓	
Stereotyped,		✓	

repetitive behaviour			
Cost	✓ ¹	✓ ²	

¹ comparison between ordinary dispersed housing and campus/cluster housing

² comparison between specialised dispersed housing and campus/cluster housing

There were no differences in involvement in constructive activity by people living in dispersed or campus housing. Residents of specialised dispersed housing engaged in higher levels of constructive activity than residents in institutions and institution-based units. There were no significant differences between models in terms of challenging behaviour or stereotypy.

Costs were higher in the campus houses and the institution-based units than in ordinary dispersed housing but not significantly different from those in specialised dispersed housing.

The authors note that all results show great variability within the same type of service. Hatton et al., (1996) drew on the data from the same study and conducted path analyses using resident engagement in constructive activity and number of outings as dependent variables. They found that engagement in constructive activity was directly predicted by resident ability, positive staff contact and community, rather than campus or institutional, location. There were two indirect predictors – scheduled activity and specialised service orientation, acting through positive staff contact. Outings were directly predicted by more scheduled activity, less social distance, less block treatment and non-specialised orientation, with indirect predictors less block treatment and resident skills (through scheduled activity) and community location (through social distance).

Strengths and weaknesses

The study provides evidence at level 3a on the CRD scale. It is a cohort study involving a cross-sectional comparison.

The measures used are quantitative, widely used and robust.

Another strength of the study is that it was designed to compare different housing models and the groups of residents were comparable on the characteristics studied. Overall staff ratios were also comparable. Cost information was comprehensive and the comparisons made on a like-for-like basis. The authors note the relatively small sample size, the fact that this is a study at a single point in time and that there was large variation between different services of the same type. Nevertheless, it is a relatively comprehensive and effective comparison.

Conclusion

The study suggests that dispersed housing is superior to campus housing in terms of avoiding block treatment, scheduling of activities, contacts with health and welfare professionals, number of outings, positive staff contact and cost. Two of these advantages appear to be related to the presence of specialised knowledge in the staff. Campus housing is superior to dispersed housing in the provision of staff care. Staff care – that is, caring for residents without enabling their participation in the activity – is better than neglecting the needs of residents but arguably is not as good as enabling residents to participate in self-care and any other activities. Although specialised dispersed housing achieved higher average levels of engagement in constructive activity than campus houses, this difference was not statistically significant. However, path analysis identified community location as predictive of engagement in constructive activity and in this respect the dispersed housing is therefore likely to be superior to campus housing.

5. Janssen et al., (1999)

Janssen *et al* (1999) was a study of 668 people with intellectual disability randomly selected from seven residential facilities in the Netherlands. Their average age was 38, more than 60% had mild to moderate intellectual

disability, 59% were male and the average number of people per living unit was 9 (range 1-18). From these 668, two groups were selected: 80 people living in houses on the edge of the residential care facilities; and 119 people in group homes outside the residential facilities. Over 90% of these groups were people with mild or moderate intellectual disability.

The study used a group comparison design. Information was collected using two specially developed measures of quality of life each with approximately 300 items, one completed by a member of staff and the other by a family carer or by the resident themselves. The authors refer to unpublished pilot studies demonstrating validity and inter-rater reliability and present data showing high internal consistency of the scale domains. The measure completed by staff had 17 domains and that completed by service users or their families had 20 (see Box 5). There were 14 domains that covered the same issues, three domains were rated only by staff and six only by residents or family carers, giving a total of 23 different domains (see Table 4).

Findings

Comparability

The authors report that the two groups were comparable in terms of their characteristics and the amount of staff support required but do not present any statistical test of this.

Results

Results are presented first for the ratings by staff, then by the ratings made by family members or residents themselves.

Quality of life for people living in dispersed housing was rated better than for those in campus housing in 15 of 17 domains rated by staff.

In respect of the physical domain, 30% of people in campus houses were rated as not receiving adequate care compared with 6% in dispersed housing, because they

have less freedom to participate in physical activities, to choose (eating/drinking), mobility to visit others, receive less training in personal care and in transportation and less integration related activities.

Box 5: Domains of the quality of life measure

Staff measure	Service user/Family measure
1. Physical Domain	1. Care Physical Health
2. Adapted Housing	2. Care Fitness
3. Acceptance, sexual activity.	3. Freedom in Eating/Drinking
4. Identity	4. Care Mental Health
5. Vision/Religion	5. Care Identity
6. Housing	6. Religious Activities
7. Property/Belongings	7. Housing
8. Housekeeping	8. Care Properties
9. Relation Caretaker	9. Independent Housekeeping
10. Relation Others	10. Living Environment
11. Recreation	11. Treatment by Caretakers
12. Daily Activities	12. Relation with Family
13. Safety	13. Freedom/Relations with Others

14. Freedom	14. Quality and Quantity Recreation
15. Training	15. Care Daily Activities
16. Integration	16. Safety
17. General Care	17. Freedom
	18. Training
	19. Integration
	20. General Care

In the identity domain 23% of people in campus houses were rated as not receiving adequate care compared with 3% in dispersed housing. This meant they had less structured living situations, received less preparation for changes and did not always have a special private place in the house. They received less training in handling emotions, handicaps and problems, had less chance to decorate their own room and to own a key to the house.

For housekeeping, 22% of people in campus houses were rated as not receiving adequate care compared with 7% in dispersed housing, for example, having less self-determination and training in housekeeping.

In terms of relationships with others, 47% of people in campus houses were rated as not receiving adequate care compared with 17% in dispersed housing. They had fewer training opportunities in social skills and less freedom in relation to meeting others.

In recreation, 27% of people in campus houses were rated as not receiving adequate care compared with 11% in dispersed housing because they took part less frequently in recreational activities in and outside the house, had less

freedom to participate in recreational activities, less training in and stimulation of hobbies and talents.

The proportion of residents in campus houses rated as not receiving adequate care in daily activities was 21% compared with 13% in dispersed housing. This reflected fewer training opportunities, lack of suitable guidance and less freedom of choice.

Table 4: Summary of relevant findings from Janssen et al., (1999)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Physical Domain	✓ ¹		
Adapted Housing		✓ ¹	
Acceptance, sexual activity		✓ ¹	
Care Physical Health		✓ ²	
Care Fitness		✓ ²	
Freedom eating/ drinking	✓ ²		
Care mental health		✓ ²	
Identity	✓ ¹	✓ ²	
Vision/Religion	✓ ¹	✓ ²	
Housing	✓ ¹	✓ ²	

Property/Belongings	✓ ¹	✓ ²	
Housekeeping	✓ ¹	✓ ²	
Living environment		✓ ²	
Relation Family		✓ ²	
Relation Caretaker	✓ ¹	✓ ²	
Relation Others	✓ ²		
Recreation	✓ ²		
Daily Activities	✓ ²		
Safety	✓ ²		
Freedom			
Training			
Integration			
General Care	✓ ²		

¹ rated by staff

² rated by service users or families

³ rated by both staff and service users or families

As rated by staff, significantly poorer results were also found in respect of vision/religion, housing, property/belongings, relations with caretaker, safety and general care. The two domains in which there was no significant difference were the provision of adapted housing and 'acceptance, sexual activity'.

Service users and families responding to the second questionnaire generally rated quality of life slightly higher than staff. In 16 of 20 domains there was no significant difference between campus or dispersed housing. The four domains where there was a difference were less freedom in eating and drinking (23% residents in campus houses rated as not receiving adequate freedom compared with 13% in dispersed housing), freedom in relationships (21% residents in campus houses rated as not receiving adequate freedom compared with 16% in dispersed housing), training (11% residents in campus houses rated as not receiving adequate care compared with 3% in dispersed housing) and integration (21% residents in campus houses rated as not receiving care compared with 9% in dispersed housing).

Strengths and weaknesses

The study provides evidence at level 3a on the CRD scale. It is a cohort study involving a cross-sectional comparison. The measures used are quantitative and reported as robust though evidence of this is not presented. The measure has not been widely used and it is therefore more difficult to compare findings from this study with others.

A strength of the study is that it was designed to compare different housing models and the groups of residents were comparable on the characteristics studied. Overall staff ratios were also comparable. The weaknesses of the study are that it focuses only on services for people with mild or moderate intellectual disability and it does not include any information on costs. Nevertheless, it is a relatively comprehensive and effective comparison of many aspects of quality of life.

Conclusion

The study suggests that dispersed housing is generally superior to campus housing when ratings are made of many aspects of quality of life by staff, and that there is no difference in ratings made in most domains by service users or families. There are no domains in which campus houses were rated by staff or service users or carers as superior to dispersed housing.

- 6. Emerson et al., (2000b), 7.**
- Emerson et al., (2000c), 8.**
- Robertson et al., (2000b), 9.**
- Emerson et al., (2000a), 10.**
- Robertson et al., (2000a), 11.**
- Robertson et al., (2001), 12. Gregory et al., (2001), 13. Walsh et al., (2001), 14. Hallam et al., (2002)**

There are nine papers published drawing on data from this study comparing quality and costs in English National Health Service campuses, village communities and dispersed housing (including small and large group homes and supported living), in England and Ireland. In the main study (Emerson et al., 2000b), information was available for 500 people with intellectual disabilities: 133 in five newly built residential campuses ranging from 94 to 144 places; 86 people in three village communities in England; and 281 people in 10 dispersed housing schemes.

The study was a cross-sectional group comparison. As well as reporting data for the whole group, Emerson et al., (2000b) also present data on 81 matched pairs of people living in village communities and dispersed housing, and 121 pairs living in residential campuses and dispersed housing. Emerson et al., (2000c) presents data on two sub groups of 20 people with severe and complex needs in residential campuses and dispersed housing. Emerson et al., (2000a) present information about the management of challenging behaviour. Gregory et al., (2001) present data on a subgroup of residents interviewed. Walsh et al., (2001) included data from relatives of people living in village communities in Ireland in their paper. Hallam et al.,

(2002) present data on costs of the different types of setting.

