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QUALITY, COSTS AND 'AN ORDINARY LIFE'

Comparing the costs and quality of different residential services for people with mental handicap

LINDA DAVIES

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FOREWORD

"There is no single answer to the question: how much should community care cost? There are a number of different variables which must be taken into account in addition to finance including: quality of life, risk, choice, level of dependency and model of care chosen... all of these factors affect clients and their families differently; there are no universal prescriptions for the "right" model of care for a person of a given level of dependency." (Audit Commission, 1986)

It has been estimated that in England in 1984/85 some £850 million of public finance was spent on providing long term care for people with learning difficulties (mental handicap). This sum includes expenditure on the National Health Service, on the Personal Social Services and on Social Security benefits and payments. Although much of this money was spent on providing residential care in long-stay hospitals a small amount was used to support people with learning difficulties living in other residential settings. These alternatives to hospital include hostels, staffed accommodation based on ordinary housing, unstaffed group homes and lodging and boarding out schemes.

Over the course of the last six years there has been increasing pressure on local authorities and on health authorities to explore these alternative living arrangements and to provide a range of options for the implementation of "community care". A number of publications from the King's Fund Centre have influenced the debate about the planning and development of services using these new options. Foremost among these publications was the key project paper An Ordinary Life (King's Fund Centre 1980). That paper outlined a basis for developing local services for people with learning difficulties, using networks of ordinary housing in the community with flexible staff support. In the seven years that have elapsed since An Ordinary Life was published, its fundamental ideas have been translated into local plans for mental handicap services in many areas .. and into actual services on the ground in a few.

However, financial constraints, a lack of consensus about what kind of community service is best and a lack of clear evidence about the real costs involved in the provision of alternative kinds of residential support have combined to impede the development of the new patterns of services. Although the pressure from central government to develop locally based services has been welcomed and supported by many of those concerned about the quality of life available to the residents of long-stay hospitals some people continue to have nagging doubts about whether "community care" is really about improving the quality of life for people with learning difficulties or merely a means of saving money.

This study helps to fill some of the gaps in our information about the costs of the alternative patterns of residential support and about their effectiveness in providing choices for the users. Linda Davies has evaluated three contrasting styles of residential provision - a local service based on ordinary housing, a long-stay hospital and three private hostels, all located in the Bristol area. By matching residents who are living in the different settings and collecting information about the quality of their lives, and the total costs of the services they use, she has assembled a wealth of evidence about the respective costs and quality of the different kinds of residential provision involved. Thus this report provides answers not only to the deceptively simple question "What is the cheapest service option ?" but to the more relevant "What kind of service offers the best quality of life to its residents - and at what cost?"

This report includes not only the detailed results from the study about the different costs involved but also information about how these were obtained. It will, therefore, be a useful asset to those currently involved in planning, and costing services in their own locality and to all of us who are engaged in the struggle to ensure a better quality of life for people with learning difficulties.

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March 1987

INTRODUCTION

In 1971 the White Paper Better Services for the Mentally Handicapped anticipated "a shift in emphasis from care in hospital to care in the community" (DHSS, 1971). In the 16 years that have elapsed since then, government policy has re-affirmed community care as an appropriate goal (DHSS, 1980; 1981a & b; 1983). The 1980s in particular have seen increasing pressure on regional and district health authorities and local authorities to work towards this end.

The response of regional and district health authorities to the care in the community initiative has been varied. Plans for mental handicap services range from multi-purpose "community units" to the use of ordinary housing along the lines suggested by the influential publication An Ordinary Life (King's Fund Centre, 1980).

The variety of options put forward by different authorities in their plans is hardly surprising. There has been little hard evidence available to assist planners as they consider the kinds of questions involved in making plans for "community care".

The aim of this study was to compare the quality, and the costs to society, of three alternative models of providing residential services for people with learning difficulties. The models chosen were a community based service, established along the lines suggested by An Ordinary Life, a hospital and three private sector hostels, all based in the Bristol area. Details of each are given in Section II of this report.

Using the methodology of cost effectiveness analysis as a framework, the study addressed the following questions:

a) What was the impact of each alternative on the residents' quality of life? (i.e. what was the outcome of each option?)
b) What differences, if any, were there in outcome?
c) What resources did each service use?
d) What were the revenue costs of these resources?
e) Who paid for the resources used?

f) Was one of the alternatives more cost-effective than the others?

The report has been divided into five sections. The first, **POLICY INTO THE 1980s,** gives an overview of national policy since the 1971 White Paper Better Services for the Mentally Handicapped. The response of local policy makers and service providers to central government initiatives is discussed, with particular reference to the South Western Region, and the plans by Bristol and Weston District Health Authority for services for people with learning difficutlies.

The second section of the report, **PUBLIC AND PRIVATE,** describes each of the residential services included in the study, and outlines why these particular services were chosen.

The third section, **QUALITY AND COST - CAN THEY BE MEASURED?,** discusses briefly what is meant by cost effectiveness analysis and how it differs from cost-benefit analysis. The methods and tools used to measure and evaluate the costs and the quality of the services are then described, and the problems of measuring the output of services - residents' "quality of life" are discussed.

The fourth section, **HOW MUCH? HOW GOOD?,** presents the results of the study in two parts. First, the costs of each service are described and compared, and possible reasons for differences in costs between services are discussed. Second, the results of the outcome measures for each service are presented, and compared. Again, this is followed by a discussion of possible causes for differences in quality between the services evaluated.

In the last section, **SUMMARY AND DISCUSSION,** the costs of each service are compared with the outcomes of the service, and an overall comparison between the different services is made. Finally, the implications of the results for service providers and policy makers are discussed.

I POLICY INTO THE 1980s

National Policy

The shift of care for people with learning difficulties, from institutions to the community, was begun in the 1950's. With the publication of the 1971 White Paper Better Services for the Mentally Handicapped (DHSS, 1971), central government made a policy commitment to improve both the quality of services for people with learning difficulties, and to shift the focus of services from institutions to the community.

The 1971 White Paper recognised that care for people with learning difficulties was under-funded, inadequate and, to some extent, inappropriate. Future policy aims would be to remedy the past neglect of services for this client group and to change the balance of care from the existing hospital base to a community base. Such a policy was founded on the principles that "mentally handicapped children and adults should not be segregated unnecessarily from other people of a similar age, nor from the general life of the local community" (DHSS 1971). It was recognised that mentally handicapped people and their carers would need support to enable them to live in the community and would need training to increase their ability to do so. However, throughout the 1970s progress in providing community services did not live up to the expectations of the 1971 White Paper, as the subsequent policy document Progress, Problems and Priorities (DHSS 1980) emphasised.

During the 1980s central government has re-emphasised its commitment to community care (Care In Action, DHSS 1981a, Care in the Community DHSS 1981b). It has reinforced this by increasing the incentives to, and pressures on, regional and district health authorities and local authorities to implement government policy. For example in 1983, the Minister of Health announced new initiatives to promote the move towards care in the community in circular "HC (83) 6". The circular endorsed the suggestions made in Care in the Community (DHSS 1981b), and announced measures aimed at "enabling people who do not need to be in hospital to be moved into the community". (DHSS 1983). The main thrust of the circular was financial - extending joint finance arrangements to 10 years at 100% and to 13 years in all; increasing

joint finance allocations; and enabling health authorities to transfer resources to local authorities or voluntary organisations, to meet the needs of people moving from long-stay hospitals into the community.

A second theme, followed up in later documents, was planning. Health and local authorities were encouraged to set up joint projects, and the importance of joint planning between health and local authorities and other agencies (for example, voluntary organisations) stressed. The circular also recognised the need for health and local authorities to increase their knowledge of the costs and benefits of different approaches to community care, if planning was to be effective. The circular proposed that a programme of pilot projects be created and evaluated using joint finance allocations, to provide the necessary information. However, in line with general government policy, the initiatives "would have to be implemented within planned resources. Progress depends on making better use of what is already available ...." (DHSS, 1983).

An important theme underlying these government policy statements was the assumption that responsibility for service provision would ultimately be transferred from health authorities to local social services departments. This had long term financial implications for local authorities, given their other responsibilities, and the existing constraints of government public expenditure policies. However, government policy also stated that the care of people in the community, and the change over in responsibility for services, was not to be achieved by exceeding public expenditure targets. This, despite a history of underfunding and the continuing "cinderella" status of mental handicap services. The resource implications of the government's community care policies and initiatives have been a matter of concern to many of those involved in service provision, including local authorities, voluntary organisations and pressure groups. In their evidence to the Social Services Select Committee local authority representatives argued that their capacity to make flexible use of joint finance was undermined by the financial constraints they faced. As a result of the evidence presented to it by local authorities and other groups, the Social Services Select Committee in its investigation of community care, expressed concern that the government's policy on public expenditure would lead to the underfunding of services (House of Commons, 1985).

Despite these and other criticisms of the financial constraints faced in implementing the care in the community initiative, the DHSS has, through the ministerial review process, increased pressure on health authorities to achieve targeted hospital closures and to co-operate fully with local authorities in the planning and provision of services. Apart from some changes in the social security system the government has not relaxed the financial constraints imposed on service providers.

Concurrently with the care in the community initiative, the government has pursued a general policy of encouraging and supporting private enterprise and a free market, based on the assumption that the competition thus created would ensure that services were provided efficiently. Through policy statements the government has stressed the importance of the private sector in providing care (for example, DHSS, 1981). In January 1983 changes in DHSS rules enabled registered private homes to charge fees to state supported residents, of any client group, according to the level of care provided. This has led to the introduction and growth in the provision of private nursing homes and residential care homes for people with learning difficulties. Whether or not this method of providing residential care does provide adequate care efficiently has been the subject of much political debate, although little objective evaluation and comparison with alternative modes of care has been carried out.

Whilst the response of the private sector to government policy has been rapid and widespread, the response of regional and district health authorities, to the care in the community initiative has been varied. Some regions, for example, West Midlands Regional Health Authority, planned to use multi-purpose community units to provide residential care with the retention of hospitals for use as specialist centres. (For a discussion of RHA Plans see Planning for a Change, Wertheimer et al 1985). Others have been adopting the philosophy of the "An Ordinary Life" initiative (King's Fund Centre, 1980) and planning a service which would put such a philosophy into practice (for example, North Western Regional Health Authority, 1982). Some regional health authorities are taking an active and strong role in planning and implementing policy, while others, such as the South Western Regional Health Authority, are leaving it mainly to districts to decide how to implement the government initiative.

There were several reasons for the differences in policy implementation. First, as Wertheimer et al in Planning for a Change (Wertheimer et al, 1985) point out, DHSS guidelines are far from clear. Many regions are still using the 1971 White Paper as the basis for policy in formulating their plans, whereas central government has moved further towards the philosophy of "an ordinary life" as expressed by the King's Fund paper An Ordinary Life (King's Fund Centre, 1980) and in the Jay Committee Report (Jay, 1979). "The main problem in relation to DHSS involvement in planning is the lack of an up to date national policy statement along the lines of the 1971 White Paper which is now outdated" (Wertheimer et al., 1985, p.99.).

Second, regional health authorities are having to develop an explicit philosophy for their services, which is client rather than service oriented and which is in sharp contrast to existing services and philosophies. The implicit philosophy behind traditional services for people with learning difficulties is based on segregation (care provided away from the local community and based on services specific to that client group), whilst the philosophy behind community care as advocated by the Jay Committee Report and An Ordinary Life is that of integration (care within and by local communities and generic services).

A third factor which affects how policies are implemented concerns the way these changes are to be achieved within the financial constraints imposed. This debate centres on three interrelated points:

a) Is An Ordinary Life service adequate for ALL people with learning difficulties?
b) What is an appropriate service and who should provide it?
c) What are the resource implications to the different agencies involved of a service which promotes ordinary living, and can or should scarce resources be used in this manner?

Is An Ordinary Life service adequate for all people with learning difficulties ?

That some people with learning difficulties can live in the community is not disputed since the majority already do so. Many of these individuals are living in ordinary housing with their families, and there has been a steady movement of the "more able" or "less dependent" people into group homes

since the 1960's. What is disputed is whether those people presently living in institutions, and those who might expect to do so in the future (because of severe or multiple handicaps or behavioural disorders), can be cared for by services based on the principles of normalisation, and enjoy at least as good a quality of life as they would have had in a segregated service.

The debate is clouded by a lack of objective description and evaluation of the positive and negative effects which each type of service would have on the lives of its clients in terms of their own skills and abilities and quality of life (for example, location, social environment or choice). We also need to take note of the long history of underfunding of the institution based services, which may or may not be a cause of differences in the quality of care provided by hospital and "ordinary life" services.

What is an appropriate service and who should provide it?

The King's Fund paper An Ordinary Life and the Jay Committee Report are clear that an appropriate service is one that is locally based, client centred, flexible and varied in the types and location of housing, support services and care provided. The service should aim to integrate people with learning difficulties into the community rather than merely locate services in the community. However, government guidelines are not so clear about what an appropriate service would look like, or what is meant by care in the community. This means that local decision makers are faced with a range of advice and alternatives from various sources. For example, King's Fund papers recommend ordinary housing (An Ordinary Life, King's Fund Centre, 1980; People First, Ward, 1982) whereas the National Development Team has advocated multi purpose community units for 12 - 24 residents (Development Team for the Mentally Handicapped, 3rd Report, DHSS, 1981).

In the case of supportive services there is an informal debate on whether people with learning difficulties should use the generic services used by other members of their community, which would be integrative, or use specialist services specific to their needs which might perpetuate segregation. Since central government has issued no concrete guidelines local decision makers must make a choice between a wide range of options. Due to a lack of research, these decisions have had to be made on the basis of limited information.

Resource implications

How much each type of service will actually cost in terms of all the resources it requires is not clear. Some people argue that care in the community will cost less than institutional care in the long term; others that it will cost more. Comparisons of costs using data routinely provided by regional health authorities and other bodies can be misleading for several reasons:

a) The use of average costs conceals variations such as occupancy rate, age and dependency of residents, local conditions, and scale of provision.

b) The benefits and costs of services to clients and their families are not included.

c) Many existing hospital services are seriously underfunded compared with pilot projects. This distorts the cost comparisons.

d) Measures of the quality of the services cannot be derived from a comparison of the costs.

e) The costs obtained from routinely collected statistics are usually the average costs of the service, when the relevant comparison would be of the long term marginal costs. (Marginal costs refer to the changes in costs associated with an increase in the numbers of people admitted to residential care or to an increase in the use of day services.)

f) The costs are usually the direct cost to the service provider, and do not accurately take into account the indirect cost of the service, for example the travel costs to staff (or the clients) or the time costs for the family or volunteers involved in supporting residents.

The DHSS policy document, Progress, Problems and Priorities (DHSS, 1980), discusses these and other related points and argues that "true cost comparisons require a body of detailed costing case studies, based on individual projects and developments". Unfortunately there have been few such detailed costing studies. Those that have been done are mainly of hospitals and small units rather than services based on ordinary housing, and have concentrated on resource costs rather than a comparison of cost and benefits (Wright and Haycox, 1984; 1985; Ritchie et al, 1983; Felce et al, 1980). This means that local service providers are constrained in implementing the care in the community initiative "..... by an absence of

evidence about the financial viability of implementing their proposals" (Hampson et al, 1984).

In order to establish the costs of the service a knowledge is also required of the resource implications to the different agencies which may be involved, in the context of their other functions, and their ability to bear the costs of providing appropriate care for people with learning difficulties. Although the monetary cost of providing these services may be the same for different agencies (and this is by no means certain), the relative burden of provision may differ, depending on the financial constraints they already face. It has been argued that local authorities have been reluctant to be involved in projects using joint finance money because of the longer term resource implications, and uncertainty about future income and expenditure levels. Gerald Wistow comments "..... local authorities can all too easily feel not only that, in general they are being required to do more with less, but that they are being asked to assume new responsibilities from the health service at the cost, in effect, of failing to meet equal or even greater needs within their own communities" (Wistow, 1986).

