Chapter 5

Poverty, Disability and the Use of Long-Term Care Services

Steve Almond, Andrew Bebbington, Ken Judge, Roshni Mangalore and Owen O’Donnell
Personal Social Services Research Unit (PSSRU) – The University of Kent at Canterbury

EXECUTIVE SUMMARY

The purpose of this study is to investigate the relationship between income levels and the use of long-term care services after taking account of disability, health status, availability of informal care and other conventional indicators of the need related circumstances of frail elderly people.

Large numbers of studies have reported associations between poverty, health status and the utilisation of health services. In contrast, there are relatively few studies that examine the relationship between poverty, disability and the use of community or residential care. A reasonably large number of studies provide evidence that social class and other indicators of material circumstances are inversely related to disability but we have been able to identify only four studies that have tried to disentangle the relationships between poverty, disability and the use of services. These studies show that there is an association between low income and higher rates of service utilisation, but some report that income may cease to be statistically significant after taking account of disability. However, the ‘best’ study on methodological criteria does report that receipt of income support has a significantly positive effect on the use of home care services independently of other needs-related circumstances such as disability and social circumstances.

The specific aim of this study is to use the latest available data and the most appropriate statistical methods to undertake a more rigorous investigation of the relationship between income, disability, informal care and service utilisation than hitherto. The analyses are based on three data sets:

- the detailed elderly supplement of the General Household Survey for 1994/5;
- the PSSRU’s 1995 survey of admissions to residential care; and
the first sweep of data collected in 1995 as part of the PSSRU’s cohort study to Evaluate Community Care for Elderly People (ECCEP).

Data from these various studies are analysed to investigate the effect of income or receipt of income support on the probability of receipt of services, and on the amount or intensity of service receipt among samples of service recipients among people aged 70 or more in England & Wales in 1995.

In the analyses that identify the factors significantly associated with the probability of using services we have looked in detail at:

- district nursing services;
- publicly-financed home care;
- privately financed domiciliary care;
- all main (five) publicly financed community based services;
- all main community based services including privately financed domiciliary care;
- residential or nursing home care (publicly and privately financed);
- all main publicly financed services;
- all long-term care services combined (publicly and privately financed).

The five main publicly financed community services include home care, district nurse, social worker, meals service, lunch club.

A similar set of services, with the exception of residential and nursing home care, is examined in relation to variations in the intensity of services. We have also made a preliminary investigation of the use of informal care as a substitute for these mainstream services.

The analyses are presented in three groups:

1. Analyses of the probability of receipt of community based services only, based on income levels and income support, using 1994/5 GHS;
2. Analyses of the probability of using residential or nursing home care, and all long-term care services combined, based on income support (prior to admission), using the Survey of Admissions combined with 1994/5 GHS;
3. Analyses of variations in the volume of use of community based services, based on income levels, using the ECCEP survey.

Analyses for the first two use logistic regression to control for factors such as disability, and present results in terms of the odds ratios for the factors associated with service utilisation, in particular income levels. Estimates of the probability of service receipt are given for illustrative caricatures of elderly users of services at various income levels. For the third, Ordinary Least Squares (OLS) regression is used.
The probability of receipt of community-based services
After adjusting for factors such as age, gender, disability, the availability of informal care, household composition and health status the following results obtain:

- There is a clear gradient between income level and use of private domestic help (the lowest income quintile are least likely to use private home help). Income support recipients are unlikely to use private domestic help;
- There is no relationship between income, or receipt of income support, and use of district nursing services;
- The relationship between income level and use of publicly-financed home help services is more complex. Elderly people in the top (5th) income quintile and in the bottom (1st) quintile have the lowest level of utilisation. Those at intermediate income levels, particularly the fourth quintile, are greater users. However, income support recipients are more likely to receive the home help service, all else being equal;
- Across all statutory services, the pattern as for home helps is repeated;
- Across all services including private domiciliary care, overall those in the two highest income quintiles are more likely to be receiving care. But in relation to receipt of income support, the pattern is different. Higher probability of receiving publicly financed help and lower probability of using a private domiciliary help exactly balance out.