Information about the residential setting was collected by interviewing managers or key informants and through ratings by the research team and included the Residential Services Setting Questionnaire (Emerson et al., 1995), the Architectural Features Scale (Thompson et al., 1990), the Residential Services Working Practices Scale (Felce et al., 1995), the Group Home Management Interview (Pratt et al., 1980), information about participants and specific support (by questionnaire and interview with staff), Adaptive Behavior Scale Part 1 (Nihira et al., 1993), the Aberrant Behavior Checklist (Aman et al., 1995), the PAS-ADD (Moss et al., 1996; Moss et al., 1998), the Autism Screening Questionnaire (Howlin, 1996), the Index of Community Involvement (Raynes et al., 1987), the Social Network Map (Tracy and Whittaker, 1990, Tracy and Abell, 1994), selected items from the Health Survey for England (Bennett et al., 1995), the Thameside and Glossop Health Needs Survey (Turner, 1997), the Choice Scale and the Risks Scale (Emerson et al., 1999), views of participants obtained by semi-structured interviews based on Azmi et al., (1997) and Mason et al., (1997), and views of relatives obtained through a postal questionnaire based on that used by Hatton et al., (1995). Observational measures of engagement in meaningful activity, stereotypy, challenging behaviour, staff contact and assistance were also taken.

Cost information was obtained using the Revised Client Service Receipt Inventory (Beecham, 1995; Beecham and Knapp, 1992) with each participant, the Residential Services Setting Questionnaire, description of service and facility accounts, direct staffing costs, non-staffing costs, administration of professional staff over site and central office, costs of buildings-based services and cost of services received independently of accommodation, using national unit cost data (Netten et al., 1998).

Generally, these studies used analysis of variance with Mann-Whitney posthoc tests to identify group differences and logistic regression to identify predictors of outcome.

Where there were pre-existing differences in service user characteristics between groups being compared, the potentially confounding variables were entered first as covariates.

Findings

The findings are presented separately for each paper.

6. Emerson et al., (2000b)

Comparability

Taking the whole sample, people in village communities had higher levels of adaptive behaviour than people in dispersed housing who in turn had higher level of adaptive behaviour than those in NHS campuses. People in NHS campuses had higher levels of challenging behaviour. The first matched group of 81 pairs of people living in either village communities or dispersed housing was matched on ABS Part 1 score but was a relatively able group (scoring nearly 70% of the maximum possible on the ABS). The second group of 121 pairs was matched on both the ABS Part One (scoring 39% of maximum possible) and the Aberrant Behavior Checklist (campus houses average score 29.3, dispersed housing 28.9). Data from the matched groups is only presented where the dependent variables in the analysis of variance were significantly associated with either adaptive or challenging behaviour.

After taking account of differences in characteristics of people living in the different settings, there were higher overall staffing ratios (of all staff employed over 24 hours) in dispersed housing (1.7 staff per resident) compared to campus houses (1.3:1) but the difference between dispersed housing and village communities (1.4:1) was not statistically significant. Taking only senior staff, dispersed housing had significantly higher staff ratios (0.4:1) than campus houses (0.3:1) or village communities (0.3:1).

Results

Results are summarised in Table 5. Dispersed housing was significantly more homely than campus housing or village communities. It was better than campus housing in

terms of block treatment, depersonalisation, rigidity of routine and social distance between staff and residents. It was better than village communities in terms of block treatment and depersonalisation, the same in terms of social distance and worse in terms of rigidity of routine.

Village communities were better than dispersed housing which was better than residential campuses at person-centred planning, activity planning and staff training and supervision. Campus houses and village communities were better than dispersed housing at procedures for assessment and teaching. Settings did not differ on planning staff support to residents.

There were no differences between service types in contact with a community physician. People in village communities were more likely to have contact with dentists than people in campus or dispersed housing. People in campus housing were more likely than those in either other model to have contact with psychiatrists and psychologists. People in village communities were more likely to have had a general health check and a vision test than people in campus housing, who were more likely than those in dispersed housing. People in village communities were also more likely than those in dispersed housing to have had blood pressure and testicular checks in the last year. Differences between service models in cervical smears, hearing checks and mammograms were not statistically significant. More people received anti-psychotic and anti-depressant medication in campus houses than in village communities or dispersed housing. There was no difference in numbers of people using anxiolytics or hypnotics.

Although for the full sample, people living in dispersed housing had more choice than those in campus housing, the difference between them and those in village communities was not statistically significant for the matched sample. This implies that the difference in the full sample is likely to reflect differences in resident characteristics.

People living in dispersed housing and village communities had more extensive social networks than those in campus houses. Although people living in dispersed housing had more people with intellectual disabilities in their social networks than those in campus housing, the difference between them and those in village communities was not statistically significant for the matched sample. There were no differences between types of setting in the number of family members or staff in the social networks of residents, though people in dispersed housing had more local people in their social network.

People in dispersed housing took part in a greater number of recreational and community activities than those in campus houses or village communities. People in dispersed housing and village communities had more variety of activity than those in campus houses. People in village communities had more hours per week of scheduled activity than those in dispersed housing, who had more than those in campus houses.

Men in dispersed housing were less likely to be physically inactive than those in campus houses. There was no difference between dispersed housing and village communities, nor between any settings in terms of underweight, obesity, women inactive or number of people experiencing accidents.

People in dispersed or campus housing were more likely to have been victims of crime or experience verbal abuse by members of the public than people in village communities. There were no differences between settings on physical or sexual abuse in the home or on whether the home had been vandalised. People in campus housing were perceived to be more at risk of accidents in the home than those in village communities; people in dispersed housing did not differ from either group. People in dispersed housing were perceived to be more at risk of exploitation by people in the local community than those living in either campus houses or village communities. There were no differences between settings on other types of perceived risk.

Views of participants could be obtained from sufficient people in village communities and dispersed housing to permit analysis. There were no significant differences between the groups. Relatives' satisfaction with the quality of support did not differ between types of setting.

For the full sample, costs of dispersed housing were higher than for campus housing which were higher than for village communities. However, comparison of the matched samples found that the same pattern of differences was not statistically significant. This implies that cost differences in the full sample were due to differences in resident characteristics.

Table 5: Summary of relevant findings from Emerson et al., (2000b)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Homelikeness	✓		
Block treatment	✓		
Depersonalisation	✓		
Rigidity of routines	✓ ²		✓ ¹
Social distance	✓ ²	✓ ¹	
Person-centred planning	✓ ²		✓ ¹
Activity planning	✓ ²		✓ ¹
Staff training and supervision	✓ ²		✓ ¹

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Assessment and teaching			✓
Planning staff support		✓	
Contact with community physician		✓	
Contact with dentist			✓ ¹
Contact with psychiatrist			✓ ²
Contact with psychologist			✓ ²
General health check			✓
Blood pressure check		✓ ²	✓ ¹
Vision test			✓
Hearing test		✓	
Mammogram		✓	
Cervical smear		✓	
Testicular cancer		✓ ²	✓ ¹
Anti-psychotic medication	✓ ²	✓ ¹	
Anti-depressant medication	✓ ²	✓ ¹	
Anxiolytic medication		✓	
Hypnotic medication		✓	

Choice	✓ ²	✓ ¹	
Number of people in social network	✓ ²	✓ ¹	
People with intellectual disability in network	✓ ²	✓ ¹	
Family members or staff in network		✓	
Local people in network	✓		
Number recreational/ community activities	✓		
Variety recreational/ community activities	✓ ²	✓ ¹	
Hours recreational/ community activities	✓ ²		✓ ¹
Physical inactivity (men)	✓ ²	✓ ¹	
Physical inactivity (women)		✓	
Obesity		✓	
Underweight		✓	
Accidents		✓	
Victim of crime		✓ ²	✓ ¹
Verbal abuse		✓ ²	✓ ¹

Physical or sexual abuse		✓	
Vandalism		✓	
Perceived risk of accidents		✓	
Perceived risk of exploitation by members of local community			✓
Other perceived risks		✓	
Participants' satisfaction		✓ ¹	
Relatives' satisfaction		✓	
Costs			✓

¹ comparison between dispersed housing and village communities

² comparison between dispersed housing and campus houses

7. Emerson et al., (2000c)

Comparability

This is a sub-study from the larger sample reported, which focused on costs and quality of community based residential supports and residential campuses for people with severe and complex disabilities. Two groups of 20 people with severe and complex needs were identified from dispersed and campus housing. People were selected if they were under 56 years of age, were non-verbal or nearly non-verbal and had low scores on a range of ABS items indicating severe and complex disability. The groups obtained matched well on age, adaptive behaviour, autism and mental health but those in campus houses had more challenging behaviour, had been living in the current

setting for longer and were more likely to have lived in hospital.

Dispersed housing had higher staff ratios than campus housing overall and for senior and care staff separately.

Results

People in dispersed housing lived with fewer other people with intellectual disabilities than those in campus housing and their houses were more homely.

Dispersed housing was better than campus housing in respect of all four domains of social climate (depersonalisation, rigidity of routine, social distance and block treatment). There was no difference in person-centred planning or in procedures for assessment and teaching but dispersed housing was better at activity planning, planning staff support to residents and training and supervision of staff.

There was no difference between dispersed or campus housing in the amount of staff contact people received, either overall or separately as assistance, processing or other contact.