Local policy - the South Western Regional Health Authority

In the context of government policy, the situation facing the South Western Regional Health Authority (SWRHA) can be used as a practical illustration of the differences in policy implementation and lack of information discussed above. The South Western Regional Health Authority strategy (SWRHA, 1984) for future mental handicap services acknowledges government policy - that services should enable people with learning difficulties to live as independent and ordinary a life as possible - but also reflects the influence of local factors (for example, the historically high proportion of hospital residents in the region). The strategy also reflects both the wide variations between districts and the national debate on service philosophy and implementation discussed above. This has resulted in a plan which propounds the principle of normalisation, whilst utilising an interim model of care based on community mental handicap units. Whilst these plans may shift the physical location of residential care from a hospital site to a community setting, such plans do not bring about the introduction of new philosophies of care which attempt to meet individual need (Gathercole 1979, Ward, 1982). In recognition of this compromise the SWRHA comments that

the interim model adopted is "not intended to hold back Districts who wish to go beyond the proposals set out, and innovative approaches to the development of services for the mentally handicapped will be welcomed" (SWRHA, 1984, Appendix A).

As far as District Health Authorities are concerned the regional strategy is pragmatic in its requirements from Districts. It asks for detailed plans to achieve government policy, in accordance with the 1984 Ministerial Review Action Plan* but qualifies these demands with "The Region's policy is to encourage intermediate steps which may not conform exactly to the ideal goal ..... for example, the provision of domestic style accommodation on hospital land in a community setting" (SWRHA, 1984). This has resulted in a variety of District plans some of which perpetuate the present differences in service provision. For example, Frenchay Health Authority, which has the highest proportion of hospital residents in the South Western Region, make the following comment in support of its plans: "The authority is convinced that building units in the way described - purpose built hospital units - is the appropriate policy for patients at present accommodated" (quoted in SWRHA, 1984). In contrast, the implementation plan for Bristol and Weston District Health Authority argues that the SWRHA model is not appropriate for the residential needs of people with learning difficulties. The Bristol and Weston Health Authority aims instead to provide a variety of residential options based upon the use of ordinary housing (Bristol and Weston DHA, 1985).

Bristol and Weston Health Authority

The strategy of Bristol and Weston Health Authority aims to provide a network of community care in conjunction with other appropriate local agencies (social services, voluntary organisations, local education authority). This would cover the residential, education, leisure and day care requirements of clients and be flexible to meet individual needs. The Authority plans to achieve this in a variety of ways:

* In accordance with this plan the region had several "Action Plan Tasks". Task A.2 related to the development of a timed programme for the reduction or closure of mental handicap hospitals with a linked programme for the development of community services.

1. The closure of the two local mental handicap hospitals (Farleigh and Yatton Hall) by 1991/2, to be replaced by a range of housing from 1 bedroomed to 5 bedroomed accommodation, using ordinary domestic housing stock wherever possible. The health authority intends that the services will be developed on ordinary life principles, and will use the existing Wells Road Service as a model. (The Wells Road Service is described in Section II, see p.13). The resources will be provided by the Authority together with various other agencies, and will provide residential accommodation for about 340 people. Accomodation options include:
   a) Local authority housing.
   b) Conversion of vacant District Health Authority housing.
   c) Family or adult placement (fostering) schemes.
   d) Social Services residential accommodation.
   e) Partnership agreements with housing associations and voluntary organisations (The South Avon Housing Association has since been established to meet the housing requirements of the authority's plans - see Ward, 1986b for details).

2. The District has been split into ten localities each having a population of around 35,000. This is to enable services to be provided within local communities, and to help individuals with learning difficulties to return/remain in their own community with family and friends, where this is appropriate. Attached to each locality is a Community Mental Handicap Team. Each team comprises a specialist social worker, community mental handicap nurse, occupational therapist, psychologist, physiotherapist, speech therapist, and in some cases a community support worker (For information on the role of the community support worker see Ward, 1986a).

3. Increases in day service provision are to be planned and financed jointly by the health authority, local authorities, Manpower Services Commission and voluntary bodies. (At present most day services are provided by Avon Social Services Department.)

4. The health authority has stated that it is prepared to make use of private sector accommodation where necessary and appropriate. This

would be subject to assurances that the "quality of care" provided by private homes, would be as good as that given in accommodation provided by the health authority.

5. The management of services is to be transferred eventually from the health authority to Avon Social Services Department. Negotiations for the transfer of existing services and joint planning of future services with Avon SSD are currently taking place.

In summary, the Region has essentially compromised between the two alternatives of institutional and ordinary life services, and left health districts to decide which course to follow according to historical factors, local characteristics and the preference of policy makers. The situation in Bristol and Weston DHA provided an opportunity to evaluate some of the alternative forms of residential care which were being debated.

II PUBLIC AND PRIVATE

The purpose of this section is to describe the different services evaluated in the study, and explain why they were included in the evaluation. The Wells Road Service is outlined first, followed by Farleigh and Yatton Hall hospitals. The three private hostels, Wickham House, The Briars and Lark Rise are broadly similar, and so are described together, and any key differences pointed out.

The Wells Road Service

The Wells Road Service was a community based service for adults with learning difficulties based in South Bristol. There were about 70 mentally handicapped adults living within the catchment area (population 35,000), and a further 40 who were living in hospitals and hostels elsewhere, but who originated from the district. The service was funded by Bristol and Weston Health Authority and had a revenue budget of approximately £110,000 for 1985/86. Plans for the service were begun in 1980. The development and evaluation of the service owed much to the ideas expressed in the King's Fund document, An Ordinary Life.

The Wells Road Service had two interlinked components - a residential service and a community support service - which, between them, attempted to provide an appropriate range of services for all adults with a severe learning difficulty living in the South Bristol area, however severe their handicap. The key objective of the residential and community services was to enable people with learning difficulties to lead as ordinary a life as possible in their own home. To achieve this objective the service had the following aims:

a) to integrate the person into the local community and maintain those already living there.
b) to provide accommodation for clients in a range of ordinary domestic housing, with appropriate staff support provided according to their needs.
c) to respond to individual client needs and wishes by establishing flexible staffing and management arrangements.
d) to involve clients and their families in the decision making process when determining what those needs were.

At the time of the study the residential part of the service consisted of a pair of staffed semi-detached houses with support being given to two further residents living in a council house nearby. It was the two semi-detached houses which were the focus of this study and which were compared with alternative care available in the hospital and in private hostels. The two houses were situated in a residential area, on Wells Road, and were not visibly different from neighbouring houses. There was a shopping centre nearby. The houses were close to local pubs, a cinema and other leisure facilities and there was a regular bus service to the city centre. There were three men in each house with severe handicaps and from different backgrounds: three had been in hospital, one had been temporarily placed in a hostel and two came from their family homes. The age of the men ranged from 20 to 39 years. Each resident had a member of staff as their keyworker, who was responsible for aspects of their resident's life such as identifying the person's strengths and needs, attending Individual Programme Plan meetings, and following the plans through, helping them to choose clothes etc., claiming benefits, and helping to arrange appropriate day and leisure activities.

Some of the residents went to the local Adult Training Centre on a part-time basis (although some had made the choice not to do so). With the help of staff, volunteer friends or leisure workers the residents were involved in a range of ordinary activities, from playing Sunday morning football or spending an evening at the local pub, to attending adult education classes at the local college. Wherever possible local facilities for non handicapped members of the community were used. The residents were also taught skills for more independent living, and were encouraged to use them by being actively involved in the day to day running of the houses.

The houses were staffed by six residential support staff and a homeleader, employed on health service administrative and clerical grades. They had varying backgrounds and experience (Ward, 1984). As well as being keyworkers for individuals living at the houses, the staff shared general support and housekeeping duties. The homeleader was responsible for the organisation of the home, and leadership of the support staff. At the time of the study, the homeleader was accountable to the service coordinator, who oversaw both the residential and the community support components of the service. A part time clinical assistant provided support to both staff and

residents of the service. A senior clinical psychologist (employed by the district psychology service) was also available if needed. The health authority financed revenue expenditure for the houses, which was partly offset by fees charged to the residents to pay for rent, fuel, telephone rental and food. These fees were paid by the residents from the supplementary benefit payments which each of them claimed.

Why evaluate the Wells Road Service?

The innovatory nature of the Wells Road Service made it an appropriate focus for evaluation. As an alternative to existing health authority services in its philosophy and organisation, location and size the Wells Road Service might be expected to vary in resource use (both amount and type) and outcome in terms of the lifestyle of its residents. To what extent the Wells Road Service differed from other models of care, in the total amount of resources used, and in outcome was not clear. This was of particular importance at a time when health authorities had to make planning decisions on the future style and philosophy of mental handicap services. Such plans were likely to determine the allocation of large amounts of public spending and other scarce resources, and the benefits (or otherwise) to people with learning difficulties, their families and friends.

Farleigh and Yatton Hall Hospitals

The hospitals included in the study were Farleigh and Yatton Hall. They provided the bulk of health authority residential care in Bristol and Weston, but were being run down, and were due for closure by 1991/2. The population of the two hospitals had already declined from 239 residents in 1974 to 160 in 1984, and both had a policy of non admission of long-stay patients.

Farleigh hospital was located at Flax Bourton, some distance away from the local community and situated in a non residential area. The hospital consisted of a 150 year old workhouse with modern purpose built units for 20-24 people in the grounds. The residents mainly lived in the smaller units, whilst the workhouse buildings were used as an administrative base. Also on the Farleigh site, but away from the main hospital was Hope House, which provided accommodation and rehabilitation in a small domestic unit, for residents who were difficult to place in the community or who were detained under the Mental Health Act.

Yatton Hall hospital by way of contrast was situated in Yatton village, next to a shopping precinct, but separate from local residential housing. The hospital occupied a large building, which was institutional in appearance. Yatton Hall provided long term care for about 70 adults, and also provided respite care for some children. Both hospitals were funded by Bristol and Weston District Health Authority with a combined budget of £2½ million a year.

Farleigh and Yatton Hall hospitals had a long history of underfunding, which was partially alleviated by a decline in resident numbers. This had led to a decline in the number of residents per consultant, from 159 per consultant in 1974 to 80 per consultant in 1983, with a similar fall in resident : nurse ratios from 2.75 per nurse in 1974 to 1.44 per nurse in 1983. (Changes in working practices had offset the declining resident : nurse ratio to some extent). Farleigh had its own medical centre and provided its own day-care services and leisure activities, such as occupational therapy, skills training, and social club.

The original objectives of Farleigh and Yatton Hall were to protect and segregate people with learning difficulties in a setting where they would have long term care. Although the function of the hospitals had become more concerned with training and preparing both residents and staff for the move into the community, several features made the lifestyle of residents very different from that of people living at Wells Road. For example, the number and range of abilities of people living there meant that staff tended to provide care for groups of people, rather than support for individuals. Residents had fewer opportunities to be involved in key aspects of their lives - such as buying and cooking their own meals, and looking after their own clothes. Teaching of skills for independent living was done in the occupational therapy or social education centre, and not in the context of everyday life in the community. The nature and location of the buildings made it difficult for a domestic home like environment to be achieved. The provision by the hospitals of most daytime and leisure activities, minimised the ability and the need for residents to use local facilities, and reduced the opportunities for integration into the local neighbourhood.

Why evaluate Farleigh and Yatton Hall Hospitals?

There were three main reasons why these hospitals were chosen for the evaluation.

a) They were still a major source of existing public sector care in Bristol and Weston health authority, and thus provided a baseline for comparison with the Wells Road service.

b) The location and organisation of care contrasted with that of the Wells Road Service.

c) Although the decision had already been taken to close these particular hospitals there was still debate, both nationally and locally, as to whether some hospitals should be retained in the future for those people with more severe handicaps. Since the Wells Road Service aimed to provide a residential service for adults, however severe their handicap, it seemed appropriate and relevant to compare the costs and lifestyles of people with similar disabilities in the hospital and the Wells Road Service.

Private Hostels

The three private hostels (Wickham House, The Briars, and Lark Rise - not their real names) were similar in many respects. Each was sited in a residential area, fairly close to shops and some leisure activities, with regular bus services to the city centre. Although they occupied large buildings, they did not stand out as particularly different from surrounding houses, and the furnishings and equipment were mostly domestic in character rather than institutional. The hostels were run by partnerships of ex-nurses who had a background in mental handicap. The hostels were financed by charges to the residents of about £140.00 per week (1984/85 prices). The residents claimed these fees from the DHSS, and some also received Attendance Allowance. Each hostel had eleven residents. The hostels were staffed by four or five full-time care staff, most of whom were also members of the partnership. The level of handicap of the residents varied more between hostels than within them, with two (The Briars & Lark Rise) catering for fairly able people, and one for people with more severe disabilities (Wickham House). Most of the people living in the hostels had previously been in hospital care. The residents used the local G.P., dentist etc. and some of the local leisure facilities, such as cinema, pubs and cafes. In two of the hostels, residents attended local adult training centres for daytime activities. In the third hostel (Lark Rise),

day-time facilities were provided by the hostel itself which employed two members of staff specifically for education and skills training. If necessary the hostels could also call on hospital services for other requirements, for example, the hospital social worker or psychiatrist.

Care in the hostels was focussed on individual needs, with the emphasis more on care than support - that is, generally doing things for people rather than enabling them to act for themselves. Certain constraints (the number of residents; the need to provide a service within a fixed income, determined by the amount that residents could claim from the DHSS for fees) made it difficult for staff to actively involve the residents in some aspects of their lives, such as shopping for food or cooking meals. Staff were therefore limited in the time which they could spend with individuals helping them to do things for themselves, and this tended to lead them to do things for the resident instead. Despite this, the residents had more opportunities in some aspects of their lives than those people who were living in hospitals. Since the study was completed, some of the hostel residents have been enabled to move on to more independent living situations.

Why evaluate the private hostels?

The hostels were included for three reasons:

a) They differed from the hospital alternative in their size, location, organisation and finance.

b) Although the hostels were located in the community, they differed in size, staff training, organisation and financing arrangements from the Wells Road Service.

c) The rapid growth of the private sector has attracted political and media attention, but there had been little evaluation of the costs and outcomes of the care provided.

III QUALITY AND COST - CAN THEY BE MEASURED?

Cost effectiveness analysis

This study of the costs of the Wells Road Service uses the methodology of cost effectiveness analysis. In deciding what services to provide, planners (implicitly or explicitly) have to make judgements as to whether providing them is an efficient allocation of resources. Cost benefit and cost effectiveness analysis (CBA and CEA) provide a framework for tackling these issues. Based on welfare economic theory that a change in resource use is efficient if the net benefits to society are equal to or greater than the net societal costs, CBA and CEA are methods of evaluating those costs and benefits and involve the comparison of alternatives such as different methods of producing the same goods or service, or different goods or services.

A cost effectiveness study differs from a cost benefit analysis in the questions it asks and tries to answer. In a cost benefit analysis the issue to be evaluated is whether a service should be provided (for example, whether providing care for people with learning difficulties has a net benefit to all of society). This involves attempting to place a value on the quality of life, or changes in it, for those people who receive the service. Using a cost effectiveness analysis the question being asked is "what is the best method of giving such a service?" (for example, should care for people with learning difficulties be in the community or in an institution) not whether such a service should exist. A cost effectiveness analysis can assume either that the outcomes of each alternative are the same, (for example, the quality of life available to residents of different kinds of service) and then evaluate which costs the least, or that the outcome of each option is different and give an implied cost per unit of outcome.