The explanation of these results lies in part in the high level of benefits, including income support, often received by those people for whom chargeable publicly financed help is arranged, which can easily raise their income to the third and possibly even the fourth quintile. Nevertheless, it is also possible that some of the poorest people may be deterred from using public home care services because of user charges.

The probability of receipt of residential and nursing home care
It is only possible to examine receipt in relation to income support, as income was available on a rather different basis than from the GHS; also informal support prior to admission is unknown. The receipt of income support refers to the situation immediately prior to admission, so that it is comparable with people in the community. After adjusting for age, gender, disability and household composition:

- People over 70 in receipt of income support are much more likely to enter institutional care than those who are not;
- Receipt of income support is associated with use of all kinds of publicly funded long-term care services;
- For all long-term care services, public and private, there is little difference in probability of use between income support recipients and others.

(Note that the users of community based services vastly outnumber users of residential services in these analyses). This evidence is consistent with the view that residential care may be used as a substitute for social services community care for poorer people.
Variations in the volume of use of community-based services

The final step was to assess whether, once an elderly person becomes a user, income is associated with the volume of services received.

Analyses based on GHS data indicate there is little difference between income groups in the volume of community services received, once the elderly person is ‘through the gate’. However volume information in GHS is limited, and most users are at the low end. So this issue was investigated further using a more dependent group of users than those in the GHS. The PSSRU’s ECCEP study has looked in detail at the circumstances of a nationally representative group of more than 400 users of long-term care services. A statistically significant and negative association between low income and the total value of resource inputs being provided to users was found. This result is consistent with the possibility that some users may be deterred from using services to which they would be entitled because of the existence of charges.

Conclusion

Identifying the independent effect of income or poverty on the use of long-term care services is made more difficult by the cross-sectional nature of the datasets available. We know nothing about the cumulative material circumstances of elderly people, and disability and health status are themselves closely associated with poverty in ways that are not entirely straightforward. For example, the receipt of benefits associated with severe disability can have a considerable effect on income, and often these are arranged at the same time as publicly financed long-term care services. It would have been desirable to establish a measure of prior income.

Despite this complexity we believe that some important findings do emerge in relation to the most significant long-term care services:

- There is no relationship between income or receipt of income support and the use of district nursing services for which there are no user charges;
- The richest group of elderly people make the greatest use of private domiciliary services;
- There is clear evidence that receipt of income support is associated with a higher probability of admission to publicly funded residential or nursing home care;
- There are worrying signs that elderly people with the lowest incomes are not making as much use of publicly-financed community based care as might be expected. This may be in part the consequence of comparatively early entry to residential care, and in part a consequence of the deterrent effect of user charges.

Overall, the findings support the conclusion that after adjustment for other conventional needs-related determinants of demand for long-term care services there are discernible income/poverty effects. This is probably true despite the complexity of the relationship between disability and income. What we are unable to conclude with any certainty is whether these consequences are price effects or
whether they are picking up some feature of ‘need’ for long-term care that might be associated with the long-term consequences of living on low incomes.

We believe that the relationship between income/poverty and the use of long-term care services merits closer scrutiny not least because of what we know about future patterns of income distribution among elderly people. While the average pensioner will experience increasing prosperity in future decades we will continue to see a rise in income inequality among pensioner households. A very substantial minority of people will continue to be reliant on income support. More generally, under current policies and patterns of wealth, elderly people without occupational pensions – who tend to be those with the lowest lifetime incomes – cannot look forward to the real gains in retirement living standards that are anticipated by the majority.
1. INTRODUCTION

Health policy debate in Britain largely takes for granted the well-established facts that there is a relationship between household income and both health status and the use of health care services. Poorer people have worse health and make greater use of health care than those who are more affluent. In contrast, relatively little is known about the relationship between poverty and disability and the use of long-term care services. To fill this gap the PSSRU was commissioned by the Royal Commission on long-term Care for the Elderly to undertake a small piece of exploratory research with the aim of pulling together what might be learnt from a review of existing literature and secondary analyses of available data.