Table 6: Summary of relevant findings from Emerson et al., (2000c)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Number co-residents	✓		
Homelikeness	✓		
Block treatment	✓		
Depersonalisation	✓		

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Rigidity of routines	✓		
Social distance	✓		
Person-centred planning		✓	
Activity planning	✓		
Staff training and supervision	✓		
Assessment and teaching		✓	
Planning staff support	✓		
Contact from staff		✓	
Choice	✓		
Number of people in network	✓		
Contact from other residents		✓	
Contact from visitors/others		✓	
Contact with family		✓	
Composition of network		✓	
Number community activities	✓		
Variety community activities	✓		

Hours of scheduled activity		✓	
Engagement in meaningful activity		✓	
Stereotypy	✓		
Costs			✓

People in dispersed housing had greater choice than those in campus houses and wider social networks. There were no significant differences in contact received from other residents or visitors or others during observations, contact with family in the last three months or composition of the social network. People in dispersed housing had a greater number and variety of community activities than those in campus housing, but there was no difference in the average number of hours of activity scheduled in the week. There was also no difference in the level of engagement in meaningful activity, but people in campus houses spent more of their time in stereotyped behaviour than those in dispersed houses.

The authors note that results show great variability within the same type of service and therefore conducted regression on the whole sample to identify predictors of engagement in meaningful activity. Higher engagement in meaningful activity was predicted by ability on domestic tasks and by assistance from staff.

Total costs of dispersed housing were higher than those of campus housing. This difference was entirely due to higher staffing ratios in the dispersed housing.

8. Robertson et al., (2000b)

Comparability

This study focused on health outcomes for people in dispersed housing, campus housing and village

communities. It used the whole sample (so the groups were not matched) but excluded people who were not physically capable of walking alone. This excluded 22% of people in dispersed housing, 28% in campus houses but only 2% in village communities. No information is presented on the characteristics of the sample actually used in this study.

Results

This study found that the only difference between settings in terms of diet was that fewer people in village communities met the criterion for adequate consumption of dairy products and fewer had a poor or fatty diet.

In contrast to the finding presented for the whole sample of 500 by Emerson et al., (2000b), this paper did not find significant differences in the percentage of men defined as inactive. It did find that people in residential campuses were significantly more likely to be inactive than in village communities, where people were in turn more likely to be inactive than in dispersed housing. This difference was explained by the findings for women. There were significant differences in the percentage of people taking vigorous activity but post-hoc tests are not provided.

Table 7: Summary of relevant findings from Robertson et al., (2000b)

Measure	Dispersed housing better	No difference	Campus/cluster housing better
Consumption dairy products	✓ ¹	✓ ²	
Poor/fatty diet		✓ ²	✓ ¹
Inactivity	✓		

Drinking/smoking health risk		✓	
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¹ comparison between dispersed housing and village communities

² comparison between dispersed housing and campus houses

People in campus houses were less likely to drink alcohol than those in either dispersed housing or village communities. Levels of alcohol consumption were notably lower than those of the general population and did not exceed recommended levels. There were no differences between settings in either smoking or drinking as health risks.

9. Emerson et al., (2000a)

Comparability

This study focused on the treatment and management of challenging behaviour for people in dispersed housing, campus housing and village communities. It reports some data for the whole sample and then for people recorded as either having one 'moderately serious' or 'severe' form of challenging behaviour in the previous month. The number of people so described living in different types of setting was different, with most living in campus houses and least in village communities. When only these people were included there were no differences between settings in the form or nature of challenging behaviour shown. The paper uses multiple logistic regression on all the people identified as having 'moderately serious' or 'severe' challenging behaviour to identify predictors of various outcomes.

Results

The only findings where setting type was predictive were that people in campus houses were more likely to be subject to physical restraint; people in 'supported living' placements were more likely to have a written intervention programme; and people living in group homes were less likely to have an individual programme plan goal addressing challenging behaviour.

Table 8: Summary of relevant findings from Emerson et al., (2000a)

Measure	Dispersed housing better	No difference	Campus/cluster housing better
Subject to restraint	✓		
Written intervention programme	✓ ¹	✓ ²	
Individual programme plan goal		✓ ¹	✓ ²

¹ comparison between supported living and campus/cluster housing only

² comparison between group homes and campus/cluster housing only

10. Robertson et al., (2000a)

Comparability

This study presents findings on the use of psychotropic medication in the different types of residential setting, using the total sample as in Emerson et al., (2000b). The groups are therefore not comparable.

Results

In addition to the results reported in the main study, this study found that people in campus houses were more likely than those in dispersed houses or village communities to receive both antipsychotics and antidepressants and to receive more than one type of antipsychotic on a regular basis. Other drug combinations were not significantly different across settings.

Table 9: Summary of relevant findings from Robertson et al., (2000a)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Receive both antipsychotics and antidepressants	✓ ²	✓ ¹	
More than one antipsychotic	✓ ²	✓ ¹	

¹ comparison between dispersed housing and village communities

² comparison between dispersed housing and campus houses

11. Robertson et al., (2001)

Comparability

This study presents findings on the social networks of people living in the different types of residential setting, using the total sample as in Emerson *et al* (2000b). The groups are therefore not comparable. The paper uses logistic regression to identify predictors of various outcomes.

Results

In addition to the results reported in the main study, this paper reports some findings relating to type of residential setting. People living in dispersed housing for three or fewer people had larger social networks and were more likely to have a person who was not a staff member, a relative or person with intellectual disability in their social network.

Table 10: Summary of relevant findings from Robertson et al., (2001)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Size of social network	✓		
Member of public in network	✓		

12. Gregory et al., (2001)

Comparability

This study presents results of interviews with 45 residents of village communities and 51 residents of dispersed housing. There were no statistically significant differences between these groups in terms of resident ability.

Results

People living in village communities were more satisfied with friendships and relationships than those in dispersed housing. There was no difference between the groups in satisfaction with accommodation, choice, social and leisure activities, risks, day activities and the support received.

Table 11: Summary of relevant findings from Gregory et al., (2001)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Satisfaction with accommodation		✓ ¹	
Choice		✓ ¹	
Satisfaction with social and leisure activities		✓ ¹	
Satisfaction with friendships and relationships			✓ ¹
Satisfaction with risks		✓ ¹	
Satisfaction with day activities		✓ ¹	
Satisfaction with support received		✓ ¹	

¹ comparison between dispersed housing and village communities

13. Walsh et al., (2001)

Comparability

This paper extends the study reported in Emerson et al., (2000b) by including an additional 60 people with intellectual disabilities in dispersed housing and 65 in residential campuses in Ireland to explore the family views of the quality of residential supports. Only people who had family contact in the previous six months were approached

and data were obtained from the families of 81 Irish residents and 210 UK residents, 130 in dispersed housing and 161 in campus or village settings. The only data presented to judge comparability of the groups living in different settings is that there was no difference in distance from the family home.

Results

Families of residents in campus/village settings reported higher level of contact in the previous three months. There was no significant difference in satisfaction between settings over the whole sample.

Table 12: Summary of relevant findings from Walsh et al., (2001)

Measure	Dispersed housing better	No difference	Campus/cluster housing better
Family contact			✓
Family satisfaction		✓	

14. Hallam et al., (2002)

Comparability

This study provides more detailed cost comparisons using the same samples as presented in Emerson et al., (2000b). These samples are not, therefore, comparable in terms of resident characteristics.

Results

Total costs of village communities were less than campus housing or dispersed housing. This differs from the finding in Emerson et al., (2000b) that the overall costs of village communities were less than those of campus houses which were less than those of dispersed housing. The reason for

this appears to be that Emerson et al., adjusted costs to take account of differences in adaptive and challenging behaviour.

Table 13: Summary of relevant findings from Hallam et al., (2002)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Cost		✓ ²	✓ ¹

¹ comparison between dispersed housing and village communities

² comparison between dispersed housing and campus houses

Strengths and weaknesses

The strengths of this group of studies are that they are comparative observational studies using a large number of quantitative, widely used and robust measures, studying services identified as representing among the best practice of each type. The studies provide evidence at level 3a on the CRD scale. The study included comprehensive costing and like-for-like comparison.

The authors note that the services are not representative, because they were selected as examples of good practice; that they are drawn from relatively few organisations; and that there are a large number of comparisons. A further weakness of the study is that the groups were not comparable and that it was necessary to try to control for this difference statistically, though three smaller matched comparison studies were carried out. Data from the Irish component of the project appears only to have been used to comment on family views (in Walsh et al., (2001).

Conclusion

In general, these studies show that campus houses perform less well on the overwhelming majority of measures of inputs, processes and quality outcomes

studied. These differences cannot be accounted for by differences in the characteristics of people supported. Differences between dispersed housing and village communities are more mixed, with different benefits for each model. Although there are distinct differences noted in terms of the profile of people living in village communities and dispersed housing (village communities serving people who, on average, have higher levels of adaptive behaviour and lower levels of challenging behaviour), the different benefits of each model cannot be explained by differences in the characteristics of the residents. However, it is relevant to note that village communities only served people with relatively high levels of adaptive behaviour and low levels of challenging behaviour.

Although overall dispersed housing was 15% more expensive than campus housing and 20% more expensive than village communities, this was only true for the whole sample (where adaptive behaviour and challenging behaviour differed between settings). When matched samples were compared in Emerson et al., (2000b) there were no statistically significant differences in cost; Emerson et al., (2000c) did find differences, but these were attributable to differences in staff ratio. Costs largely reflect staff ratios in the different kinds of service and if staff ratios match resident needs there appears to be no difference in cost in this study.

15. Emerson (2004)

Emerson (2004) reports a comparison between people with intellectual disabilities living in dispersed housing and cluster housing. From an audit of 1,542 people living in residential services in the North West of England, full data was available on 910 people, of whom 169 were in cluster housing and 741 were in dispersed housing.