Given that a policy commitment to providing services for people with learning difficulties exists, and is being implemented, the appropriate method of evaluating the Wells Road Service was cost effectiveness analysis. Using this framework required a comparison of alternatives, which in this case were the alternative methods of residential service provision. The alternatives chosen were those of Farleigh and Yatton Hall hospitals and the three private hostels, described in the previous section. The study was based on the

assumption that the quality of life within each option was different, and the questions the study addressed were:

a) What differences, if any, were there in the outcome of each service (that is, the impact of the service on residents' quality of life)?

b) What were the revenue costs of the resources used by each option?

c) Who paid for the resources used?

d) Was there a cost-effective option, and did this result vary with, for example, occupancy rates?

Method of analysis

The final "output" of the services was defined in this report as the quality of life of the client. To compare the services in an economic sense, it was necessary to measure the differences (if any) in the quality of life of clients in each of the alternative kinds of residential provision. Such a task presented two major problems. First, the methodological problem of attributability and second, how to measure the subjective concept of "quality of life".

Attributability

The problem of attributability was that to be of practical use in the evaluation, any differences in output (quality of life) should be a result of the alternative types of residential provision rather than other variables such as the personal characteristics of the individual residents. In an ideal world, the evaluation would use an experimental design which included, in particular, the random allocation of people with learning difficulties to the alternative types of service being compared. Such a design would minimise bias and increase confidence on the attributability of the results. However, such an experimental design was not possible as residents had already been allocated to services, and there was a statistically small population from which to sample. Whilst it might be possible to utilise a controlled experimental study design in the future, it would, of course, also raise serious ethical and moral issues.

Because of these constraints a less rigorous study design was employed. To standardise for factors other than the residential service a sample of residents from Farleigh were matched with residents from the Wells Road

Service, and residents from two private hostels, The Briars and Lark Rise.* This allowed direct comparisons of outcome to be made between Farleigh and the Wells Road Service and Farleigh and each private hostel, and indirect comparisons between the Wells Road Service and the private hostels. The criteria used for this matching process were those of age, sex and scores on the Wessex Scales of Social and Physical Incapacity (SPI) and Speech, Self Help and Literacy (SSL). These scales provided a rough assessment of levels of continence, mobility and the presence of certain disruptive behaviours (SPI), and the degree of speech, self help and literacy attained (SSL). The scales could thus be used as a measure of the level of dependency of a person with learning difficulties (Kushlick, Blunden & Cox, 1973). This assessment had several advantages: it was already in use for people at Farleigh, the Wells Road Service and one of the private hostels; it was simple and straightforward to use; it had been tested for reliability and validity.

The matching criteria used in the study cannot be regarded as comprehensive, and others could have been included. However, increasing the number of variables controlled for would have decreased both the sample size for this study (because of the small population from which to draw) and its applicability to other broadly similar situations. It was felt that the three standards applied struck a suitable balance between eliminating bias, having a representative sample of residents from Farleigh, and ensuring results of value to decision makers elsewhere.

Measuring the quality of life

This problem can be broken down into two stages.

a) to define "quality of life" for the purposes of this study, and decide which aspects of life were affected by the services being evaluated.

b) to find appropriate means of measurement.

*Wickham House did not become involved in the evaluation until half way through the study period. Because of the limited time available it was not possible to include a hospital comparison group for the residents of this hostel.

a) Quality of life is a broad abstract term. It is subjective and varies in meaning from person to person. In an economic sense it could be defined as the utility gained from life. This can be increased or decreased by varying aspects of an individual's life, which may or may not be in the control of the person concerned. Rather than embark upon a discussion of the philosophical issues of what is utility or quality, it was of more practical use to specify major areas of daily life which had an effect on the utility or quality of life. Such a list was inevitably subjective in both the content and the importance attached to each item. The aspects which were identified for use in this particular study are discussed below. Within the domains chosen, aspects could be identified where the characteristics of the individual exerted the primary influence on her life, and those where the organisation was the main determinant. For example, in the domain of choice, how much choice was available was often determined by the residential service, but whether or not that choice was actually used and how it was used may have depended upon the individual (assuming that the individual had been made aware of the choices and what they meant). It was the impact of the service which the study tried to evaluate.

b) Appropriate means of measurement. An obvious approach would have been to survey the consumers to obtain their subjective assessments of their quality of life and the services they used. Unfortunately in addition to the theoretical problems involved in getting valid and reliable data, there were practical difficulties arising from the communication handicaps which many of the people in the study group had. The difficulties of finding appropriate tools and means of communication in the limited time available for the evaluation were substantial. The study group was also too small statistically for the use of a sub-sample to be a sufficient measure.

The approach used in this study was to use several indicators (or proxies), since it was felt that no single measure could adequately cover such a complex concept. These are described below, and figure 3.1 illustrates the relationship between the measures used and the final output of quality of life.

1. Aspects of Daily Living - Checklist

The Aspects of Daily Living Checklist (ADLC - Davies, 1985) was a set of scales designed to cover a range of factors which together had a key

influence on an individual's quality of life. The purpose of the checklist was to evaluate the following major areas of daily living which had an effect on the utility or quality of life. These were:

A. Choice and involvement in decision making
B. Social contact
C. Personal possessions
D. Personal privacy
E. Environment
F. Day to day activity
G. Disposable income

These areas were chosen as a result of a survey of the opinions of people from a variety of backgrounds who were asked to say what they felt contributed to a "good" quality of life, and by a survey of the available literature on the views of people with learning difficulties (Shearer, 1973; Wandsworth Social Services Department, 1976; Race and Race, 1979; Crossley and McDonald, 1982; Passfield, 1983; Harper & Dobson, 1984).

Of the various instruments available to evaluate services it was felt that no single measure could adequately cover all the aspects of daily life described above. In addition, most existing measures and instruments had been designed either for different purposes, for different client groups or were directed to meet different objectives. These factors made it desirable to design an instrument which would adequately cover the domains listed above and which were influenced primarily by the organisation of services rather than by a person's handicap. The ADLC was designed after consultation with professionals in the field (sociologists, mental handicap researchers, and psychiatrist) and by making use of previous work in the area (King, Raynes and Tizard, 1971; Raynes, Pratt, and Roses, 1979; Gunzburg, 1979; National Development Group, 1980).

The ADLC consisted of 108 questions covering the domains listed above. The answers to these questions were collected by separate interviews with the member of staff (for example, key worker) who knew the resident best, and with the person in charge of the home or ward. The scoring of the ADLC was arranged so that a high value score reflected a higher "quality of life" for the client than that associated with a low value score.

2. The STAR Profile

The second instrument used was the STAR Profile (Williams, 1982). This was a method of assessing the social competence of people with learning difficulties. The profile was used twice at twelve month intervals to determine whether any change in skills had taken place, and whether there was a difference in the amount of change according to the type of care received. It was assumed that an increase in social competence would decrease the level of dependency and so improve the person's quality of life. This assessment was chosen because it had been established as valid and reliable, and was easy and fairly quick to use in a group of people with a wide range of abilities.

An increase in scores on the STAR profile was taken to reflect an increase in the social competence of the resident. Such an increase in competence was viewed as a benefit to the person concerned.

3. Quantitative measures

a) The direct care staff : resident ratio

The lower the ratio of staff to residents the greater were the constraints staff faced in providing more than a basic level of care and in treating residents individually rather than as a group. The staff : resident ratio was a crude indicator and provided no more than a check on minimum levels of care (Yates and Vickerstaff, 1982). However, it had the advantage of using data routinely provided by the health authority, and information which was easily obtainable from private hostels. It was also a measure which was easily replicable.

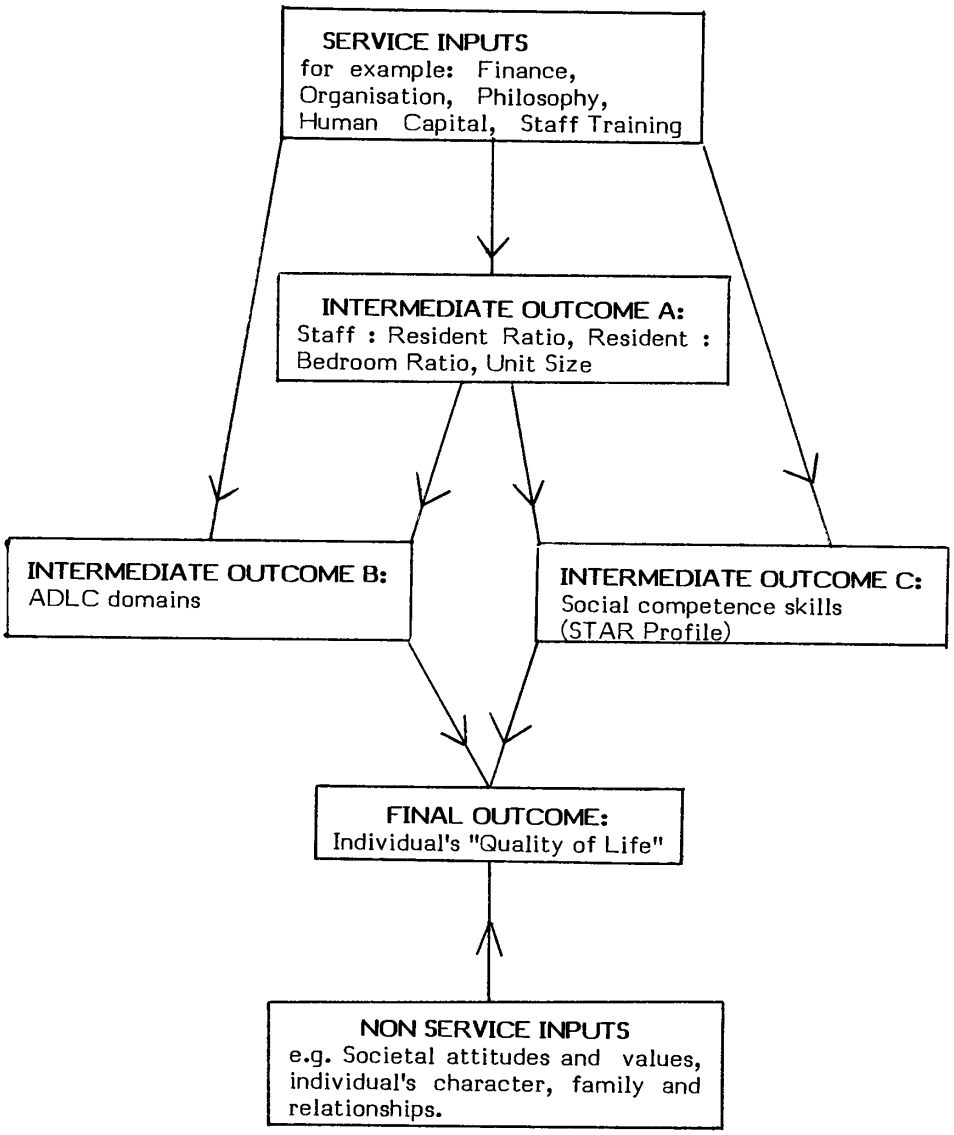
A higher staff : resident ratio was taken to be more beneficial for the clients than a lower one.

b) The resident : bedroom ratio

The higher this ratio the lower were the opportunities for privacy, choice and independence by the residents, and the greater the likelihood of personal or group conflicts arising. All of these have a detrimental effect on the "quality of life". Like the staff : resident ratio this was a crude but useful measure.

A higher ratio of bedrooms to residents was taken to be better than a lower one.

Figure 3.1


SERVICE INPUTS
for example: Finance, Organisation, Philosophy, Human Capital, Staff Training
INTERMEDIATE OUTCOME A:
Staff : Resident Ratio, Resident : Bedroom Ratio, Unit Size
INTERMEDIATE OUTCOME B:
ADLC domains
INTERMEDIATE OUTCOME C:
Social competence skills (STAR Profile)
FINAL OUTCOME:
Individual's "Quality of Life"
NON SERVICE INPUTS
e.g. Societal attitudes and values, individual's character, family and relationships.

c) The size of the living unit

The larger the unit the less easy it would be for staff to maintain a homely atmosphere and remain oriented to residents as individuals. In large units there is often a tendency towards "block treatment" where individual identities are lost sight of. It is also difficult to avoid a large unit being physically different from neighbouring accommodation. This may reinforce other people's perceptions of people with learning difficulties as different. As with (a) and (b) this could only be a crude indicator but it nevertheless had similar advantages. For the purpose of this measure the hospital ward was taken as the living unit for those living in hospital.

A smaller size of living unit was taken to be better than a large one.

As a final comment on these outcome measures it should be noted that they were all interdependent and needed to be taken together to give an overall picture.

Measurement of costs

The costs presented for comparison were the average and total costs of different types of residential service provided by the Wells Road Service, the three private hostels and Farleigh and Yatton Hall hospitals. The resources for these services were provided by several agencies:

a) Bristol and Weston District Health Authority
b) Avon Social Services Department
c) Department of Health and Social Security
d) Workers' Educational Association
e) Local Education Authority
f) Avon Family Practitioner Committee
g) Volunteers

Where possible the cost of care was attributed to the appropriate service provider. The resources used have been costed at 1984/85 prices, with the exception of the volunteers, for whom the hours worked are stated rather than an estimated cost for this service. (To impute a monetary cost to voluntary work would require further information on the alternative use for which the time could be used and the benefit which volunteers gained from spending time with people with learning difficulties.)

In deriving the costs, services were split into two broad categories: residential services and non residential services. The method of costing and the sources of cost data for these categories are described below for each group in the study.

1. Residential costs

Farleigh and Yatton Hall Hospitals

The people included in the study from Farleigh and Yatton Hall were spread over 6 wards in the two hospitals, which varied in size from 22 to 42 beds. It was probable that the average cost per person would vary according to which ward they lived in due to differences in size, staff : resident ratios and occupancy rates (Wright and Haycox, 1984; 1985).

The calculation of the ward costs was done in three parts.

(a) Nursing costs.

The cost of nursing staff for each ward was determined by the staff : resident ratios required on each ward, rather than simply by the number of beds. To derive the cost of nursing staff, the nursing establishment for each ward was calculated as a percentage of the hospital establishment for each grade of staff (sister, staff nurse, enrolled nurse, nursing auxiliary etc.) The total cost for the ward was found by allocating the nursing expenditure for the hospital in proportion to the nursing establishment of each ward, for each grade of staff, and then summing these costs to give a total nursing cost for that ward. An average cost per person living in the ward at actual and 100% occupancy rates was then estimated.

(b) Catering Costs

It was assumed that the cost of catering staff and equipment would not vary directly with occupancy rate, but the cost of provisions would. The total cost for catering staff and equipment for each ward, was apportioned by the proportion of beds it contained. From this, an average cost at actual and 100% occupancy rates was calculated. The expenditure on food by the hospital was then calculated separately, and divided by the average number of residents living in the hospital over the year, to give an estimated average cost per person for food.

(c) Other Ward Costs

The other residential components of care (for example, cleaning and domestic costs) were assumed to be a function of the number of beds on each ward. The total cost for each ward was taken as a proportion of the total hospital cost, determined by the proportion of hospital beds each ward had. Again an average cost at actual and 100% occupancy rates was calculated.

The cost data were taken from the mental handicap expenditure accounts and unit cost statistics kept by Bristol and Weston Health Authority.

The Wells Road Service and Private Hostels

The Wells Road Service and the private hostels were relatively small units. Unlike Farleigh and Yatton Hall hospital the residents within each house or hostel had similar levels of handicap, and the staff : resident ratio did not vary within each unit. Therefore it was not necessary to apportion total costs in the same way as had been done for the hospitals.

The costs for the Wells Road houses were taken from the budget statements for the Wells Road Service compiled by the Bristol and Weston Health Authority. The residential cost for people living in the Wells Road houses was taken as that detailed in the budget statements plus a proportion of the cost of the community support service which made some input to the houses. The occupancy rate at Wells Road during the time of study was 100%. The average cost per person was calculated twice, using the actual occupancy rate, and a hypothesized occupancy rate of 83.3% (i.e. 5 residents rather than 6). The figure of 83.3% was chosen as it was the occupancy rate used by the health authority in preparing budget estimates.