The information collected included participant and setting characteristics (Bliss et al., 1999), the Learning Disability Casemix Scale (LDCS) (Pendaries, 1997), an extended version of the Index of Community Involvement (Raynes et al., 1987), Body Mass Index (BMI) and the Physical Activity

Scale from the Health Survey for England (Bennett et al., 1995).

The data were analysed using analysis of variance, controlling statistically for age, gender, ability, challenging behaviour, mental health status and prior residential history. The study also used logistic regression analysis and PLUM ordinal regression. Differences are reported here if they are statistically significant at $p < 0.05$. The paper also reports several findings that, though not statistically significant, are very large (more than 50% more likely or frequent in one setting than another). For example, the odds of being in any form of employment were 1.7 times as great for people living in dispersed houses than for people in clustered housing. Further details of these results are given in the original paper.

Findings

Comparability

Compared with people living in dispersed housing, people in cluster housing were younger, more disabled and with more challenging behaviour; were more likely to have moved from home/school and less likely to have moved from a hostel or another cluster. Dispersed housing had higher staff ratios than cluster housing.

Results

People living in dispersed housing lived with fewer other people, were less likely to have their home used for short-term care of other people or be supported by casual staff. There was no difference between dispersed and cluster housing in terms of staff turnover.

People living in dispersed housing were more likely to have an individual plan, but people in cluster housing were more likely to have a keyworker.

There were no differences in health checks, vision and hearing tests or mammograms but people in cluster housing were more likely to have seen the dentist in the last year.

There were no differences in the proportion of people who were overweight or obese or physically inactive. People in dispersed housing were more likely to undertake moderate or vigorous activity (exercise) and people in cluster housing were more likely to be underweight.

There were no differences in whether people had a written treatment plan for challenging behaviour, use of antipsychotic, anxiolytic or antidepressant medication. People in campus houses had higher levels of hypnotic medication and of more than two antipsychotics (polypharmacy). They were also more likely to experience seclusion.

People in dispersed housing took part in more community-based activities, more and a greater variety of leisure, social and friendship activities than those in cluster housing. There were no differences in contact with family, or friends, or in participation in social activities.

Strengths and weaknesses

The strengths of this study is that it offers a clear comparison between cluster housing and dispersed housing, using a number of quantitative, widely used and robust measures. The study provides evidence at level 3a on the CRD scale.

The authors point out that participants cannot be assumed to represent all adults with intellectual disabilities receiving support in England (participants were marginally older, living in slightly smaller units than national data). There are no within-study checks of reliability or validity of data collection. The study does not address costs of services.

Conclusion

As in other studies, the populations in the two groups were not completely comparable and it was necessary to control for these differences statistically. Once this is done, important differences emerge. People living in cluster housing were more likely to live in larger settings, with fewer staff, be exposed to greater inconsistency in living arrangements (their home also being used for short-term

care for others and greater use of casual staff), be exposed to more restrictive behaviour management practices (seclusion, hypnotic medication, polypharmacy), lead more sedentary lives, be underweight, and participate in fewer and a more restricted range of leisure, social and friendship activities. The only benefits of cluster housing were in the provision of a keyworker and visits to the dentist.

16. McConkey, Walsh-Gallagher and Sinclair (2005)

McConkey, Walsh-Gallagher and Sinclair (2005) compared people's involvement with their families and the local community in campus settings and in community housing in Ireland. Participants were 55 people living in 11 bungalows on a campus setting and 51 people in 10 dispersed houses. All the services studied were run by the same organisation.

Information collected in the study included demographic information about the participants, Index of Social Competence (McConkey and Walsh, 1982), information on frequency of challenging behaviours, the Life Experiences Checklist (Ager, 1998) and information about the range and frequency of contacts the person had with their family. No information on validity or inter-rater reliability is presented in the study.

Analysis of variance was used to identify differences between groups, with binary logistic regression carried out on the whole sample to provide further information about relationships between variables.

Table 14: Summary of relevant findings from Emerson (2004)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Individual plan	✓		
Keyworker			✓
Number co-tenants	✓		
Home used for short-term care	✓		
Use of casual staff	✓		
Staff turnover		✓	
Work experience		✓	
Voluntary work		✓	
Adult education		✓	
Day centre		✓	
Hours per week at day programme		✓	
Health check		✓	
Dental check			✓
Hearing test		✓	
Vision test		✓	

Mammogram		✓	
Underweight	✓		
Overweight		✓	
Obesity		✓	
Physical inactivity		✓	
Exercise	✓		
Treatment programme for challenging behaviour		✓	
Antipsychotic medication		✓	
Antidepressant medication		✓	
Anxiolytic medication		✓	
Hypnotic medication	✓		
More than two antipsychotics	✓		
Seclusion for challenging behaviour	✓		
Community-based activities	✓		
Number of leisure, social and friendship activities	✓		

Variety of leisure, social and friendship activities	✓		
Contact with family		✓	
Contact with friends with intellectual disabilities		✓	
Contact with friends without intellectual disabilities		✓	
Participation in social activities		✓	

Findings

Comparability

The two groups of participants were quite different. The people living in campus houses were significantly more disabled: they had been in residential care for longer; had lower adaptive behaviour; had more epilepsy; had more challenging behaviour; and had more medication.

Results

On all five domains of the Life Experiences Checklist (Home, Freedom, Opportunities, Leisure and Relationships), people in dispersed housing scored higher than those in campus houses. Scores for people living in dispersed housing were comparable and some were higher than for a sample of the British general population. Given that the groups were not comparable, binary logistic regression was used to explore which variables predicted scores on the Opportunities and Freedom domains of the Life Experiences Checklist. These were the only domains which distinguished the two groups of residents in the regression analysis – those living in dispersed housing and

those in campus housing. The only significant predictor was that people taking a larger number of medications were more likely to have lower scores.

People in dispersed housing had more telephone contact and support from families and participated in more family events than those in campus houses. Binary logistic regression found only one significant predictor of family involvement: residents who were more dependent for personal care had less involvement with family members.

Table 15: Summary of relevant findings from McConkey, Walsh-Gallagher and Sinclair (2005)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Life experiences	✓		
Family contact	✓		

Strengths and weaknesses

The study provides evidence at CRD level 3a as a cohort study. The measures used have been validated. Costs are not addressed. That the services were all managed by one organisation removes this as a source of variability. However, the major weakness in the study is that the groups were not comparable and no statistical or matching process was used to control for this. The results of binary logistic regression show that type of housing was not a predictor of the different results obtained.

Conclusion

Although this study found that people living in dispersed housing had better life experiences and family contact than those in campus housing, the logistic regression analysis shows that these differences are attributable to differences in participant characteristics.

17. Young (2006)

Young (2006) compared two matched groups of 30 people with intellectual disability living in dispersed and cluster housing in and around Brisbane, Australia. Both groups of people had moved out of hospital settings at the beginning of the study and so longitudinal data are also available at 12 months and 24 months after the move.

The study used a matched group comparison design. Information was collected on the adaptive and challenging behaviour of participants using the Adaptive Behavior Scale. Information was also collected on choice-making by participants, using the Resident Choice Assessment Scale (Kearney et al., 1995) and on quality of life using the Life Circumstances Questionnaire (Ashman et al., 1991). These are instruments of demonstrated validity and inter-rater reliability was checked during the study.

The data were analysed using analysis of variance.

Findings

Comparability

The groups were matched post-hoc individual by individual for age, gender, level of intellectual disability, other disabilities, challenging behaviour and length of time in institutional care. The sample included people with profound intellectual disabilities.

Results

This study reports three sets of comparisons: (i) changes over time for each group (clustered and dispersed housing); (ii) differences between the two groups at the middle and end of the study and ;(iii) differences between the groups in the amount of change over time.

People in both dispersed and cluster housing increased their adaptive behaviour over time after transfer from the institution. People in dispersed housing increased their adaptive behaviour in five domains ('Numbers and time', 'Domestic activity', 'Pre-vocational and vocational activity',

'Responsibility' and 'Socialisation'). People in cluster houses showed increases only in 'Pre-vocational and vocational activity' and improvements in 'Physical development'.

There was no change over time in either dispersed or cluster housing in the overall score for maladaptive behaviour. People in dispersed housing improved their scores in Trustworthiness and Sexual behaviour, whereas people in cluster housing showed no change in any domain.

Both groups improved over time in choice making but people in dispersed housing improved at 12 and again at 24 months, whereas those in cluster housing improved at 12 months but then showed a decline at 24 months.

Both groups improved their scores on the Life Circumstances Questionnaire over time at 24 months on the overall score and on all eight individual domains. Both groups increased contact and social interaction with family and friends.

In terms of comparisons between groups, there was no statistically significant difference in overall scores for adaptive or maladaptive behaviour at 24 months, though people in dispersed housing had significantly higher scores than those in cluster housing for 'Domestic activity' and 'Responsibility'. People in dispersed housing had significantly more opportunities for choice making than those in cluster housing. There were no differences between the groups in contact and social interaction with family and friends.

Comparing the extent of change over time, increases were less for the cluster group than for the dispersed housing group in the 'Pre-vocational and vocational' and 'Responsibility' domains of the Adaptive Behavior Scale. On the Life Circumstances Questionnaire, people in dispersed housing improved more on six domains: 'Community access', 'Routines', 'Self-determination', 'Residential well-being', 'General life improvements' and

'Physical well-being'. There was no difference in improvement in 'Material well-being' or 'Social-emotional well-being'. People in campus houses did not improve more in any area.