The data for the private hostels was taken from the expenditure accounts produced by the owners. It was not always possible to split the total expenditure into the detailed categories found in the health authority accounts. All the hostels had maintained a 100% occupancy rate, and so an average cost per person for the actual occupancy and a hypothesised occupancy rate of 90.9% (10/11th) was calculated.

2. Non residential costs

a) Training/Education Services

For each resident in the study, care and training/education staff were asked to list what training or educational activities s/he took part in, who provided them (for example, occupational therapy, adult training centre, adult literacy classes), and how often s/he attended. A cost per day for training/education services was estimated, and the cost per person was calculated as the number of whole day equivalents attended multiplied by the cost per day. The cost per day used was based on the actual occupancy rate of the training or education centre.

b) Health Care

The main costs under this heading were for psychiatric, and general practitioner services, and for drugs. Direct care staff for non hospital residents were asked to itemise for each person the number of medical consultations, and the amount and type of drug prescribed. A crude estimate of the cost of a G.P. consultation was calculated as the average cost per year per head in Avon, divided by the average number of G.P. consultations per person per year (Avon Family Practitioner Committee, 1984/5 and Central Statistical Office, 1986). The cost per consultation for psychiatric services was taken to be the fee for a domiciliary consultation (Review Body on Doctors and Dentists Remuneration, 15th Report, 1985). The cost calculated for each drug used by non hospital residents was the cost to the NHS for the drug dispensed by an average retail pharmacy (DHSS, 1985).

c) Social Workers

The cost of social work services was estimated by the number of consultations per person multiplied by the average salary cost of social workers per hour plus transport expenses. It was assumed that each consultation was for one hour -which is generally regarded by social work practitioners as the optimum duration of an interview. The number of consultations during the previous 12 months which each resident had had with a social worker was obtained by interview with care staff and/or social workers. (The salary cost and transport expenses for social workers were given by Avon Social Services Department.)

d) Residents' Income

Care staff were asked to give details of the amount and types of DHSS allowances received by residents, and any other sources of income. Training/education staff were asked for information on any payment individuals receive for attending these activities, or from sale of goods etc.

IV HOW MUCH? HOW GOOD?

The following table shows the characteristics of the 39 residents who were involved in the study of community settings.

Table 4.0 Residents' characteristics

		Wells Road Service	Wickham House	The Briars	Lark Rise
Sample size		n=6	n=11	n=11	n=11
Men		6	6	6	8
Women		0	5	5	3
Age in years	Mean	30	38.5	43.5	39.5
	Range	20-39	20-60	35-60	30-45
Proportion of residents who had additional handicaps*		83%	100%	29%	29%

*Behaviour problems, and/or a lack of mobility, and/or were partially incontinent and/or had no speech or literary skills on the SSL scale

As can be seen from this table there were very marked differences in the proportion of the residents who were incapacitated or seriously handicapped. All of those living in Wickham House were rated as severely handicapped whereas, of those living in The Briars and Lark Rise, less than a third were rated as being so heavily handicapped.

COSTS AND OUTCOMES

The ways in which residents in the community settings were matched with those in the hospital wards has already been described (p.21). Because Wickham House did not become involved in the study until late on in the fieldwork no matching was possible for these eleven residents.

The results of the costing study are presented first, followed by the results of the outcome measures used. The results of each analysis are divided

into two parts. First the results which relate to the matched groups are considered, then the results from the studies of the groups where matching was not possible.

A detailed breakdown of the cost and outcome results is presented in Appendices C and D. Unless stated otherwise the costs given are the average cost per person at actual occupancy rates for the year 1984-85.

HOW MUCH? THE COSTS OF THE RESOURCES USED

How Much? Comparison of the Wells Road Service with a matched group of hospital residents

Table 4.1 shows that the overall cost per person of services for people living at Wells Road was roughly £2,200 greater than that for a group of people, matched for age, sex and dependency living at Farleigh and Yatton Hall. The costs for the Wells Road Service residents were spread over a larger number of agencies, so that the net cost of the Wells Road Service residents to Bristol and Weston Health Authority was about £3,000 per person less than that of the matched group of residents in Farleigh and Yatton Hall hospitals. One reason for this difference was that the residents of the Wells Road Service drew social security benefits of over £3,000 in 1984/85, as board and lodging allowances. Unlike the hospital residents the Wells Road residents were charged for their keep and paid over to the health authority an agreed amount each week to cover the costs of their board and lodging.

A second reason for the difference was that some of the Wells Road residents were eligible for Attendance Allowance in addition to Severe Disability Allowance, whereas hospital residents could only claim the latter. The differences in these allowances amounted to approximately £800 per person.

A final distinction between the two was that most of the training and educational activities for the hospital residents fell as a direct cost on the health authority whereas the Wells Road residents also made use of adult training centres and adult education classes provided by the local authority.

Table 4.1 **The average costs per person of the Wells Road Service and Farleigh and Yatton Hall hospitals, 1984/85**

Funding Agency For Costs	Wells Road Service	Farleigh/Yatton Hall Hospitals
	£ p.a.	£ p.a.
Bristol and Weston DHA	9632.52	12586.43
Family Practitioner Committee/ Pharmacy	22.19	-
DHSS		
(a) Personal allowances	1324.77	521.65
(b) Board and lodging allowances	3276.00	-
Social Services		
(a) Adult Training Centre	827.01	46.52
(b) Social work	40.70	65.40
Workers' Educational Association	-	77.76
Local Education Authority	391.00	-
Other	131.00 hrs	-
Total	**15514.19**	**13297.76**

How Much? Comparison of The Briars with a matched group of hospital residents

By way of contrast the total cost of services for people living at The Briars was approximately £2,500 per person per annum less than that for a matched group of hospital residents. As with the Wells Road Service the costs of The Briars fell on a number of different agencies.

The cost of The Briars to Bristol and Weston Health Authority was only £26.60 per person. This was in contrast to £11556.83 per person living at Farleigh and Yatton Hall hospitals. The main source of finance for the hostel

was the DHSS through board and lodging allowances of £7280 per person. A second major difference was in who bore the cost of training activities for each group of people. Most of the residents of the hostel attended adult training centres provided by the social services department in Avon, whereas training activities for hospital residents were mainly provided by the health authority.

Table 4.2 The average costs per person of the The Briars and Farleigh and Yatton Hall hospitals, 1984/85

Funding Agency For Costs	The Briars	Farleigh/Yatton Hall Hospitals
	£ p.a.	£ p.a.
Bristol and Weston DHA	26.60	11556.83
Family Practitioner Committee/ Pharmacy*	26.50*	-
DHSS		
(a) Personal allowances	521.65	521.65
(b) Board and lodging allowances	7280.00	-
Social Services		
(a) Adult Training Centre	1997.32	46.52
(b) Social work	-	65.40
Workers' Educational Association	-	77.76
Local Education Authority	-	-
Other	-	-
Total	**9852.05**	**12268.16**

*This was the amount for G.P. visits and pharmacy goods obtained on prescription. It did not include miscellaneous items available without prescription, which had been paid for by the hostel (for example, aspirins).

How much? Comparison of Lark Rise and a matched group of hospital residents

The overall cost of services for the residents of Lark Rise was nearly £5,000 per person less than that for a matched group of hospital residents. Again, the source of funding of the services varied. The major source of finance for Lark Rise was, like The Briars, the DHSS board and lodging allowance. However, unlike The Briars, the owners of Lark Rise provided their own training and educational activities for residents. This may be one reason for the substantially lower total cost of this hostel. The reasons for differences in costs are discussed in greater detail below (see p.37).

Table 4.3 The average costs per person of Lark Rise and Farleigh and Yatton Hall hospitals, 1984/85

Funding Agency For Costs	Lark Rise	Farleigh/Yatton Hall Hospitals
	£ p.a.	£ p.a.
Bristol and Weston DHA	106.40	12436.12
Family Practitioner Committee/ Pharmacy	29.70	-
DHSS		
(a) Personal allowances	521.65	521.65
(b) Board and lodging allowances	7280.00	-
Social Services		
(a) Adult Training Centre	-	46.52
(b) Social work	6.05	65.40
Workers' Educational Association	261.80	77.76
Local Education Authority	-	-
Other	-	-
Total	**8205.60**	**13147.45**

How much? The average costs of Wickham House

The cost of maintaining a person with learning difficulties at Wickham House are given in Table 4.4. Because it was not possible to include a matched group of hospital residents this table shows only the costs for the hostel. Comparison of the figures in Table 4.4 with those in Tables 4.1 - 4.3 shows that the average cost per person living at Wickham House was between £1,600 and £2,700 less than that for any of the groups living at Farleigh and Yatton Hall.

As in the case of The Briars and Lark Rise the main cost item to society of Wickham House was the DHSS board and lodging allowances. Some of the residents of Wickham House also received Attendance Allowance and thus had higher personal allowances than those living in the other private sector hostels.

Table 4.4 The average cost per person of Wickham House, 1984/85

Funding Agency For Costs	Wickham House
	£ p.a.
Bristol and Weston DHA	26.60
Family Practitioner Committee/ Pharmacy	35.05
DHSS	
(a) Personal allowances	873.48
(b) Board and lodging allowances	7280.00
Social Services	
(a) Adult Training Centre	2278.97
(b) Social work	133.20
Workers' Educational Association	-
Local Education Authority	nil
Other	nil
Total	**10627.30**

A major cost difference between Wickham House and the other private sector hostels was the higher cost to the Social Services Departments of the day services used by the residents of Wickham House.

How much? The Wells Road Service and the private hostels compared

The average costs per person for the residents of the Wells Road Service were substantially higher than those found in the private hostels. Indeed the cost of maintaining a resident in the Wells Road Service was nearly twice that of Lark Rise. The main reasons for these differences in expenditure were differences in residential costs (that is, the costs of residential staff and provision of residential care as opposed to the costs of the day services, medical services etc.).

How much? The private hostels compared

The average cost of the hostels ranged from £8205.60 per person at Lark Rise to £10627.30 at Wickham House. The main cost difference was in the use of adult training centres. The people living at Wickham House made the most use of adult training centres at an average cost per person of £2278.90; those at The Briars had a slightly lower attendance, and cost an average of £1997.82 per person. Since Lark Rise provided its own training activities the people living there did not go to adult training centres, and so were not a cost to the social services department for day services.

Private versus public

There was a striking disparity between the cost of the Wells Road Service and Farleigh and Yatton Hall hospitals, and the private sector hostels. As Table 4.5 shows, the residential costs for the residents of the Wells Road Service were £1,000 per person more than the costs for the matched group in hospital and £5,000 to £6,000 more than for those living in the private hostels. The residential costs of the hospital residents were about £3,000 per person higher than those of the private hostels. A combination of three factors accounted for most of the residential cost differences between the Wells Road Service, the hostels and the hospitals. These were staff costs, occupancy rates, and organisational differences.

Table 4.5 Comparison of residential costs 1984/85

	Community Residents	Hospital Comparison Group
	£ p.a.	£ p.a.
Wells Road Service	12409.68	11220.50
Wickham House	7280.00	Not matched
The Briars	7141.35	10007.80
Lark Rise	6325.59	10947.63

Staff costs

The average cost per resident of direct care staff at the Wells Road Service was approximately £5,000 greater than the cost of the staff required for a group of matched residents in the hospitals and about £7,000-£8,000 more per person than for the hostels (see Table 4.6). Possible causes for the differences in staff costs were a) the effect of staff : resident ratios, b) differences in salaries and working hours, c) differences in employer costs and d) differences in working practices.

a) The effect of staff : resident ratios

One reason for the disparity in staff costs was the cost of maintaining a higher staff : resident ratio in the Wells Road Service. In order to maintain a staff : resident ratio of 1 : 2 for the six residents of the Wells Road Service the health authority employed one home leader and six full time support staff. If, for the sake of argument, it is assumed that the private hostels wished to maintain a similar staff : resident ratio of 1 : 2 for their eleven residents they would each need to employ twelve members of staff. The hypothetical cost of doing this would have increased the residential costs to the following levels:

Wickham House	£9957.92
The Briars	£9384.49
Lark Rise	£7068.22

Table 4.6 Average cost per resident of direct care staff, 1984/85

	Direct Care Staff	Staff : Resident Ratio
	£ p.a.	£ p.a.
Wells Road Service	10301.83	1 : 2
Hospital comparison group	5433.75	1 : 6
Wickham House	3636.36	1 : 4
Hospital comparison group	not matched	not matched
The Briars	3041.18	1 : 5.5
Hospital comparison group	5342.76	1 : 6
Lark Rise	2356.07	1 : 4
Hospital comparison group	5488.88	1 : 6

If these changes were implemented they would substantially narrow the cost differences between the Wells Road Service and Wickham House and The Briars. The remaining disparity between Lark Rise and Wells Road was mainly due to the lower gross salary costs for the staff of the hostel.

There were two possible reasons for the differences in staff : resident ratios. Firstly, the higher staff : resident ratio at the Wells Road Service might in part reflect the higher level of handicap of the people living there. However, this was not a sufficient explanation, since there were substantial staffing differences for groups of residents with similar levels of handicap. For example, both residents of the Wells Road Serivce and Wickham House had

severe handicaps but the staff : resident ratio of the Wells Road Service was twice that of Wickham House.

An alternative reason for the variation in staff : resident ratios was differences in staff roles. Support staff at the Wells Road Service (and to a lesser extent in the private hostels) performed the role of keyworker for individual residents. This meant that the member of staff took a responsibility for overseeing the individual programme of a particular resident. Staff also played a major role in teaching the residents skills for more independent living and involved them in the day to day running of their home. Finally, the Wells Road staff were responsible for general housekeeping and catering duties, since separate domestic and catering staff were not employed. These aspects of their roles meant that the Wells Road Service staff had a range of activities and responsibilities which were additional to those of hospital staff. As a consequence the Wells Road Service required more staff time and a higher staff : resident ratio.

Although Farleigh and Yatton Hall had a lower cost for direct care staff, these hospitals also employed domestic and catering staff. Adding the cost of the domestic and catering staff to that of the direct care staff reduced the staff cost difference between the Wells Road Service and Farleigh and Yatton Hall.

Even if the staff : resident ratios, and number of residents in the Wells Road Service and the private hostels were equal, the private hostels would still have had lower staff costs because of the different conditions of service and employer costs in the private hostels. The discussion which follows, about differences in salaries and working hours, and employer costs, refers to the cost per member of staff (rather than the cost per resident, as in the rest of the report).

b) Differences in salaries and working hours

Another reason for the hostels' lower staff costs was that the owners of the hostels worked longer hours for a lower average salary. The basic hours worked by the owners of the three private hostels was betwen 42 and 45 hours per week per person plus 2 - 4 sleep-in shifts. The average salary cost per member of staff (including national insurance and pension scheme

contributions) was between £6,500 and £7,200 per annum. In contrast, staff at the Wells Road Service had a basic working week of 37 hours, plus a sleep-in shift. The average salary cost of staff at the Wells Road Service (including employers' national insurance and superannuation contributions) averaged £8,500 per member of support staff (that is, excluding the salary costs of the home leader). The basic hours and average salary costs of staff at Farleigh and Yatton Hall hospitals were similar to those of the Wells Road Service.

The main reason for this difference in hours and salary between the private and public sector were the financial constraints placed upon hostels by the fees which the DHSS allowed. However, the staff at the hostels may also have been willing to accept these conditions in expectation of future returns on their capital investment in the hostel.

c) Employer Costs

The higher salary cost for the Wells Road Service and hospital staff was partly due to differences in employer costs. These were approximately £1,200 per annum for employer superannuation and national insurance contributions. In contrast, staff at Lark Rise were also the owners and paid a self-employed national insurance contribution of roughly £240 p.a. each.

d) Differences in working practices

Although much of the difference in staff costs between Farleigh and Yatton Hall and the private hostels could be accounted for by the factors just described, the average costs of the hospitals differed for two further reasons. Firstly, the hospital employed night staff who were awake and on duty all night, whereas the hostels and the Wells Road Service relied for night-time supervision on staff sleeping in and being on call at night. Secondly, the occupancy rate at the hospitals was lower than that at the Wells Road Service or in the hostels. The effect of different levels of occupancy on costs is discussed in detail below.

Occupancy Rates

During the year 1984/85 the occupancy rate at the Wells Road Service and each of the private hostels was 100%. In contrast the average ward occupancy rates for each of the hospital comparison groups ranged from 75% to 87%. Table 4.7 gives the difference in residential costs between the

Wells Road Service and hostels, and their hospital comparison groups, at the actual hospital occupancy rate, and the estimated difference in costs if the hospitals were assumed to have a 100% occupancy rate.

Table 4.7 Differences in residential costs, 1984/85

	Cost Comparisons with Farleigh and Yatton Hall	
	Actual Occupancy Cost difference per person p.a.	100% Occupancy Cost difference per person p.a.
	£	£
Wells Road Service	+1189.18	+2620.46
The Briars	-2866.45	-529.26
Lark Rise	-4622.04	-2230.79

Table 4.7 illustrates the effects that a change in occupancy rates would have on the costs of the hospitals. When a comparison is made between the Wells Road Service and the hospital using the actual hospital occupancy rates the Wells Road Service cost £1189.18 per person more than the hospital for a matched group of residents. By way of contrast (at actual occupancy rates) The Briars cost £2866.45 per person less than the hospital matched groups and Lark Rise cost £4622.04 per person less than the matched hospital group.

If we now repeat these comparisons assuming a 100% occupancy level in the hospital we find that the extra cost of the Wells Road Service would be £2620.46 per person per annum. Similar comparisons between the private hostels and Farleigh and Yatton Hall hospital would have narrowed the difference to £529.26 per person for The Briars and to £2230.79 for Lark Rise.

The effect that changes in occupancy rates would have on the costs of the Wells Road Service and the private hostels also illustrates the existence

of economies of scale, at least in the short term. For example, if the Wells Road Service and each of the hostels were to have one empty place, and maintain staff levels in the short term, the occupancy rates and the re-estimated average residential cost per person would then be significantly greater, as shown in Table 4.8.

Table 4.8 Average residential cost per person with one empty place, 1984/85

	Occupancy Rate with one empty place.	Average Residential Cost £ p.a.
Wells Road Service	83%	14704.41
Wickham House	91%	7914.49
The Briars	91%	7792.77
Lark Rise	91%	6849.07

A comparison of the figures in Table 4.8 with those in Table 4.5 shows that the cost per person for the Wells Road Service has risen by about £2,300, whereas the cost for the private hostels has risen by roughly £500-600 per person. This means that the owners of Wickham House and The Briars would make an average loss per year of £171 and £113 per person respectively (instead of a profit of £421.27 and £501.54 per person respectively). The profit of Lark Rise would be reduced from £636.07 to £80.77 per person. However, over the long term, the higher staff : resident ratio and staff establishment of the Wells Road Service may mean that it has more flexibility and so would be more able than the private hostels to reduce staff levels, and thus the average cost per person.

Organisational Differences

The tables in Appendix C show that Farleigh and Yatton Hall had higher costs for catering, domestic and cleaning, laundry and administrative

services than the Wells Road Service and the private hostels. This was partly due to the larger size of the hospitals and the physical characteristics of the buildings, which required the employment of staff specifically for these duties. In contrast, these aspects of care were done by the staff at the Wells Road Service (and the private hostels) as a part of the ordinary life philosophy upon which the service was based.

Why did differences in non residential costs occur?

Table 4.9 shows the difference in the average cost per person for non residential services used by those living at the Wells Road Service, the private hostels and the hospital comparison groups. The main reasons for the cost disparities were differences in formal training/education costs, and a different use of medical services.

Table 4.9 Average cost per person for non residential services, 1984/85

	Community Residents £ p.a.	Hospital Comparison Group £ p.a.
Wells Road Service	3104.51	2077.26
Wickham House	3347.30	-
The Briars	2710.70	2260.36
Lark Rise	1880.02	2199.82

a) Training/Education Costs

Table 4.10 gives the differences in costs for formal training/education for each group of residents. This shows that the overall cost of training services used by the Wells Road residents was higher than that of the hospital comparison group, but lower than Wickham House and The

Briars and about equal to Lark Rise. The cost of training for Wickham House and The Briars was also higher than for Farleigh and Yatton Hall hospitals. One reason for lower hospital costs was that most training was provided at the hospital and so the costs of maintenance, utilities, buildings and administration was included in the overall hospital costs, and not separately itemised. In contrast, the training and education services for non hospital residents were provided away from the home by different agencies and so the costs of maintenance and buildings could not be absorbed in the residential costs of services. The difference in costs between the Wells Road Service and Wickham House and The Briars was mainly a result of the higher use made of ATC's by the people living at the hostels, whereas training for residents of the Wells Road Service was also provided by staff of the Wells Road Service.

Table 4.10 Average cost per person of education/training for residents, 1984/85

	Community Residents £ p.a.	Hospital Comparison Group £ p.a.
Wells Road Service	1218.01	595.35
Wickham House	2278.97	-
The Briars	2043.23	906.65
Lark Rise	1216.22	755.55

Lark Rise employed its own staff for training, which resulted in a lower cost than for Wickham House and The Briars. Again, this was because the training provided by Lark Rise had lower overheads than that of ATC's or education authorities. The difference in costs between the hospital groups was partly due to differences in attendance at the occupational therapy or social education classes provided.

b) Medical Services

Tables 1 - 7 in Appendix C show that the cost of medical services for the Wells Road Service and the hospital groups was roughly £300 higher than that for the hostels. Comparing the Wells Road Service and the hostels, the main difference was in the costs of psychiatric and psychology services (rather than GP services) although the use of them was similar. The main reason for this was that the health authority had allocated these services specifically for use by residents of the Wells Road Service, whether or not they used them, and so the cost of this allocation had to be accounted for. As the service expands this cost may be spread over a larger number of people resulting in a lower average cost per person. In comparison, the people living at the hostels made use of the same services which were provided for the local community. This meant that the cost was spread over a large population, substantially reducing the cost per person. The higher cost of medical services (that is, the cost of medical staff and equipment employed by the hospitals) for Farleigh and Yatton Hall hospitals reflected the fact that the cost was spread only over the relatively small hospital population rather than the local community. This included the cost of providing their own medical centre, rather than using local GP services like the Wells Road Service and the hostels.

HOW GOOD? THE RESULTS OF THE OUTCOME MEASURES

The outcome measures used in this study have already been described. In brief they comprised a scale specially devised for this research, the Aspects of Daily Living Checklist (ADLC), the STAR Profile, and certain quantitative measures. Tables 4.11, 4.12, 4.13 and 4.14 contain a summary of the findings of the outcome measures.

How good? - the Wells Road Service and hospital comparison group.

The average ADLC score for the Wells Road Service group was 35% higher than that of the comparison group of people at Farleigh and Yatton Hall hospitals (Appendix D gives the average score for each section of the ADLC scale). For each part of the scale the Wells Road Service had a higher average score than the hospital group of residents. These differences were statistically significant at the 5% level, for all of the scales except Section C which covered personal possessions.

Table 4.11 The outcome results of the Wells Road Service and hospital comparison group

Indicator		Wells Road Service n=6	Farleigh/Yatton Hall Hospitals n=6
Average ADLC	Mean S.D.	78.51% (15.99)	43.3% (15.82)
Change in STAR Profile		N.S.	N.S.
Staff : Resident Ratio		1 : 2	1 : 6
Resident : Bedroom Ratio		1 : 1	7 : 1
Unit Size		3	22

No significant difference in STAR Profile results over time was found for any of the groups in the study. This result implies that there was no change in residents' social competence skills during the twelve months research period. This result should be treated cautiously for the following reasons:

a) The STAR Profile may not be sufficiently sensitive for the task.
b) There could be a ceiling effect in operation.
c) Changes in people's social competence skills may be gradual over a long time period, and not identifiable in the twelve months period allowed.

As Table 4.11 indicates, the Wells Road Service had more staff per resident, and fewer residents per bedroom, than the hospital group, in addition to being a smaller unit. In terms of the assumptions discussed earlier in Section III the results suggest that the care provided by the Wells Road Service was better than that of Farleigh and Yatton Hall hospitals.

How good? The Briars and Lark Rise and hospital comparison groups

The results of the outcome measures for The Briars and its hospital comparison group are given in table 4.12, and those for Lark Rise and the

relevant hospital comparison group in Table 4.13. Both The Briars and Lark Rise had a higher average ADLC score than their hospital comparison groups.

Table 4.12 The outcome results of The Briars and hospital comparison group

Indicator		The Briars (n = 11)	Farleigh/Yatton Hall Hospitals (n = 11)
ADLC	Mean S.D.	66.3% (16.12)	49.94% (13.62)
Change in STAR Profile		N.S.	N.S.
Staff : Resident Ratio		1 : 5.5	1 : 6
Resident : Bedroom Ratio		2 : 1	7 : 1
Unit Size		11	22

The Briars also had a higher average score than the hospital comparison group on each section of the ADLC. However, the differences between The Briars and the hospital group were not statistically significant for the parts of the ADLC covering social contact, personal possessions and daytime activities (see Appendix D).

In contrast to The Briars, the average score for social contact at Lark Rise was 9% less than that of the hospital comparison group. In addition, although Lark Rise had higher average scores for the other sections of the ADLC than the hospital comparison group, the differences in the scores relating to personal possessions, daytime activity and disposable income were not statistically significant.

As with the Wells Road Service and its hospital comparison group, there was no significant change in STAR Pofile scores over time for any of the residents of The Briars or Lark Rise and their hospital comparison groups.

Both the private hostels had higher staff : resident ratios, lower resident : bedroom ratios and residents lived in smaller units than the hospital comparison groups.

Table 4.13 The outcome results of Lark Rise and hospital comparison group

Indicator		Lark Rise n=11	Farleigh/Yatton Hall Hospitals n=11
Average ADLC	Mean	60.11%	48.84%
	S.D.	(19.27)	(13.75)
Change in STAR Profile		N.S.	N.S.
Staff : Resident Ratio		1 : 4	1 : 6
Resident : Bedroom Ratio		1 : 1	7 : 1
Unit Size		11	22

The differences in outcome results between the two private hostels and hospital comparison groups was not so great as that between the Wells Road Service and hospital comparison group, for any of the measures used. Even so the results indicate that the Briars and Lark Rise had an overall advantage over Farleigh and Yatton Hall hospitals, in terms of the implied quality of residents lives.

How good? Wickham House

The results of the outcome measures for Wickham House are presented in Table 4.14. Since a hospital comparison group could not be included for people living at this private hostel, Table 4.14 only has one set of figures. Comparison of the results for Wickham House with those for the hospital comparison groups in Tables 4.11 - 4.13, shows that people living at Wickham House had a higher average score on the ADLC than hospital

residents. The breakdown of ADLC scores in Appendix D reveals that residents of Wickham House had a lower average score for Section B - Social Contact than any of the hospital comparison groups. For the other sections of the ADLC the average scores for residents of Wickham House were significantly higher than those in the hospital comparison groups.

Table 4.14 The outcome results of Wickham House

Indicator		Wickham House n=11
ADLC	Mean S.D.	65.87% (19.47)
Change in STAR Profile		N.S.
Staff : Resident Ratio		1 : 4
Resident : Bedroom Ratio		2 : 1
Unit Size		11

As with the other private hostels there was no change in STAR Profile results over time for people living at Wickham House. Like the other private hostels, Wickham House also had a higher staff : resident ratio, lower resident : bedroom ratio and smaller unit size than any of the hospital comparison groups.

The lack of a matched hospital comparison group for the residents of Wickham House again means that no firm conclusions could be drawn from these results. However, the severity of handicap of the people living there was at least equal to or greater than that of any of the hospital comparison groups (see Table 4.0). Therefore the results would imply that Wickham House, like the Wells Road Service and the other private hostels, provided a service likely to be of greater benefit to residents than Farleigh or Yatton Hall hospitals.

How good? The Wells Road Service and the private hostels

Comparison of the results in Tables 4.11 - 4.14 for the Wells Road Service and the private hostels indicated that the overall average ADLC score was higher for the Wells Road Service. With one exception the average score on each section of the ADLC was also higher for the Wells Road Service. For Section F (Day to Day Activity), Wickham House had a higher score than the Wells Road Service, although this result was not statistically significant.

The Wells Road Service also had a higher staff : resident ratio, a lower than or equal resident : bedroom ratio and a smaller unit size than the private hostels. These results indicate that whilst the hostels performed better than Farleigh and Yatton Hall hospitals, they were not as good as the Wells Road Service, in terms of the assumptions discussed earlier (pp.22 - 26).

How good? The private hostels

As Tables 4.12 - 4.14 show, the outcome results for the private hostels were fairly similar for each of the indicators used. Lark Rise had the lowest average ADLC score of 60.11%, whilst that of The Briars and Wickham House was 66.3% and 65.87% respectively. Within the overall ADLC score there were few statistically significant differences. The Briars had a significantly higher average for Section A (Choice) than Lark Rise or Wickham House, and Wickham House had a higher score for Section F (Day to Day Activity) than The Briars or Lark Rise. The similarity of the outcome results for the private hostels perhaps reflects the shared nurse training and experience of mental handicap and philosophy of the hostel owners and staff. Reasons for the differences in outcomes between the residential services evaluated are discussed in more detail below.

Why did differences in outcome occur?

In Table 4.15 the outcome measures from Tables 4.11 - 4.14 are summarised in the form of a rank order. On the basis of the assumptions made earlier (pp 22 - 26) a rank of 1 reflects a greater benefit to a person using the facility than a rank of 2, which in turn indicates a greater benefit than a rank of 3 and so on. The results of each outcome measure were consistently high for the Wells Road Service and consistently low for Farleigh and Yatton Hall. The results for the private hostels showed some variation within each of the sections of the ADLC and other measures used. There were several

interdependent reasons for these differences, which arose mainly from the contrasting aims and organisation of the residential establishments evaluated.

Table 4.15 Rank order of establishment in relation to outcome measures

Establishment	ADLC Score	Staff: Resident Ratio	Res: Bedroom Ratio	Unit Size	Average Rank
Wells Road Service	1	1	1.5	1	1
Wickham House	2.5	2.5	3.5	3	3
The Briars	2.5	4	3.5	3	3
Lark Rise	4	2.5	1.5	3	3
Farleigh/Yatton Hall Hospital	5	5	5	5	5

The reasons for the differences in rank order may be attributed to:

a) Differences in the ability of the residents.
b) The aims and organisation of the different establishments.
c) Staff training.
d) Differences in staff : resident ratios.
e) Staff roles.

a) Differences in the handicaps of the residents

It is possible that the differences in ADLC results and the staff : resident ratio were due to differences in the abilities of the residents. If this were so then it could be expected that the more able people in the study would have higher ADLC scores and/or would require a lower staff : resident ratio. This explanation is discounted for a variety of reasons.

i) If there was a link between the abilities of the residents and their scores on the ADLC, then a corresponding link between residents' ratings on the WESSEX SSL and SPI measures of dependence and the ADLC scores could be expected. Statistical analysis indicated that no correlation existed (see

Appendix B). On the contrary, as was shown above, significant differences were found in the ADLC scores of groups of people with similar handicaps. Further, the people living in the Wells Road Service had a higher ADLC score, and greater handicaps than those people living at Lark Rise and The Briars.

ii) The variation in staff : resident ratios, resident : bedroom ratio and unit size between matched groups of people in the study would suggest that the ability of residents was not a major determinant of these outcomes. On the contrary, the similarity of these measures between the different wards of the hospitals, would suggest that the organisation and aims of the residential service were a more important factor.

b) The aims and organisation of the different establishments.