Table 16 summarises comparisons between groups at 24 months and comparisons of the extent of change over time.

Table 16: Summary of relevant findings from Young (2006)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Change in adaptive behaviour overall		✓	
Independent Function		✓	
Physical Development		✓	
Economic Activity		✓	
Language Development		✓	
Numbers and Time		✓	
Domestic Activity	✓		
Prevocational/Vocational	✓		
Activity		✓	
Self-direction		✓	
Responsibility	✓		
Socialization		✓	

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Change in maladaptive behaviour overall		✓	
Social behaviour		✓	
Conformity		✓	
Trustworthiness	✓		
Stereotyped/hyperactive behaviour		✓	
Sexual behaviour		✓	
Self-abusive behaviour		✓	
Social engagement		✓	
Disturbing interpersonal behaviour		✓	
Choice	✓		
Change in life circumstances overall	✓		
Material well-being		✓	
Physical well-being	✓		
Community Access	✓		
Routines	✓		
Self-determination	✓		

Social-emotional well-being		✓	
Residential well-being	✓		
General	✓		

Strengths and weaknesses

This study provides evidence at level 3a on the CRD scale. Its strength is that it is a comparative cohort study with well matched groups using robust quantitative measures. It also includes people with severe and profound intellectual disabilities and is longitudinal over 24 months.

The authors note as weaknesses the lack of random allocation to the dispersed or cluster housing groups, practical delays and obstacles in doing the research and the possibility that some declines were age-related for the cluster housing group. The study does not address costs.

Conclusion

People moving to dispersed housing increased their scores on more domains of the Adaptive Behavior Scale than those moving to cluster housing. At 24 months, the two groups differed on two domains ('Domestic Activity' and 'Responsibility'). For clarity, only differences at 24 months (not 12 months) are reported in Table .

This study produces a robust finding that dispersed housing is superior to cluster housing in;

- Acquiring skills in domestic tasks (including cleaning, laundry, table setting, food preparation and other routine household chores) and responsibility
- Choice-making
- Physical well-being

- Community access
- Routines
- Self-determination
- Residential well-being
- General life circumstances

The benefits of change after moving out of institutional care were also more widespread for people in dispersed housing than in cluster housing. There are no measures on which cluster housing is superior to dispersed housing.

18. Owen, Hubert and Hollins (2007)

Owen, Hubert and Hollins (2007) present a small scale qualitative study exploring the experiences of 11 women who moved from a locked hospital ward. Eight moved to a new purpose-built home on the campus of the hospital and three to dispersed houses in the community. The women were aged between 29 and 72; all had intellectual disabilities, 'most' had severe intellectual disabilities, 'several' were on the autistic spectrum and 'some' had mental health problems. All had challenging behaviour.

The methodology involved over 300 hours of participant observation and in-depth interviewing, visiting the ward and campus house for about five hours at different times of the day and night every two weeks over 18 months and the three dispersed houses for five to seven hours at different times of the day every three months for a year. No account is given of procedures to check validity or reliability of the data. Analysis was a grounded theory approach involving identifying and coding themes and returning to collect more data to check assumptions.

Findings

Comparability

No information is presented on the comparability of the women living in the campus house versus those in dispersed housing.

Results

The women who moved to the campus house experienced more chaos and confusion, including an unexpected move to temporary accommodation (trans-institutionalisation) for 10 months. Staff known to residents from hospital left and new temporary staff were used. This resulted in a decrease in daily activities. The women who moved to dispersed housing had less traumatic experiences, but experienced more losses overall, including relationships with former staff (who understood communication, needs and preferences), relationships with other women that they previously lived with for many years, loss of comfort and aloneness in new surroundings. One woman lost her relationship with her advocate. Overall the experience was negative for all women - they were not involved in important aspects of moving with little preparation or information about the move. There were also problems with a lack of information transfer from staff on wards.

For the majority of the women, their quality of life changed very little in the new homes. One woman in dispersed housing was able to explore new places in the community, exercise more choice and learn new skills. The two other women in dispersed housing were able to take more control over several aspects of their lives but in general they were unable to explore their own interests/abilities and preferences as this was dictated by what others in the home were doing. Women in the campus house experienced least change for the better. They had fewer opportunities for daily activities and for relationships beyond staff than women moved to dispersed housing. Their lives continued to be restricted by rigid routines, strict rules, few activities and few opportunities for relationships.

Table 17: Summary of relevant findings from Owen, Hubert and Hollins (2007)

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Chaos and confusion	✓		
Loss of relationships, comfort			✓
Control	✓		
Daily activities	✓		

Strengths and weaknesses

This study is not intended primarily as a comparison between campus and dispersed housing. Its strength is the detail of description of people’s experience but, for the purposes of this review it is very small, there is no comparative data on individual needs and characteristics, and no basis for assuming representativeness or generalisability of the findings. There is also the problem of the confounding effect of the campus group having to move to temporary accommodation before the campus house was ready. The study is a case series and as such is CRD level 4.

Conclusion

Like some of the earlier small-scale studies this suggests that dispersed housing is superior to campus housing but the nature of the study make the finding of limited weight. The more important finding from the study is the very poor planning, organising and support of the people concerned through change in living circumstances.

19. McConkey et al., (2007)

McConkey et al., (2007) explores the variations in social inclusion of people with intellectual disabilities living in different types of residential accommodation in Northern Ireland and the Republic of Ireland. It included 620 people in five types of service:

- Dispersed supported living (103 people)
- Clustered supported living (132 people)
- Small group homes (152 people)
- Residential homes (138 people)
- Campus settings (95 people)

McConkey et al., describe the supported living settings studied as follows:

- In dispersed supported living, the person holds a tenancy agreement for an ordinary house or apartment dispersed among other properties, either as an individual or shared with no more than two other persons. Support staff are provided according to assessed needs, and they visit on a regular basis.
- In clustered supported living specially built groupings of houses or apartments on the same site have shared staffing across the houses. About 15 tenants may live in the same cluster with tenancy agreements, in either single-person or shared housing.

Information was collected on participant demographics and characteristics, including on 12 social competencies based on McConkey and Walsh (1982), on five defined challenging behaviours shown at least daily as well as serious behaviours that occur infrequently, on seven indicators of social inclusion as used in previous studies (Emerson and McVilly, 2004) and on use of community

amenities in the past month (Raynes et al., 1994). The design was a group comparison. Analysis of variance with post-hoc tests was followed by binary logistic regression to identify predictors of outcome.

Findings

Comparability

There were no significant differences between the groups in terms of gender. People in both types of supported living schemes (dispersed and clustered) were broadly similar but had higher levels of social competence than those in residential homes or campuses. They also had fewer behaviour problems and less epilepsy. In campus houses people were younger, had lower levels of social competence and more epilepsy. People in group homes fell between supported living and campus housing in their characteristics.

Results

There were significant differences between settings on all seven social inclusion indicators (average number of community amenities visited in last month, visits to or from family, having friends outside accommodation, knowing neighbours by name, having had visitors in the past month, having stayed away from home and having had guests to stay) but there is no indication that dispersed or clustered supported living differed in any of them. People in campus housing used significantly fewer community amenities than those in supported living. No other information is given about the statistical significance of differences between campus housing and other models.

There were no differences between dispersed and clustered supported living in terms of use of individual community amenities.

Binary logistic regression showed that use of community facilities was predicted by social competence of residents and by type of residence. Taking campus housing at the reference point, people living in clustered supported living were just over four times more likely to use community

facilities and people in dispersed supported living nearly six times more likely to use community facilities. Similarly, people in dispersed supported living were nearly nine times more likely than those in campus housing to have friends outside the home, and people in clustered supported living over 14 times more likely. People in dispersed supported living were nearly eight times more likely than those in campus housing to have visitors, and people in clustered supported living nearly 18 times more likely. Finally, people in dispersed supported living were just over three times more likely than those in campus housing not to be socially isolated (without contacts with family, friends or neighbours and to have had no visitors), and people in clustered supported living nearly six times more likely.

Table 18: Summary of relevant findings from McConkey et al., (2007)¹

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Community amenities visited	✓		
Visits to or from family		✓	
Friends	✓ ²		✓ ³
Knowing neighbours		✓	
Visitors	✓ ²		✓ ³
Stayed away		✓	
Guests to stay		✓	
Use of individual community amenities		✓	
Socially isolated	✓ ²		✓ ³

¹In this table differences are reported where found through binary regression analysis, even when no difference is reported for group comparison

² comparison between dispersed supported living and campus housing

³ comparison between dispersed supported living and cluster supported living

Strengths and weaknesses

The strength of this study is that it focuses on comparison of groups in dispersed and cluster housing that appear

relatively well-matched. It is a cohort study at CRD evidence level 3a. The cluster housing is also of interest in that it is not a cluster of residential homes but a cluster of supported living placements. As such, it may be more like housing dispersed over a small geographical area and supported by the same staff team, such as is found in Sweden.

The major weakness of the study is that the authors note that informants completing the questionnaire on social inclusion may have misinterpreted visitors and use of community facilities to include people and amenities in the cluster or campus. Costs are not addressed.

Conclusion

This paper shows that campus housing of the type provided in the Republic of Ireland produces worse outcomes for residents than other kinds of service. Cluster supported living shows benefits over dispersed supported living but it is impossible to know whether this is in part because other residents in the cluster were recorded as visitors. Nevertheless, the finding that residents in cluster supported living are more likely to have friends and visitors, even if these are from other houses in the cluster, is important

Summary of the Findings across Studies

Table presents all of the results of the studies reviewed, organised into the domains of the quality of life framework (Social inclusion, Interpersonal relations, Material well-being, Emotional well-being, Physical well-being, Self-determination, Personal development and Rights).