A second explanation of differences in outcomes is variation in the aims and organisation of the different establishments. These help to shape staff attitudes, and are a factor in determining staff training, staff : resident and resident : bedroom ratio and unit size, which in turn influence the outcomes measured by the ADLC. Table 4.16 shows some conjectural evidence to support this explanation, presenting the rank of each service, alongside the service aims.

TABLE 4.16 Comparison of average rank order and objectives of establishment

Service	Rank	Objectives of Establishment
Wells Road Service	1	Residents should be helped to lead as ordinary a life as possible, and care should be flexible according to individual's needs.
Wickham House) The Briars) Lark Rise)	3	Individual centred but less flexible than Wells Road, with some element of 'paternalism'.
Farleigh/Yatton Hall Hospitals	5	Originally based on traditional philosophy of segregation and protection. Becoming more flexible in preparing for move to community, but constrained by organisational factors.

c) Staff Training

Partly as a result of differences in the aims of the residential services, there were substantial differences in the amount and focus of staff training at the hospitals and the Wells Road Service. It is possible that these differences were a contributing factor to the higher ADLC scores of the people living at the Wells Road Service. The support staff at the Wells Road Service were given a lengthy period of induction training. This was followed by monthly and weekly in-service training sesions. Both the induction and follow up training were guided by the principles of normalisation. Later training also dealt with topics which arose from the needs of individual residents. For example, in response to the communication difficulties of one resident, sessions on using MAKATON sign language were organised (For more information on staff training, see Ward, 1984; 1985; 1987).

In contrast, between 50 - 60% staff at Farleigh and Yatton Hall hospitals were employed as nursing auxiliaries who had received little formal induction or follow up training. The qualified nursing staff, whilst having comparatively lengthy initial training based on the medical model, had little formal post qualifying in-service training.

TABLE 4.17 Comparison of ADLC rank order with staff : resident ratio

Service	ADLC Rank	Staff: Resident Ratio
Wells Road Service	1	1:2
Wickham House	2.5	1:4
The Briars	2.5	1:5.5
Lark Rise	4	1:4
Farleigh/Yatton Hall Hospitals	5	1:6

d) Staff : Resident Ratios

A fourth potential reason for the differences in ADLC results, was the corresponding difference in staff : resident ratios. A higher staff : resident

ratio would help to facilitate increased choice, social contact, personal privacy and day to day activity of residents. The results in Table 4.17 indicate that some link between staff : resident ratio and the ADLC may have existed. However the comparison of ADLC rank and staff : resident ratios between the private hostels would suggest that this was not the only reason (that is, increases in staff : resident ratios may be a necessary but not sufficient condition for increases in ADLC scores. See, for example, Ward 1983).

e) Staff Roles

Again, as a result of differences in the aims and organisation of the establishment the role of direct care staff varied between the residential services evaluated. Staff at the Wells Road Service, and to a lesser extent the hostels, were involved in training and domestic activities with individual residents. In comparison, Farleigh and Yatton Hall hospitals employed non nursing staff specifically for these duties. This meant that responsibility for different parts of people's lives was fragmented. This made it harder for residents to be actively involved in certain aspects of their daily lives (for example, cooking meals, choosing activities), thus leading to lower ADLC scores.

Comparison of cost with outcome

Table 4.18 summarises the costs and outcomes of residential establishment in rank form. For the outcome results a rank of 1 indicates a better performance than a rank of 5. For the cost results a rank of 1 is given to the establishment with the lowest cost per person, and a rank of 5 is that with the highest cost per person. The ranking of the costs has been based on the assumption that a lower cost is better than a higher cost.

From Table 4.18 it can be seen that although the Wells Road Service had the better performance on the outcome measures used, it also had the highest cost per person. Farleigh and Yatton Hall hospitals had the lowest results on the ADLC, staff : resident ratio, resident : bedroom ratio and unit size, but the next highest cost per person.

The outcomes of the private hostels were higher than those of the hospitals, and lower than those of the Wells Road Service. However, each of the hostels had a lower cost per person than either the Wells Road Service, or Farleigh and Yatton Hall hospitals.

Table 4.18 Rank order of cost and outcomes

Establishment	Cost	Quantitative Measures	* ADLC
Wells Road Service	5	1	1
Wickham House	3	3	2.5
The Briars	2	3.5	2.5
Lark Rise	1	2	4
Farleigh/Yatton Hall Hospitals	4	5	5

* i.e. Staff : resident ratio; resident : bedroom ratio; unit size

As this section has tried to show, there was no single reason why the outcome or costs of the residential services evaluated differed. Rather there were several interdependent causes, the main ones of which have been outlined.

V SUMMARY AND DISCUSSION

The main objective which the study was designed to meet was to provide evidence about the resource implications to different agencies of community and hospital based residential services, and whether their use could be justified in terms of the quality of life offered to residents and the cost of resources used.

The purpose of this section is twofold. Firstly, to summarise the results presented in **HOW MUCH? HOW GOOD?** and to answer the questions posed at the beginning of this report (p.1). The second aim is to see how far it is possible to use the results of the research to derive some general implications for policy makers and service providers, on the implementation of community based services for people with learning difficulties. Such generalisations should be treated cautiously, since the services studied may not be representative of either other community based residential services, or the situation in other localities. Nevertheless some general lessons, and areas which need further consideration, can be drawn from the results of the study.

What resources did each service use?

The major resource used in all of the services evaluated was staff time. In the hospitals, which had the lowest staff : resident ratio (1:6), staff costs accounted for over 70% of the total costs of providing care. For the Wells Road Service, which had the highest staff : resident ratio (1:2), staff costs made up approximately 80% of the residential and non-residential costs of providing the service. The remaining costs were mainly for food, fuel, maintenance/estate management, cleaning materials, rates, pharmacy and the residents' personal allowance.

A major difference between the Wells Road Service, Farleigh and Yatton Hall hospitals and the private hostels was in the deployment of staff. For Farleigh and Yatton Hall hospitals approximately 25% of the staffing costs were for "non-care" staff (administrative, catering, cleaning and domestic staff). In contrast only 1-2% of the staff costs attributable to the Wells Road

Service and 5-10% of the staff costs for the private hostels were for staff who were not directly involved in caring for the residents.

What were the revenue costs of the resources used by each option?

The Wells Road Service had a rank of 5 for cost, which meant that it was the most expensive of the alternatives evaluated (£15,500 per person per year, 1984/85). Farleigh and Yatton Hall hospitals had the second highest cost with a rank of 4. The cost for the hospital groups evaluated ranged from £12,268 to £13,297 per person per year at 1984/85 prices. The lower cost was that for the group of people living in the hospitals who were matched with residents of The Briars and the upper figure was the cost per person of the group of hospital residents matched with people living in the Wells Road Service.

The private hostels were ranked from 1-3, which implied that each of the hostels included in the study had a lower cost than either the Wells Road Service, or their hospital comparison groups. The costs of the hostels ranged from £8,205 for Lark Rise to £9,852 for The Briars and £10,627 for Wickham House. This represented a considerable cost difference of £5,000 to £7,300 between the Wells Road Service and the private hostels. The difference in costs between the hostels and hospital comparison groups was also significant. The cost per person living at The Briars was about £2,500 less than the average cost for the hospital comparison group. The average cost of Lark Rise was nearly £5,000 less than the comparison group at Farleigh and Yatton Hall hospitals. The major reasons for the differences in costs between the Wells Road Service, Farleigh and Yatton Hall hospital were:

a) variations in staff : resident ratios, which ranged from 1:2 at the Wells Road Service to 1:6 at the hospitals.

b) higher employer costs (employer national insurance and superannuation contributions) for the Wells Road Service and Farleigh and Yatton Hall hospitals.

c) differences in working practices and conditions of service between the services.

d) Farleigh and Yatton Hall hospitals were operating at less than full capacity, having occupancy rates of between 75% and 87%. In contrast, the Wells Road Service and the private hostels maintained 100% occupancy rates during the time of the study.

e) differences in the provision of training and education for residents.

f) differences in medical costs and DHSS personal allowances for residents.

Who paid for the resources used?

A striking disparity between the publicly provided and privately owned alternatives lies in who provided and who paid for the resources used. Residential services in the Wells Road Service and Farleigh and Yatton Hall hospitals were both provided and funded by Bristol and Weston Health Authority. On the other hand, although the bulk of services for the residents of the private hostels were provided by the hostel owners they were funded by transfer payments from the DHSS.

A second feature of the results was that the residential cost component of the Wells Road Service to Bristol and Weston Health Authority was actually less than that for Farleigh and Yatton Hall hospitals. This was because residents of the Wells Road Service received DHSS allowances for board and lodging of about £3,000 each (that is, transfer payments) which offset the health authority expenditure on the Wells Road Service.

A third point of interest is the relative cost burden of training and education for residents in the alternative services evaluated. Nearly all of the people living at Farleigh and Yatton Hall hospitals used the training and/or educational facilities provided by the hospitals (for example, occupational therapy or social education). These were financed by the health authority, and cost less than the community based training/education services used by the non hospital residents.

People living at the Wells Road Service attended adult training centres on a part-time basis, but also received training from staff at the houses, and attended LEA or WEA classes, so that the burden of cost was spread between

Bristol and Weston Health Authority, the local authority, the local education authority and the Workers' Educational Association.

Training/education for residents of Lark Rise private hostel was provided by the hostel and so financed out of DHSS payments. In contrast, the people living at Wickham House and The Briars private hostels received their training mainly from ATC's which were provided and financed by Avon Social Services Department, and which they attended on a full-time basis. The relative cost burden on Avon Social Services Department of providing the training/education services was greater than the burden on the agencies financing training and education services for residents of Lark Rise, the Wells Road Service and Farleigh and Yatton Hall hospitals, in two ways. Firstly, the actual expenditure on ATC places for residents of The Briars and Wickham House was between £2,000 and £2,300 per person. This figure was roughly double the cost of training/education for people living in the Wells Road Service, Lark Rise and the hospitals. Secondly, the cost burden was relatively heavier because of the public expenditure constraints faced by local authorities, combined with their other responsibilities to "... meet equal or even greater needs within their own communities." (Wistow 1986).

What differences, if any, were there in the outcome of each option (i.e. the impact of the service on clients' quality of life)

Table 5.1 indicates that the Wells Road Service had a rank of 1 for the quantitative measures of outcome used (staff : resident ratio, resident : bedroom ratio and unit size) and for the ADLC. In terms of the assumptions made on pp.22 - 26, this implies that the Wells Road Service had a better impact on residents' quality of life than either the private hostels or Farleigh and Yatton Hall hospitals. The ranks of the private hostels were broadly similar and ranged from 2 to 4 over the outcome measures used. This would indicate that whilst not achieving an outcome as good as the Wells Road Service, the private hostels were better than Farleigh and Yatton Hall hospitals. The hospitals were ranked fifth on both sets of outcome measures. This would imply that of the alternatives evaluated Farleigh and Yatton Hall hospitals had the least beneficial impact on residents' quality of life.

Four main reasons for the differences in outcomes between the Wells

Road Service, Farleigh and Yatton Hall hospitals and the three private hostels were identified.

a) Differences in the aims and organisation of the residential services. These had a direct impact on the outcome measures of the staff : resident ratio, resident : bedroom ratio and unit size. The philosophy of the service was also a determinant of staff attitudes, staff training and staff roles which may have had an indirect effect on the areas of people's lives measured by the ADLC.

b) Differences in the amount and focus of training received by staff of the different services, which could have affected ADLC scores.

c) Differences in staff : resident ratios (which were used as an outcome measure in their own right) may also have had an impact on the aspects of residents' life covered by the ADLC.

d) Differences in staff roles, which again would affect ADLC results.

Was there a cost effective option, and would this result vary under different circumstances (e.g. changes in occupancy rates)?

A cost effective option would be the one which either produced a given outcome at least cost or had the lowest implied cost per unit of outcome. The high cost and low outcome results of Farleigh and Yatton Hall hospitals relative to those of the private hostels would indicate that the hospitals in this study were not cost effective. For Farleigh and Yatton Hall hospitals to become cost effective in comparison to the private hostels, would require either a substantial decrease in costs or an increase in outcome. The main reasons for the higher costs of the hospitals were low occupancy rates, differences in working practices (e.g. waking rather than sleep-in night shift) and higher employer costs (employer superannuation and national insurance contributions). It is unlikely that the hospitals would be able to reduce costs by changing working practices or cutting employer costs. If Farleigh and Yatton Hall hospitals were able to maintain 100% occupancy rates and the hostels had one empty bed, the average cost per person at the hospitals would still not be substantially lower than Wickham House (the most expensive hostel) and would still be higher than the average cost per person at Lark Rise (the lowest cost hostel). In addition, because of the physical constraints of the

buildings, it is likely that the resident : bedroom ratio, and unit (ward) size at the hospital would have to increase, thus reducing the outcome of the hospitals. In contrast, at the lower occupancy rates the staff : resident ratio, resident : bedroom ratio and unit size outcome measures at the private hostels would improve.

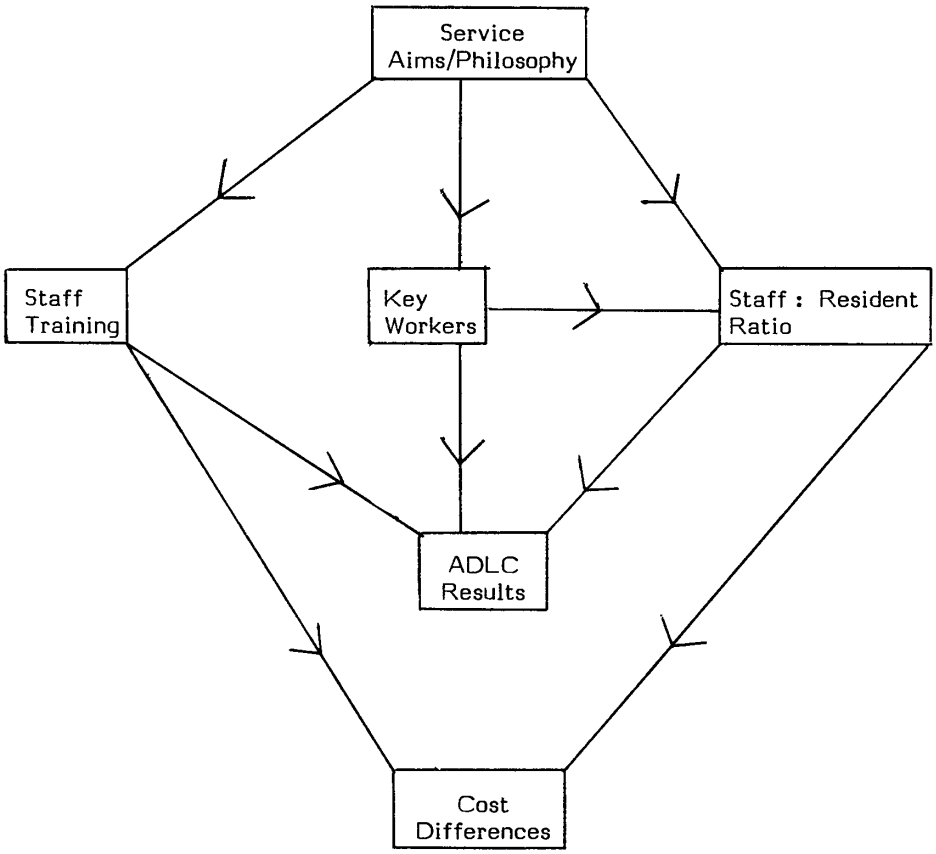
Since the costs and outcomes of the Wells Road Service and the private hostels differed from each other, the cost effectiveness or otherwise of the services must be determined by the implied cost per unit of outcome. To do this would require the amalgamation of the indicators used (staff : resident ratio, resident : bedroom ratio, unit size and ADLC scores) into a single measure. Unfortunately it has not been possible to devise such a single measure of outcome in this study because of a lack of knowledge and evidence about the relative importance of each of the indicators used in determining the final quality of life of the clients of the service.