Table 19: Summary of results by domain

Quality of life domain/indicator	Dispersed housing better	No difference	Campus/cluster housing better
Social inclusion	5		
Access to local community/ neighbourhood	2		
Use of community facilities		2, 19	
Number of community amenities visited	19		
Community activities and opportunities	15,16, 17	7	
Residential well-being	17		

Interpersonal relations	16, 18	3, 17	
Sexual activity		5	
Relationships with family, carers, others	5 ⁶	5 ⁷	

Number of people in network	6 ² , 7, 11	6 ¹	
Composition of network		7	
Contact with family/family members in network		6, 7, 15, 19	13
People with ID in network	6 ²	6 ¹ , 15	
Local people in network	6		
Contact with friends	19 ²	15	19 ⁵
Contact with neighbours		19	
Observed contact from others		7	
Stayed away/guest to stay		19	
Visitors to home	19 ²		19 ⁵

Material well-being	5 ⁶	5 ⁷ , 17	
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Emotional well-being		6 ¹	
Challenging behaviour/stereotypy	7	3, 9	
Satisfaction in all areas except friendships/relationships		12	
Satisfaction with friendships/relationships			12
Chaos and confusion	18		

Quality of life domain/indicator	Dispersed housing better	No difference	Campus/cluster housing better
Physical well-being	5 ⁶ , 17	5 ⁷	
Physical activity	6 ² (men), 8, 15 (exercise)	61, 62 (women), 15 (inactivity)	
Participation in domestic activities/engagement	17, 18	2, 7	
Recreational/community activities	15, 16		
Number of activities	6		
Variety of activities	6 ² ,	6 ¹	
Hours of recreational activities	6 ²		6 ¹
Poor/fatty diet		8 ²	8 ¹
Adequate dairy	8 ¹	8 ²	
Drinking/smoking health risk		8	
Underweight	15	6	
Overweight/Obesity		6, 15	
Number of outings	3		

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Quality of life domain/indicator	Dispersed housing better	No difference	Campus/cluster housing better
Contact with health professionals	3		
Contact with GP		6	
Contact with dentist			6 ¹
Contact with psychiatrist			6 ²
Contact with psychologist			6 ²
General health check		15	6
Dental check			15
Blood pressure check		6 ²	6 ¹
Vision test		15	6
Hearing test		6, 15	
Mammogram		6, 15	
Cervical smear		6	
Testicular check		6 ²	6 ¹
Anti-psychotic/anti-depressant medication	6 ² , 10 ¹	6 ¹ , 10 ² , 15	

Quality of life domain/indicator	Dispersed housing better	No difference	Campus/cluster housing better
More than two anti-psychotics	15		
Anxiolytic medication		6, 15	
Hypnotic medication	15	6	
Mental health care		5 ⁷	
Accidents		6	
Victim of crime		6 ²	6 ¹
Verbal abuse		6 ²	6 ¹
Physical or sexual abuse		6	
Vandalism		6	
Perceived risk of accidents		6	
Perceived risk of exploitation from community			6
Self-determination	5 ⁶ , 6 ² , 7, 16, 17, 18	2, 5 ⁷ , 6 ¹ , 12	

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Quality of life domain/indicator	Dispersed housing better	No difference	Campus/cluster housing better
Personal Development		5	
Scheduled activity	3 ⁴	3 ³ , 7	
Constructive activity		3	
Opportunities to learn new skills	16		
Change in adaptive behaviour over time (not domestic/responsibility)		17	
Change in domestic activity and in responsibility	17		
Life achievements and changes	17		
Education/employment	17		
Work experience/adult education/day centre activities		15	
Rights			
Privacy	2		

Access/adapted environment		5	
Freedom	5		
Exclusion/restraint, sedation used for challenging behaviour	9, 15		

¹ Comparison between dispersed housing and village communities

² Comparison between dispersed housing and campus settings

³ Comparison between ordinary dispersed housing and campus/clustered settings

⁴ Comparison between specialised dispersed housing and campus/clustered settings

⁵ Comparison between clustered supported living and other settings

⁶ Rated by staff

⁷ Rated by users or families

⁸ Comparison between supported living and campus/clustered settings

⁹ Comparison between group homes and campus/clustered settings

Table presents summary information from the studies reviewed in relation to service characteristics and processes, and the cost of services.

Table 20: Measures of service provision and cost

Measure	Dispersed housing better	No difference	Campus/ cluster housing better
Homelikeness/ environmental quality/number of people sharing home	6, 7, 15, 16, 17		

Social climate			
Block treatment	3, 6, 7		
Depersonalisation	6, 7	3	
Rigidity of routines	6 ² , 7		6 ¹
Social distance	6 ² , 7	3, 6 ¹	

Working practices			
Person-centred planning	6 ² , 15	7	6 ¹
Activity planning	6 ² , 7,		6 ¹
Staff training and supervision	6 ² , 7		6 ¹
Assessment and teaching		7	6

Planning staff support	7	9	
Written behavioural intervention programme/treatment programme	9 ⁸	9 ⁹ , 15	
IPP plan goal related to CB		9 ⁸	9 ⁹
Staff ratio	1, 2, 6 ² , 7, 15	3, 6 ¹	
Staff contact and assistance	1	3, 7	
Staff care (general)	5 ⁶	3 ¹ , 5 ⁷	3 ²
Family satisfaction		6, 13	
Costs	3 ³	4 ⁴ , 6 ¹⁰ , 14 ²	2, 6 ¹¹ , 7, 14 ¹

¹ Comparison between dispersed housing and village communities

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⁸ Comparison between supported living and campus/clustered settings

⁹ Comparison between group homes and campus/clustered settings

¹⁰ Matched groups

¹¹ Full sample

Discussion

Introduction

Is there enough research to answer the question of whether dispersed or cluster housing is better? This review found 19 papers based on 10 studies including nearly 2,500 people in four countries presenting data comparing dispersed housing with some kind of clustered housing (village communities, residential campuses or clusters of houses). The studies covered all eight domains of quality of life, providing information about 80 different aspects of these domains. Five studies presented data on different aspects of service design and operation and three presented comparative costs. Almost all of the studies used quantitative methods with robust approaches to measurement.

It is perhaps noteworthy that no studies of clustered housing were found in the research literature from the USA and Canada. It seems that in these countries the movement from institutions to dispersed housing has not led to research on clustered settings.

The problem faced by most of the studies identified is that the populations of people living in different kinds of setting are not generally comparable. People living in village communities are, in general, much less disabled than people living in dispersed housing. People living in campus or cluster housing are generally more disabled than people living in dispersed housing. The more sophisticated studies addressed this problem through statistical methods but, in addition, the ten studies include six good matched group comparisons (Hatton et al., 1995, Janssen et al., 1999, Emerson et al., 2000b (includes two matched groups), Emerson et al., 2000c, Young, 2006). Four of the six

included people with severe and profound intellectual disabilities and complex needs.

Compared with many areas of public policy in most countries, this is a sizeable body of research. It is drawn from different countries (Australia, Ireland, Netherlands and the United Kingdom). The studies have all been carried out in the last 20 years. The services studied are provided by many different agencies, including governmental and non-governmental organisations.

There are three significant gaps in the available research. There is no research on village communities – intentional communities where support workers live communally with disabled residents – that serve people with severe and complex needs. If such communities exist they might be expected to have much higher staffing ratios than the village communities studied by Emerson et al., (2000b) and issues of cost and quality could be usefully studied. Second, there is no research data on clustered settings for disabled people other than those with intellectual disabilities. Insofar as village communities, residential campuses or cluster housing exist for people with physical or sensory disabilities or long-term mental health problems then evaluation of their cost-effectiveness would add to the overall picture. Third, most studies are point-in-time comparisons and therefore do not address the question of whether services get better or worse (or more or less expensive) over time. The longest follow-up study of people moving out of institutions in England (Cambridge et al., 2001) showed maintenance of quality with reduced costs over time, but this study did not discriminate between residential homes, small clusters and dispersed housing.

Main findings

There is much less evidence comparing clustered settings with dispersed housing than comparing other congregate care settings (such as institutions) with dispersed housing. The results should therefore be treated with caution. They do, however, present a broadly consistent picture.

The body of research reviewed here presents a clear picture. Generally, campus and cluster housing provides poorer outcomes than dispersed housing for people with intellectual disabilities. In terms of the quality of life domains of social inclusion, material well-being, self-determination, personal development and rights there are no studies reporting benefits of clustered settings. In the physical well-being domain, campus or clustered settings have been found to be superior in hours of recreational activity, contact with dentists, psychiatrists and psychologists, some health screening, some aspects of safety, contact with family and friends, visitors to the home and satisfaction with relationships. However, in many of these cases the better results refer only to village communities and not to campus housing or cluster housing.

In terms of the areas identified in the introduction as those where proponents of cluster housing argue that it would perform better, these studies find that safety is no different between campus or cluster housing and dispersed housing but people in village communities are less likely to have been the victims of crime or verbal abuse. In terms of relationships with members of the wider community, two studies find no difference between dispersed and cluster housing. The one that does (McConkey et al., 2007) may have included relationships with other cluster residents. This is also a study of clustered supported living, rather than clustered group homes, and may therefore be different from other studies in the review.

In terms of costs, the commonest finding is that cluster housing is less expensive than dispersed housing. However, this cost difference appears to be due to differences in staffing levels – i.e. fewer staff are provided to support people in cluster housing than in dispersed housing. In two out of the three studies which examined costs controlling for this variable there was no statistically significant difference in costs – the comparison by Hatton et al., (1995) of a specialised campus-based time-limited further educational service with specialised dispersed housing, and the comparison by Emerson et al., (2000b) of

matched groups of people in village communities and dispersed housing and campus and dispersed housing.

Thus, cluster housing is usually less expensive than dispersed housing because it provides fewer staff. It achieves less good outcomes for its residents on almost every indicator measured. The best performance of cluster housing is seen in village communities, but these only serve a less disabled population and they depend on a supply of people willing to live communally with disabled residents. They are therefore an important part of the spectrum of service provision but they are only ever likely to occupy a niche in the market for care. They are unlikely to be a feasible option across the board for disabled people.

Interpreting these findings

Are these findings robust – are the differences found due to the model of care or might they be due to weaknesses in management and organisation? Is it possible to have cluster housing that would achieve results as good as dispersed housing? What are the implications over the longer term? The studies reviewed, together with the wider literature on residential care of people with intellectual disabilities, provide some insight into these questions.

Are differences due to the model of care or weaknesses in management and organisation?

As noted in the Introduction, it might be argued that poorer outcomes reflect weaknesses in management and organisation rather than the service model itself. However, the weight of evidence – from different countries and different types of service system – might be thought to indicate that poorer outcomes in clustered settings represent something more than weak management and organisation. If exemplary clustered settings,

comprehensively out-performing dispersed housing, did exist it seems likely that they would by now have appeared in the research literature.

Arguing that differences between types of service are due to management and organisation rather than the service model also applies to both dispersed and clustered settings. If it was possible to provide campus housing that achieved outcomes as good as dispersed housing in the many areas in which these studies show it does not currently achieve them, then it could be argued that dispersed housing could be improved on the handful of indicators where it does not out-perform cluster housing. In the research literature generally, there is substantial variation in the outcomes achieved within the same type of residential model, but the best-performing dispersed housing appears to be better than the best clustered settings (Emerson and Hatton, 1994, Mansell, 2006).

Is it possible to have cluster housing that would achieve results as good as dispersed housing?

The finding that the lower cost of clustered settings reflects lower staffing levels is important. Studies of the relationship between management and organisation of the residential setting and the outcomes experienced by people living there consistently show that the key factor is what staff actually do to support the people they serve.

“Through the provision of help and encouragement, staff members mediate access to, and use of, the opportunities presented by the home and community. They control access to many materials and activities directly (e.g. by opening or locking rooms) and indirectly (by setting out and preparing materials so that the people they serve can take part in an activity). They make it more or less likely that clients will experience the reinforcement intrinsic to the

task by the level of assistance they provide. Through the disposition of their social interaction, they reinforce either client engagement in meaningful activity or passivity and inactivity. They shape client behavior by the feedback and reinforcement they provide.”

(Mansell and Elliott, 2001)

As dispersed housing has become the dominant model of support for people with intellectual disabilities in some countries, variation in the quality of staff support has been intensively studied. What these studies show is that staff ratio is a weak predictor of staff performance: that it is possible to have high staff ratios and yet poor performance. These studies also show that better use is made of higher staffing ratios if staff are given clear guidance on how to support residents (Mansell et al., 1982) and if, instead of adding staff to a large group of residents to improve the ratio, the number of residents in the group is reduced (Felce et al., 1991). In settings where in general these conditions are met, Mansell (2008) recently showed that larger dispersed housing services had lower staff ratios (even when resident needs were taken account of); that these lower staff ratios translated into less staff support for residents; and that less support for residents led to worse outcomes for them.

Thus, it seems unlikely that it would be possible to achieve lower costs in cluster housing without reducing the quality of outcomes of people living there. As a recent analysis of cost-effectiveness studies of residential services for people with intellectual disabilities in Europe (Mansell et al., 2007a) concluded:

“In a good care system, the costs of supporting people with substantial disabilities are usually high, **wherever** those people live. Policy makers must not expect costs to be low in community settings, even if the institutional services they are intended to replace appear to

be inexpensive. Low-cost institutional services are almost always delivering low-quality care.”

(Executive summary p.7)

What are the implications over the longer term?

The point is made above that most studies reviewed were not longitudinal and therefore cannot comment on how different models perform over time.

However, in relation to costs it is important to note that cost comparisons can vary over time (Mansell et al., 2007b). Lower costs of congregate settings (particularly for people with high support needs) may simply reflect poorer quality care (in particular lower staff ratios) which cannot be sustained over time as demands to improve quality take effect. Stancliffe and Lakin (2005) show that costs of institutional care in the United States of America increased to exceed those of community-based services over the period from 1970 to 2000, due both to the drive to increase quality and to the strategy of moving the least disabled people out first. The DECLOC study (Mansell et al., 2007a) concluded that:

“There is no evidence that community-based models of care are inherently more costly than institutions, once the comparison is made on the basis of comparable needs of residents and comparable quality of care. Community-based systems of independent and supported living, when properly set up and managed, should deliver better outcomes than institutions.”

(Executive summary p.7)

The same argument may well apply to clustered settings compared with dispersed housing.

A second consideration is that recent research shows that dispersed housing in the form of supported living, tailored more closely to individual need, achieves better outcomes in some quality of life domains at lower cost than group homes for people with low or moderate support needs (Stancliffe and Keane, 2000; Stancliffe, 2004; Felce et al., 2008). There may therefore be scope for refining dispersed housing models to ensure that staff allocation (and therefore costs) more closely reflects support needs of individual residents.

Thus, although dispersed housing for people with high support needs is likely to be as expensive as congregate settings of equivalent quality (if it was in fact possible to provide such settings), dispersed housing for people with low or moderate support needs is likely to be less expensive. This would require moving from relatively institutional models of group home organisation (with a large proportion of highly-qualified professional care staff, night staffing, constant attendance of residents in spite of their needs) to more person-centred models of care, where each individual receives only the level of support they need rather than the same level being provided to all residents whether they need it or not.

There is also some suggestive evidence about the longer-term outlook from policy and practice in England. Early in the deinstitutionalisation process in England (in the early nineteen-eighties), various kinds of congregate care setting were developed for people with severe and profound intellectual disabilities whom it was judged it would not be possible to support in dispersed housing. Many of these services were residential campuses of the kinds studied by Emerson et al., (2000b). They were set up in response to the same sorts of concerns identified in the introduction about the proposed benefits of campus living.

In 2004, complaints about the quality of care in some of these services in Cornwall, and subsequently in South London, led to inquiries which found major problems in local services provided by the NHS (Healthcare Commission and Commission for Social Care Inspection,

2006; Healthcare Commission, 2007a). A national audit was then undertaken of all NHS residential services for people with intellectual disabilities which confirmed that poor quality of care was widespread (Healthcare Commission, 2007b). The UK Department of Health responded to these problems by announcing the complete closure of all NHS residential campuses (Department of Health, 2007).

Although it is not possible to say whether the problems experienced in these services were due to the model of care or due to management by the NHS, it is relevant to note that this large development of clustered settings has, after 20 years, been deemed to have failed.

Conclusion

The results of this review show that dispersed housing is superior to cluster housing on the majority of quality indicators studied. The only exception to this is that village communities for people with less severe disabilities have some benefits; this is not, however, a model which can be feasibly provided for everyone. Cluster housing is usually less expensive than dispersed housing but this is because it provides fewer staff. There is no evidence that cluster housing can deliver the same quality of life as dispersed housing at a lower cost.

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Appendices

Appendix 1: Search terms

Learning disab*

Intellectual disab*

Intellectual impairment\$

Physical disab*

Developmental disab*

Mental health issue\$ OR impairment\$

Sens* impairment\$

Men* Retard*

Community based hous*

Community hous*

Dispersed hous*

Group* home*

Cluster hous*

Clustered hous*

Campus hous*

Intentional communit*

Village communit*

Service model\$

Residential care model\$

Residential care

Residential Homes

Appendix 2: List of papers included

The papers included in this review are listed below, numbered as in the main text. In addition, the number of participants in each study is given after the citation. The 19 papers report results from 10 studies.

1. Mansell, J. and Beasley, F. (1993) Small staffed houses for people with a severe mental handicap and challenging behaviour. *British Journal of Social Work*, 23, 329-344. (N=18).
2. Dockrell, J. E., Gaskell, G. D., Normand, C. and Rehman, H. (1995) An economic analysis of the resettlement of people with mild learning disabilities and challenging behaviour. *Social Science and Medicine*, 40(7), 895-901. (N=34).
3. Hatton, C., Emerson, E., Robertson, J. and Henderson, D. (1995) The quality and costs of residential services for adults with multiple disabilities: A comparative evaluation. *Research in Developmental Disabilities*, 16(6), 439-460. (N=40).
4. Hatton, C., Emerson, E., Robertson, J., Henderson, D. and Cooper, J. (1996) Factors associated with staff support and resident lifestyle in services for

people with multiple disabilities: a path analytic approach. *Journal of Intellectual Disability Research*, 40(5), 466-477. (N=40).

5. Janssen, C. G. C., Vreeke, G. J., Resnick, S. and Stolk, J. (1999) Quality of life of people with mental retardation. Residential versus community living. *British Journal of Developmental Disabilities*, 45(88), 3-15. (N=199).
6. Emerson, E., Robertson, J., Gregory, N., Hatton, C., Kessissoglou, S., Hallam, A., Knapp, M., Jarbrink, K., Walsh, P. N. and Netten, A. (2000b) Quality and costs of community-based residential supports, village communities, and residential campuses in the United Kingdom. *American Journal on Mental Retardation*, 105(2), 81-102. (N=500).
7. Emerson, E., Robertson, J., Gregory, N., Kessissoglou, S., Hatton, C., Hallam, A., Knapp, M., Jarbrink, K., Netten, A. and Linehan, C. (2000c). The quality and costs of community-based residential supports and residential campuses for people with severe and complex disabilities. *Journal of Intellectual & Developmental Disability*, 25(4), 263-279. (N=40).
8. Robertson, J., Emerson, E., Gregory, N., Hatton, C., Turner, S., Kessissoglou, S. and Hallam, A. (2000b) Lifestyle related risk factors for poor health in residential settings for people with intellectual disabilities. *Research in Developmental Disabilities*, 21(6), 469-486. (N=399).
9. Emerson, E., Robertson, J., Gregory, N., Hatton, C., Kessissoglou, S., Hallam, A. and Hillery, J. (2000a). Treatment and Management of Challenging Behaviours in Residential Settings. *Journal of Applied Research in Intellectual Disabilities*, 13(4), 197-215. (N=500).