This poses the policy maker or service provider with an alternative question:

Could the outcomes of the Wells Road Service be reproduced at a lower cost? (or could the low cost of the private hostels be reproduced whilst increasing the outcomes?)

The relationship between costs and outcomes is illustrated in Figure 5.1. The major reason for the higher cost of the Wells Road Service was the higher staff : resident ratio of 1 : 2, compared with 1 : 4 at the private hostels. Lowering the staff : resident ratio at the Wells Road Service to 1 : 3 (the nearest equivalent to the staff : resident ratio of the private hostels) would result in a cost saving for the Wells Road Service of between approximately £3,000 and £4,000 per person per year. However, this would restrict the ability of staff to provide training and education activities and support for the residents. This would mean either that the residents used alternative facilities, thus adding to the overall cost of the service, or that residents had fewer training and educational activities, and a lower level of support which could have reduced the outcomes measured by the ADLC. In addition, the staff : resident ratio was itself an outcome measure, a reduction of which would lead to a fall in the outcomes measured.

Figure 5.1 **Relationship between costs and outcomes**



A second reason for the higher cost of the Wells Road Service was the higher employer costs faced by the health authority, in comparison with the private hostels. As in the case of Farleigh and Yatton Hall hospitals, it is unlikely that these could be reduced.

A third difference in the overall costs was in the amount of personal allowances received by residents. People living at the Wells Road Service received Attendance Allowances of between £500 and £800 per annum, which many of those living in the private hostels did not. This reflected differences in the level of handicap between the groups of people. Reducing the amount of personal allowance received by people living at the Wells Road Service would probably not be a viable option, and would in any case lead to a reduction in ADLC scores.

Could the private sector provide all care for people with learning difficulties?

The use of the private sector as a means of providing all care for people with learning difficulties may not be possible for several reasons. Firstly, it may not be politically acceptable for care to be transferred to the private sector on such a large scale. Secondly, the private sector may not provide care efficiently for <u>all</u> people with learning difficulties (for a discussion of why the private sector may fail to provide certain goods and services efficiently, see Culyer, 1976; or Le Grand & Robinson, 1984). Thirdly, the private sector hostels in this study would have made a loss if they had to maintain one empty place for any length of time. One reason for this was that they were constrained in the fees that they could charge because of the limits placed on the amounts that the residents could claim in DHSS benefits. Changes in government policy on the levels of DHSS benefits, or in the demand by people with learning difficulties or their advocates for places in private sector homes, may adversely affect the financial viability of some private sector establishments. This could have a negative effect on the lives of people already resident there. This raises the further question:

Could the private sector model be implemented by the public sector at the same level of cost and quality?

Although there is no "a priori" reason to suppose that the quality of a service will be directly affected by whether the service is publicly or privately funded, differences in the aims and philosophy of agencies will nevertheless

influence the ways in which a particular agency achieves it goals. It has already been shown that the staff costs of providing residential care differ in the public and private sector. Staff in private hostels have a longer basic working week, a lower average salary, and lower employer costs than staff who work in equivalent public sector settings. If it were assumed that for the public sector (health authority or social services department) to provide hostels similar to those evaluated in the study, the conditions of service for staff (hours, salary and employer costs) would be similar to those of the Wells Road Service, then an extra member of staff would have to be employed and the average cost per resident of the hostel would be roughly £2,000 to £3,200 higher than that of the private hostels evaluated in this study.

CONCLUSIONS

1. The major resource used by all of the services evaluated was staff time. Staff costs accounted for approximately 80% of total costs.

2. The Wells Road Service had the highest staff : resident ratio of 1 : 2.

3. The Wells Road Service and Farleigh and Yatton Hall hospitals had higher salary and employer costs for staff than the private hostels.

4. The cost of the Wells Road Service was on average approximately £6,000 per resident higher than the private sector hostels, and roughly £3,000 per resident higher than Farleigh and Yatton Hall hospitals.

5. The main reason for the higher cost of the Wells Road Service was the greater use and higher cost of staff time.

6. The residents of the Wells Road Service had higher ADLC scores than those living in the private hostels. The Wells Road Service also had a staff : resident ratio of 1:2, compared to 1:4 in the private hostels, and a smaller unit size, all factors which affect the quality of life enjoyed by the residents.

7. If the private sector hostels were to implement a residential service based on "An Ordinary Life" this would be likely to increase their costs by roughly £4,000 per person.

8. If the model of care used by the private sector in this study were to be implemented by public sector agencies then the costs of this type of service would probably be between £2,000 and £3,000 per resident higher than those of the private hostels evaluated here. This increase in cost arises because of the differences in conditions of service for the employees, and in the differences in employer costs which exist between the private hostels and the public sector.

9. This study has not been able to provide evidence on the costs and outcomes of the range of alternatives which lie between the private sector hostels and the Wells Road Service. Before a decision on how to implement community based services is made these further options should also be considered.*

Finally, it should be noted that the results of any economic evaluation (like the study reported here) should be used as an aid to, rather than as a replacement of, the decision making process, which should include consideration of a variety of factors. As Appleby remarks:

> "Cost effectiveness analysis should not be seen as having the power of veto but rather as providing one part of the information (in addition to political, social, medical and philosophical criteria) necessary to achieve a truly informed decision about using society's resources". (Appleby 1987, p.326).

Nonetheless, the results of the study have answered some important questions about the costs and benefits of using resources for the particular residential services evaluated and some of the resource implications of implementing community based services for people with learning difficulties in general.

*A follow up study to compare a further nine residential homes has now been undertaken. The residential houses in this second study varied in size, location, organisational ethos and the agencies which provided them.

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VALIDITY OF THE ASPECTS OF DAILY LIVING CHECKLIST

Whilst it was difficult to measure the accuracy of the ADLC directly, the following precautions were taken to ensure its validity:

a) The content reflected a consensus of opinion as to what were important aspects of daily life to be covered, and how they should be evaluated.

b) Staff were asked to give their comments on the appropriateness of the items in the scale, as a test of its face validity.

c) The data for each person was collected by separate interviews with (i) direct care staff, (ii) nursing officers or equivalent, (iii) the researcher's observations. Combining the information from these sources should have helped to reduce any bias which might be introduced from the differing perspectives between staff and observer.

The purpose of the ADLC was to evaluate differences in the quality of people's lives, resulting from organisational factors rather than the handicap of the person. The ADLC was applied in the first instance to people who had been matched according to age, sex and level of dependency (measured by Wessex SSI and SPI), but lived in different places. The ADLC was in seven sections. The external validity of the ADLC was tested by correlating the results of each section for each resident with that resident's dependency levels. With one exception, no significant correlation was found. A negative correlation was found between social contact (B), and the SSL scale, (Spearman's Rho = 0.45. Table 3, Appendix B). This result would indicate that sections A,C,D,E,F,G were more sensitive to organisational differences between places than dependency levels, but that section B was not. Item analysis of B indicated uniform scores on some items regardless of place. This could be caused by (i) inappropriate items having been included, (ii) the items being misinterpreted by interviewees, or (iii) other factors such as staff/residents' personality, which may bias the responses. Further work is required to refine this section and increase its sensitivity. It should be noted that section B was able to demonstrate differences in levels of social

contact between residents in the settings representing the two extremes of care being evaluated. The other subsections of the scale were also able to do this and the results in tables 1 and 2 Appendix B, testified to the discriminant validity of the ADLC.

RELIABILITY OF THE A.D.L.C.

Time constraints meant that it was not possible to test interviewee reliability by repeating full interviews. However, 15 questions were repeated in the two interviews. For a sample of 20 residents the percentage agreement figure was 88.7%. The interviews and coding of data were all done by one person.

Further work is required to test the reliability and validity of the ADLC, using a larger number of places, and over a longer time period than has been possible in this study. However, preliminary results are encouraging.

STATISTICAL ANALYSIS

Statistical analysis of the outcome results was limited to an analysis of the significance of differences between mean scores, and the presence or absence of correlations between different outcome measures and dependency levels. Due to time constraints, and the nature of the study groups, the benefits of a more elaborate analysis were felt to be outweighed by the costs. The statistics below combined computational ease and simplicity of interpretation.

The following is a brief explanation of the main statistical analysis used in the study.

(a) Students t test for paired variates

This statistic was applied to evaluate differences between mean scores on each section of the ADLC, between groups of residents who had been matched in terms of age, sex and dependency. To determine whether two sample means from paired populations differed significantly, we test the hypothesis that the population means were identical against the alternative hypothesis that one mean was greater than the other

The t - test used is a parametric statistic adapted for the case of paired variates. The test had certain advantages and disadvantages. The test was designed for use with small sample sizes, was straightforward to use and was a commonly reported statistic, and therefore familiar to many.

Unfortunately, it had a major disadvantage in that it was based on assumptions about the distribution of the populations analysed, which could prove restrictive and reduce its appropriateness. To supplement the analysis, where the t statistic was not quite significant a distribution free statistic was reported, to improve the accuracy of the analysis. (Wilcoxon's test for the paired case R)

(b) Rank sum test Z

This test was used to evaluate differences between mean scores on the ADLC for unmatched groups. The hypothesis tested was the same as in (a). It was a variation of the Wilcoxon test for independent samples, and was a non-parametric or distribution free test. This was chosen in preference to a parametric statistic such as the students t test for three reasons. Firstly, the residents included in the study were not sampled randomly, secondly, the residents for this part of the analysis were not matched and thirdly, the size of each study group was small.

(c) Spearman's Rho test of rank correlation

Spearman's Rho was used to test whether a relationship existed between the indicators used to assess outcomes and the Wessex SSL and SPI ratings used as part of the matching criteria. This was a computationally simple and distribution free test. The hypothesis tested (H_0) was that no association existed between variables, against the alternative hypothesis (H_1) that a specific association existed.

KEY

I	=	Farleigh/Yatton Hall hospital comparison group
J	=	The Wells Road Service
K	=	Wickham House
L	=	The Briars
M	=	Lark Rise

TABLE 1 SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS: MATCHED GROUPS

STUDENTS t TEST FOR PAIRED VARIATES

A.D.L.C.	PLACE		
	J,I, N=12 P=2.571	L,I, N=22 P=2.280	M,I N=14 P=2.447
A t =	14.10	14.45	12.18
B t =	5.52	1.84[2]	-2.23
C t =	2.19[3]	1.44	1.47
D t =	11.03	11.16	5.04
E t =	27.60	18.37	14.71
F t =	2.74	0.49	0.39
G t =	4.14	4.02	0.29

1. There is a significant difference if $t > P$

2.. This value is significant at the 10% level, $P = 1.81 < 1.84$

3. This value is significant at the 5% level using Wilcoxon's test for matched pairs: $R = 1.5 < 2$, $P = 2$

TABLE 2 SIGNIFICANCE OF DIFFERENCE BETWEEN MEANS: UNMATCHED GROUPS

RANK SUM TEST Z

A.D.L.C.	PLACE						
	J,K, N=17 P=1.64	J,L, N=17 P=1.64	J,M. N=13 P=1.64	K,I N=36 P=1.64	K,L, N=22 P=1.64	K,M, N=18 P=1.64	L,M, N=22 P=1.64
A Z =	3.32	3.32	3.00	4.48	3.97[2]	0.60	3.49
B Z =	3.06	1.71	2.50	1.92[2]	2.40[2]	1.12	1.49
C Z =	1.26	1.66	1.70	3.23	1.05	1.27	0.32
D Z =	1.73	3.01	3.00	3.83	1.50	1.67	0.86
E Z =	3.32	3.32	3.00	4.72	0.00	0.00	0.00
F Z =	0.25	1.71	2.14	3.97	3.84	3.49	1.72
G Z =	1.59	1.46	2.57	4.41	0.49	2.04	1.95

1. There is a significant difference if Z > P

2 Note that for these cases K is significantly lower than I or L

TABLE 3 CORRELATION OF A.D.L.C. WITH DEPENDENCY MEASURES

RANK SUM CORRELATION (SPEARMAN'S RHO)

VARIABLES	STAR	WESSEX SSL	WESSEX SPI
STAR		-0.720	-0.250
SSL			-0.090
A	0.129	0.011	0.059
B	0.270	-0.450	-0.060
C	0.110	0.089	-0.014
D	0.065	0.240	0.190
E	0.103	0.190	0.130
F	-0.112	0.103	-0.022
G	-0.130	-0.150	-0.210

If Rho < 0.30 then assume no correlation exists

If Rho > 0.30 then assume the variables are correlated

APPENDIX C

COST ANALYSIS

Tables 1 - 7 give the total and average costs of care for each of the groups evaluated in the study, at actual and hypothetical occupancy rates. Where possible the costs have been broken down into detailed categories, to show how the figures used in Section IV How Much? How Good? were derived. The sources for the cost figures and the costing methodology used have already been described on pp.27 - 30. All costs refer to 1984-85 pay and prices.

Notes

* Estimated in absence of actual costs

ϕ Includes the cost of washing and cleaning materials

° This figure includes staff costs

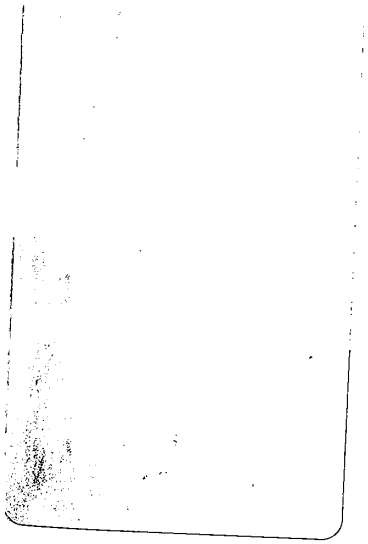

TABLE 1. TOTAL AND AVERAGE COSTS OF CARE: THE WELLS ROAD SERVICE

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=6	83% occ. n=5	100% occ. n=6	83% occ. n=5
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	61,811.00	61,811.00	10,301.83	12,362.20
Direct Care Staff Training	1,837.00	1,837.00	306.17	367.40
Catering				
(a) Provisions$^{\phi}$	5,616.00	4,680.00	936.00	936.00
(b) Staff	-	-	-	-
Domestic/Cleaning	-	-	-	-
Laundry/Linen	-	-	-	-
Utility	2,329.00	2,329.00	388.17	465.80
Rent/Loan interest				
Rates	1,044.00	1,044.00	174.00	208.80
Estate Management	919.00	919.00	153.17	183.80
Administration	902.04	902.04	150.34	180.41
Other	-	-	-	-
TOTAL (i)	**74,458.04**	**73,522.04**	**12,409.68**	**14,704.41**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy	-	-	-	-
(b) Social Education	-	-	-	-
(c) Adult Training Centre	4,962.06	4,135.05	827.01	827.01
(d) Other	2,346.00	1,955.00	391.00	391.00
Other Paramedical	580.00	580.00	96.67	116.00
Medical	2,471.92	2,462.10	411.99	492.42
Pharmacy	74.22	61.85	12.37	12.37
Social Work Staff	244.20	203.50	40.70	40.70
Personal Allowance:				
(a) Hospital	-	-	-	-
(b) DHSS	7,948.65	6,623.85	1,324.77	1,324.77
(c) Other	-	-	-	-
TOTAL (ii)	**18,627.05**	**16,021.35**	**3,104.51**	**3,204.27**
GRAND TOTAL (i) + (ii)	**93,085.09**	**89,543.39**	**15,514.19**	**17,908.68**

TABLE 2 TOTAL AND AVERAGE COSTS OF CARE: WICKHAM HOUSE

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=11	91%occ. n=10	100% occ. n=11	91%occ. n=10
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	40,000.00	40,000.00	3,636.36	4,000.00
Direct Care Staff Training	-	-	-	-
Catering				
(a) Provisions$^{\emptyset}$	10,286.00	9,350.90	935.09	935.09
(b) Staff	-	-	-	-
Domestic/Cleaning	-	-	-	-
Laundry/Linen	-	-	-	-
Utility	1,964.00	1,964.00	178.54	196.40
Rent/Loan interest*	12,025.00	12,025.00	1,093.18	1,202.50
Rates*	300.00	300.00	27.27	30.00
Estate Management*	10,871.00	10,871.00	988.27	1,087.10
Administration*)	4,634.00	-1,710.90	421.29	-171.09
Unspent Income)	-	-	-	-
TOTAL (i)	**80,080.00**	**72,800.00**	**7,280.00**	**7,280.00**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy	-	-	-	-
(b) Social Education	-	-	-	-
(c) Adult Training Centre	25,068.68	22,812.50	2,278.97	2,281.25
(d) Other	-	-	-	-
Other Paramedical	-	-	-	-
Medical	400.62	364.20	36.42	36.42
Pharmacy	277.54	252.30	25.23	25.23
Social Work Staff	1,465.20	1,332.00	133.20	133.20
Personal Allowance:				
(a) Hospital	-	-	-	-
(b) DHSS	9,608.30	8,734.80	873.48	873.48
(c) Other	-	-	-	-
TOTAL (ii)	**36,820.34**	**33,495.80**	**3,347.30**	**3,349.58**
(iii) COST TO OWNERS:				
Reduced Income	-	6,344.90	-	634.49
GRAND TOTAL (i) + (ii) + (iii)	**116,900.34**	**112,640.70**	**10,627.30**	**11,264.07**

TABLE 3 TOTAL AND AVERAGE COSTS OF CARE: THE BRIARS

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=11	91%occ. n=10	100% occ. n=11	91%occ. n=10
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	33,453.00	33,453.00	3,041.18	3,345.30
Direct Care Staff Training	-	-	-	-
Catering				
(a) Provisions	6,900.00	6,272.70	627.27	627.27
(b) Staff	-	-	-	-
Domestic/Cleaning)	1,272.00	1,272.00	115.64	127.20
Laundry/Linen)	-	-	-	-
Utility	1,444.00	1,444.00	131.27	144.40
Rent/Loan interest	10,130.00	10,130.00	920.91	1,013.00
Rates (water only)	130.00	130.00	11.82	13.00
Estate Management	13,742.00	13,742.00	1,249.27	1,374.20
Administration	5,967.00	5,967.00	542.45	596.70
Unspent Income	5,517.00	-1,135.00	501.54	-113.50
TOTAL (i)	**78,555.00**	**71,275.70**	**7,141.35**	**7,127.57**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy	-	-	-	-
(b) Social Education	-	-	-	-
(c) Adult Training Centre	21,450.52	19,500.50	1,950.05	1,950.05
(d) Other(hostel)	1,025.00	1,025.00	93.18	102.50
Other Paramedical	-	-	-	-
Medical	390.80	355.30	35.53	35.53
Pharmacy+	693.23	675.70	63.02	67.57
Social Work Staff	-	-	-	-
Personal Allowance:				
(a) Hospital	-	-	-	-
(b) DHSS	5,738.15	5,216.50	521.65	521.65
(c) Other (ATC earnings)	520.00	472.70	47.27	47.27
TOTAL (ii)	**29,817.70**	**27,245.70**	**2,710.70**	**2,724.57**
(iii) COST TO OWNERS:				
Reduced Income	-	6,652.00	-	665.20
GRAND TOTAL (i) + (ii) + (iii)	**108,372.70**	**105,173.40**	**9,852.05**	**10,517.34**

+ Includes an average cost of £45.45 spent on miscellaneous items not available on prescription, and paid for by the hostel.

TABLE 4 TOTAL AND AVERAGE COSTS OF CARE: LARK RISE

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=11	91%occ. n=10	100% occ. n=11	91%occ. n=10
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	25,916.80	25,916.80	2,356.07	2,591.68
Direct Care Staff Training	-	-	-	-
Catering				
(a) Provisions	12,000.00	10,909.10	1,090.91	1,090.91
(b) Staff	-	-	-	-
Domestic/Cleaning	1,000.00	1,000.00	90.91	100.00
Laundry/Linen	-	-	-	-
Utility	1,448.00	1,448.00	131.64	144.80
Rent/Loan interest	13,920.00	13,920.00	1,265.45	1,392.00
Rates	300.00	300.00	27.27	30.00
Estate Management	8,000.00	8,000.00	727.27	800.00
Administration)	-	-	-	-
Unspent Income)	6,996.80	807.70	636.07	80.77
TOTAL (i)	**69,581.60**	**62,301.60**	**6,325.59**	**6,230.16**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy	-	-	-	-
(b) Social Education	-	-	-	-
(c) Adult Training Centre	-	-	-	-
(d) Other	13,378.40	13,116.40	1,216.22	1,311.64
Other Paramedical	-	-	-	-
Medical	1,494.46	1,358.60	135.86	135.86
Pharmacy	2.63	2.40	0.24	0.24
Social Work Staff	66.60	59.94	6.05	5.99
Personal Allowance:				
(a) Hospital	-	-	-	
(b) DHSS	5,738.15	5,216.50	521.65	521.65
(c) Other	-	-	-	-
TOTAL (ii)	**20,680.24**	**19,753.84**	**1,880.02**	**1,975.38**
(iii) COST TO OWNERS:				
Reduced Income	-	6,189.10	-	618.91
GRAND TOTAL (i) + (ii) + (iii)	**90,261.84**	**88,244.54**	**8,205.61**	**8,824.45**

TABLE 5 TOTAL AND AVERAGE COSTS OF CARE: FARLEIGH/YATTON HALL HOSPITALS (SUBGROUP OF RESIDENTS MATCHED WITH WELLS ROAD SERVICE RESIDENTS.)

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=6	87.35occ. n=5.2	100% occ. n=6	87.35occ. n=5.2
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	28,255.49	28,255.49	4,709.25	5,433.75
Direct Care Staff Training	600.51	600.51	100.08	115.48
Catering				
(a) Provisions	2,915.10	2,526.42	485.85	485.85
(b) Staff	3,721.33	3,721.33	620.22	715.64
Domestic/Cleaning°	5,529.90	5,529.90	921.65	1,063.44
Laundry/Linen°	2,666.76	2,666.76	444.46	512.84
Utility	3,371.34	3,371.34	561.89	648.33
Rent/Loan interest	83.10	83.10	13.85	15.98
Rates	928.26	928.26	154.71	178.51
Estate Management	5,813.82	5,813.82	968.97	1,118.04
Administration	4,849.74	4,849.74	808.29	932.64
Other	-	-	-	-
TOTAL (i)	**58,735.35**	**58,346.67**	**9,789.22**	**11,220.50**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy)	2,826.42	2,449.56	471.07	471.07
(b) Social Education)	-	-	-	-
(c) Adult Training Centre	279.11	241.90	46.52	46.52
(d) Other	466.56	404.35	77.76	77.76
Other Paramedical	1,450.08	1,450.08	241.68	278.86
Medical	2,593.26	2,593.26	432.21	498.70
Pharmacy	-	-	-	-
Social Work Staff*	392.40	340.08	65.40	65.40
Personal Allowance:				
(a) Hospital	703.82	609.96	117.30	117.30
(b) DHSS	3,129.90	2,712.58	521.65	521.65
(c) Other	-	-	-	-
TOTAL (ii)	**11,841.55**	**10,801.77**	**1,973.59**	**2,077.26**
GRAND TOTAL (i) + (ii)	**70,576.90**	**69,148.44**	**11,762.81**	**13,297.76**

TABLE 6 TOTAL AND AVERAGE COSTS OF CARE: FARLEIGH/YATTON HALL HOSPITALS (SUBGROUP OF RESIDENTS MATCHED WITH RESIDENTS OF THE BRIARS)

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=11	75.44occ. n=8.3	100% occ. n=11	75.44occ. n=8.3
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	44,344.91	44,344.91	4,031.36	5,342.76
Direct Care Staff Training	781.44	781.44	71.04	94.15
Catering				
(a) Provisions	5,344.35	4,032.55	485.85	485.85
(b) Staff	4,601.52	4,601.52	418.32	554.40
Domestic/Cleaning°	6,023.38	6,023.38	547.58	725.71
Laundry/Linen°	3,211.23	3,211.23	291.93	386.89
Utility	4,261.18	4,261.18	387.38	513.39
Rent/Loan interest	66.44	66.44	6.04	8.00
Rates	1,296.35	1,296.35	117.85	156.19
Estate Management	7,289.26	7,289.26	662.66	878.22
Administration	7,156.60	7,156.60	650.60	862.24
Other	-	-	-	-
TOTAL (i)	**84,376.66**	**83,064.86**	**7,670.61**	**10,007.80**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy)	8,606.07	6,493.67	782.37	782.37
(b) Social Education)	-	-	-	-
(c) Adult Training Centre	511.71	386.11	46.52	46.52
(d) Other	855.36	645.41	77.76	77.76
Other Paramedical	1,793.55	1,793.55	163.05	216.09
Medical	4,103.88	4,103.88	373.08	494.44
Pharmacy	-	-	-	-
Social Work Staff*	719.40	542.82	65.40	65.40
Personal Allowance:				
(a) Hospital	617.43	465.88	56.13	56.13
(b) DHSS	5,738.15	4,329.69	521.65	521.65
(c) Other	-	-	-	-
TOTAL (ii)	**22,945.55**	**18,761.01**	**2,085.96**	**2,260.36**
GRAND TOTAL (i) + (ii)	**107,322.21**	**101,825.87**	**9,756.57**	**12,268.16**

TABLE 7 TOTAL AND AVERAGE COSTS OF CARE: FARLEIGH/YATTON HALL HOSPITALS (SUBGROUP OF RESIDENTS MATCHED WITH RESIDENTS OF LARK RISE)

COST CATEGORY	TOTAL COST		AVERAGE COST	
	100% occ. n=7	77.20% occ. n=5.4	100% occ. n=7	77.20% occ. n=5.4
	£ p.a.	£ p.a.	£ p.a.	£ p.a.
(i)RESIDENTIAL CARE				
Direct Care Staff	29,639.95	29,639.95	4,234.27	5,488.88
Direct Care Staff Training	587.44	587.44	83.92	108.78
Catering				
(a) Provisions	3,400.95	2,623.59	485.85	485.85
(b) Staff	3,870.06	3,870.06	552.87	716.68
Domestic/Cleaning°	4,991.49	4,991.49	713.07	924.35
Laundry/Linen°	2,515.87	2,515.87	359.41	465.90
Utility	3,253.04	3,253.04	464.72	602.41
Rent/Loan interest	66.50	66.50	9.50	12.31
Rates	939.12	939.12	134.16	173.91
Estate Management	5,587.19	5,587.19	798.17	1,034.66
Administration	5,043.08	5,043.08	720.44	933.90
Other	-	-	-	-
TOTAL (i)	**59,894.69**	**59,117.33**	**8,556.38**	**10,947.63**
(ii) NON RESIDENTIAL CARE				
RESIDENT TRAINING:				
(a) Occupational Therapy	4,418.89	3,408.86	631.27	631.27
(b) Social Education	-	-	-	-
(c) Adult Training Centre	325.64	251.21	46.52	46.52
(d) Other	544.32	419.90	77.76	77.76
Other Paramedical	1,385.09	1,385.09	197.87	256.50
Medical	2,794.68	2,794.68	399.24	517.53
Pharmacy	-	-	-	-
Social Work Staff*	457.80	353.16	65.40	65.40
Personal Allowance:				
(a) Hospital	582.33	449.23	83.19	83.19
(b) DHSS	3,651.55	2,816.91	521.65	521.65
(c) Other	-	-	-	-
TOTAL (ii)	**14,160.30**	**11,879.04**	**2,022.90**	**2,199.82**
GRAND TOTAL (i) + (ii)	**74,054.99**	**70,996.37**	**10,579.28**	**13,147.45**

APPENDIX D

ASPECTS OF DAILY LIVING CHECKLIST - RESULTS

Tables 1 - 4 compare the mean and standard deviation (S.D.) for each section of the ADLC, for the community based establishements and their hospital comparison groups.

TABLE 1: MEAN SCORES: A.D.L.C.

ADLC	PLACE: Wells Road Service	PLACE: Hospital Comparison group
Choice A		
MEAN	84.85	35.77
S.D.	(2.12)	(8.56)
Social Contact B		
MEAN	61.66	39.46
S.D.	(18.81)	(18.54)
Personal Privacy C		
MEAN	82.50	48.33
S.D.	(14.40)	(33.70)
Personal Possessions D		
MEAN	100.00	76.50
S.D.	(0.00)	(5.20)
Environment E		
MEAN	94.00	29.30
S.D.	(0.00)	(5.75)
Day to Day Activity F		
MEAN	67.05	40.45
S.D.	(11.52)	(17.60)
Disposable Income G		
MEAN	59.53	33.35
S.D.	(14.04)	(5.83)
Average		
MEAN	78.51	43.31
S.D.	(15.99)	(15.82)

TABLE 2: MEAN SCORES: A.D.L.C.

	PLACE
ADLC	Wickham House
Choice A	
MEAN	67.72
S.D.	(1.99)
Social Contact B	
MEAN	32.41
S.D.	(7.90)
Personal Privacy C	
MEAN	76.36
S.D.	(6.74)
Personal Possessions D	
MEAN	92.46
S.D.	(12.15)
Environment E	
MEAN	72.00
S.D.	(0.00)
Day to Day Activity F	
MEAN	70.79
S.D.	(5.54)
Disposable Income G	
MEAN	49.35
S.D.	(7.40)
Average	
MEAN	65.87
S.D.	(19.47)

TABLE 3: MEAN SCORES: A.D.L.C.

ADLC	PLACE: The Briars	PLACE: Hospital Comparison Group
Choice A		
MEAN	78.37	47.88
S.D.	(1.73)	(6.62)
Social Contact B		
MEAN	47.56	39.40
S.D.	(15.44)	(11.90)
Personal Privacy C		
MEAN	72.27	66.36
S.D.	(6.84)	(11.20)
Personal Possessions D		
MEAN	89.85	66.31
S.D.	(6.54)	(7.03)
Environment E		
MEAN	72.00	35.27
S.D.	(0.00)	(6.65)
Day to Day Activity F		
MEAN	56.06	53.00
S.D.	(10.35)	(16.53)
Disposable Income G		
MEAN	48.00	34.36
S.D.	(10.14)	(4.31)
Average		
MEAN	66.30	48.94
S.D.	(16.12)	(13.62)

TABLE 4: MEAN SCORES: A.D.L.C.

ADLC	PLACE: Lark Rise	PLACE: Hospital Comparison Group
Choice A		
MEAN	68.00	44.00
S.D.	(4.40)	(9.42)
Social Contact B		
MEAN	36.66	45.70
S.D.	(7.69)	(15.12)
Personal Privacy C		
MEAN	70.71	60.00
S.D.	(8.38)	(20.61)
Personal Possessions D		
MEAN	87.36	73.10
S.D.	(2.23)	(8.88)
Environment E		
MEAN	72.00	32.57
S.D.	(0.00)	(7.09)
Day to Day Activity F		
MEAN	47.26	44.83
S.D.	(12.33)	(13.90)
Disposable Income G		
MEAN	38.79	37.75
S.D.	(6.97)	(5.00)
Average		
MEAN	60.11	48.28
S.D.	(19.27)	(13.83)

£4.50