10. Robertson, J., Emerson, E., Gregory, N., Hatton, C., Kessissoglou, S. and Hallam, A. (2000a) Receipt of psychotropic medication by people with intellectual disability in residential settings. *Journal of Intellectual Disability Research*, 44(6), 666-676. (N=500).
11. Robertson, J., Emerson, E., Gregory, N., Hatton, C., Kessissoglou, S., Hallam, A. and Linehan, C. (2001) Social networks of people with mental retardation in residential settings. *Mental Retardation*, 39(3), 201-214. (N=500).
12. Gregory, N., Robertson, J., Kessissoglou, S., Emerson, E. and Hatton, C. (2001) Factors associated with expressed satisfaction among people with intellectual disability receiving residential supports. *Journal of Intellectual Disability Research*, 45(4), 279-291. (N=96).
13. Walsh, P. N., Linehan, C., Hillery, J., Durkan, J., Emerson, E., Hatton, C., Robertson, J., Gregory, N., Kessissoglou, S. and Hallam, A. (2001) Family Views of the Quality of Residential Supports. *Journal of Applied Research in Intellectual Disabilities*, 14(3), 292-309. (N=291).
14. Hallam, A., Knapp, M., Jarbrink, K., Netten, A., Emerson, E., Robertson, J., Gregory, N., Hatton, C., Kessissoglou, S. and Durkan, J. (2002) Costs of village community, residential campus and dispersed housing provision for people with intellectual disability. *Journal of Intellectual Disability Research*, 46(5), 394-404. (N=500).
15. Emerson, E. (2004). Cluster housing for adults with intellectual disabilities. *Journal of Intellectual and Developmental Disability*, 29(3), 187-197. (N=910).
16. McConkey, R., D. Walsh-Gallagher and M. Sinclair (2005). Social inclusion of people with intellectual disabilities: The impact of place of residence. *Irish*

Journal of Psychological Medicine, 22(1), 10-14.
(N=106).

17. Young, L. (2006). Community and cluster centre residential services for adults with intellectual disability: long-term results from an Australian-matched sample. *Journal of Intellectual Disability Research*, 50(6), 419-431. (N=60).
18. Owen, K., J. Hubert and S. Hollins (2007). Moving home: the experiences of women with severe intellectual disabilities in transition from a locked ward. *British Journal of Learning Disabilities*, 36(4), 220-226. (N=11).
19. McConkey, R., Abbott, S., Walsh, P. N., Linehan, C. & Emerson, (2007). Variations in the social inclusion of people with intellectual disabilities in supported living schemes and residential settings. *Journal of Intellectual Disability Research*, 51(3), 207-217. (N=620)

Appendix 3: Domains addressed by each paper

Map of domains for which information was obtained from each paper (plus inclusion of matched group comparison across settings).

✓ indicates domain dealt with in some detail. Where only one specific aspect of that domain explored then this is indicated with text

Paper	I. Mansell and Beasley (1993)
Social inclusion	
Physical well-being	
Inter-personal relations	
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	
Other	Staffing and staff support
Matched groups	

Paper	2. Dockrell et al. (1995)
Social inclusion	✓ Access and use of community facilities
Physical well-being	
Inter-personal relations	
Material well-being	
Emotional well-being	
Self-determination	✓ Choice/freedom to choose
Personal Development	✓ Participation in domestic activities
Rights	✓ Privacy
Cost	✓
Other	Staffing
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	3. Hatton et al. (1995)
Social inclusion	
Physical well-being	✓ Contact with health profs; outings
Inter-personal relations	✓
Material well-being	
Emotional well-being	✓ Sterotypy
Self-determination	✓
Personal Development	✓ Constructive activity
Rights	
Cost	✓
Other	Staffing and support Social climate Staff 'care'
Matched groups	Yes post hoc

Paper	4. Hatton et al. (1996)
Social inclusion	
Physical well-being	✓ Contact with health profs; outings
Inter-personal relations	✓
Material well-being	
Emotional well-being	✓ Stereotypy
Self-determination	
Personal Development	✓ Constructive activity
Rights	
Cost	✓
Other	Staffing and support Social climate Staff 'care'
Matched groups	Yes post hoc

Dispersed or clustered housing for disabled adults: a systematic review

Paper	5. Janssen et al. (1999)
Social inclusion	✓
Physical well-being	✓
Inter-personal relations	✓
Material well-being	✓
Emotional well-being	
Self-determination	✓
Personal Development	✓ activities
Rights	✓ Privacy , Freedom
Cost	
Other	Staff 'care'
Matched groups	Yes but no stats

Paper	6. Emerson et al. (2000b)
Social inclusion	✓ Community activities, opportunities
Physical well-being	✓
Inter-personal relations	✓
Material well-being	
Emotional well-being	✓ Stereotypy
Self-determination	✓
Personal Development	✓ Scheduled activity
Rights	
Cost	✓
Other	Staffing Staff support Social climate Working practices
Matched groups	Two matched groups

Dispersed or clustered housing for disabled adults: a systematic review

Paper	7. Emerson et al. (2000c)
Social inclusion	
Physical well-being	✓
Inter-personal relations	✓
Material well-being	
Emotional well-being	✓
Self-determination	✓
Personal Development	
Rights	
Cost	✓
Other	Homeliness Staff support Social climate Perents views
Matched groups	Small sub-sample matched

Paper	8. Robertson et al. (2000b)
Social inclusion	
Physical well-being	✓ Medication
Inter-personal relations	
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	✓
Cost	
Other	
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	9. Emerson et al. (2000a)
Social inclusion	
Physical well-being	✓ Medication
Inter-personal relations	
Material well-being	
Emotional well-being	✓ Challenging behaviour
Self-determination	
Personal Development	
Rights	✓ Restraint, Seclusion Sedation
Cost	
Other	
Matched groups	

Paper	10. Robertson et al. (2000a)
Social inclusion	
Physical well-being	✓
Inter-personal relations	
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	
Other	
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	I I. Robertson et al. (2001)
Social inclusion	
Physical well-being	
Inter-personal relations	✓
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	
Other	
Matched groups	

Paper	12. Gregory et al. (2001)
Social inclusion	
Physical well-being	
Inter-personal relations	
Material well-being	
Emotional well-being	✓ Satisfaction
Self-determination	
Personal Development	
Rights	
Cost	
Other	
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	13. Walsh et al. (2001)
Social inclusion	
Physical well-being	
Inter-personal relations	✓ Family contact
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	
Other	Family views
Matched groups	

Paper	14. Hallam et al. (2002)
Social inclusion	
Physical well-being	
Inter-personal relations	
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	✓
Other	
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	15. Emerson (2004)
Social inclusion	✓ Community activities
Physical well-being	✓
Inter-personal relations	✓ Social networks
Material well-being	✓ Employment
Emotional well-being	
Self-determination	
Personal Development	✓
Rights	✓ Challenging behaviour treatment; privacy
Cost	
Other	Staffing Environment
Matched groups	No but statistically controlled

Paper	16. McConkey (2005)
Social inclusion	✓ Community activities
Physical well-being	✓ Leisure
Inter-personal relations	✓
Material well-being	✓
Emotional well-being	
Self-determination	✓
Personal Development	✓ Learn new skills
Rights	
Cost	
Other	Environment
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	17. Young (2006)
Social inclusion	✓
Physical well-being	✓
Inter-personal relations	✓
Material well-being	✓
Emotional well-being	
Self-determination	✓
Personal Development	✓
Rights	
Cost	
Other	
Matched groups	Yes

Paper	18. Owen et al (2007)
Social inclusion	
Physical well-being	✓ Domestic activity
Inter-personal relations	✓
Material well-being	
Emotional well-being	✓
Self-determination	✓
Personal Development	
Rights	
Cost	
Other	
Matched groups	

Dispersed or clustered housing for disabled adults: a systematic review

Paper	19. McConkey et al (2007)
Social inclusion	✓
Physical well-being	
Inter-personal relations	✓
Material well-being	
Emotional well-being	
Self-determination	
Personal Development	
Rights	
Cost	
Other	
Matched groups	

Appendix 4 The Tizard Centre

The Tizard Centre is one of the leading academic groups in the UK working in learning disability and community care. The Centre's primary aims are, through our research, teaching and consultancy, to:

- find out more about how to support and work with people effectively
- help carers, managers and professionals develop the values, knowledge and skills that enable better services
- help policy-makers, planners, managers and practitioners organise and provide better services

The Centre provides teaching through short courses, certificate, diploma and degree programmes at the University of Kent and elsewhere. It also maintains an extensive programme of research and consultancy, nationally and internationally. In all our work we are committed to acknowledging diversity and addressing issues arising from social inequality. We seek to align ourselves with service users and to reduce the disadvantage and discrimination they experience. We support user empowerment and the development of services that are responsive to user need. We seek to achieve our mission without further disadvantaging carers and service staff whom, we recognise, are often themselves relatively powerless and disadvantaged.

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