Section 2 draws attention to a number of studies that have identified links between poverty or correlates of poverty and measures of disability. It specifically identifies four papers that have investigated the relation between indicators of income, the wider needs and circumstances of elderly people and their use of long-term care services.

The main empirical part of the report employs the General Household Survey and special collections of data conducted by the PSSRU to examine whether or not, after adjustment for other needs-related circumstances, income is associated with either the probability of receiving long-term care services or the amount or volume of services received. We also present evidence illustrating the complex links between some measures of financial resources and other needs-related circumstances such as disability, living alone and health status that complicate the interpretation of the relationship between poverty and the use of services.

Finally, we present a brief review of estimates of the future level and distribution of resources among elderly people in Britain.

2. BACKGROUND

The literature about the relationships between income or poverty and health or disability and the use of services is not as extensive in the area of long-term care as it is in the wider field of health care. Relatively more studies have investigated the links between income and disability but very few extend such analyses to include the use of long-term care services.

Income and disability

Broadly speaking, studies that have investigated the links between income, and its correlates or proxies, and disability find that people who live in the poorest circumstances experience greater levels of disability. However, certain features of the social security system can produce the opposite effect among certain groups of disabled people. We give a flavour of the broad thrust of the findings commonly found in the literature by summarising some of the results from three studies.

Using 1980 GHS data Victor (1989) found that the prevalence of long-standing disability is related to social class. For example, 47% of all people over 65 in classes 4 and 5 experienced long-standing limiting disability compared with 37% in classes 1 and 2. Gender differences in disability were also observed. For classes
4 and 5, 65% of men aged 65-69 and 72% of women reported a long-standing disability (whether limiting or otherwise). For the 80+ age group the respective figures were 78% and 86%.

In their analysis of the 1985 GHS data Arber and Ginn (1990) found evidence of class gradients in functional disability for both elderly men and women. Roughly twice the proportion of unskilled women aged under 80 were found to have functional disability compared with those in higher social classes. A similar pattern was evident for men. For those people over the age of 80 the class differences were less marked. Using logistic regression analysis, Arber and Ginn (1990) report that for men there is a marked difference in the odds of being disabled according to class; unskilled men being five times more likely to be disabled than those in higher social classes. Women previously employed in non-manual occupations were less likely to be disabled than those previously in manual occupations and those who had never worked.

With respect to current material circumstances, Arber and Ginn (1990) report that 22% of men who live in rented accommodation are disabled compared with 15% of owner-occupiers, while the corresponding percentages for women are 35% and 25%. A similar trend was observed with respect to two other indicators of material circumstances, per capita income and car ownership. However, they also report that income is not significantly associated with disability for either men or women after controlling for both age and class. Arber and Ginn (1990) suggest that although current material resources available to an elderly person are likely to influence the experience of disability, they do not affect its incidence. The latter represents the accumulated outcome of an elderly person’s occupational and material position over the life course.

Martin and White (1988) found that there was a U-shaped distribution when disposable income of pensioners was plotted against an index of the severity of disability (grouped on a scale of 1-10). The highest incomes were found in categories 9 and 10 (the most profoundly disabled) whilst the lowest were in categories 5 and 6. The authors suggest that this is explained by the fact that in addition to maintenance benefits, the incomes of the most severely disabled are likely to be increased by the receipt of benefits such as attendance allowance and mobility allowance and by additions to supplementary benefit for extra expenses arising from disability.

**Income, Disability and Service Use**

As we have already stated, studies investigating the interrelationship between poverty, needs and the use of services by the elderly in the UK are few and far between. To date, we have identified four relatively recent studies that have dealt with this issue (Victor and Vetter, 1986; Vetter, Jones and Victor, 1987; Evandrou et al., 1992; and Boniface and Denham, 1997).

These studies differ in the poverty measure used, the services that were considered, the measure of need considered and the methods of analysis employed. The main features of each of the four studies are summarised in Table 1.
### Table 1: Studies of Poverty, Disability and Use of Long-Term Care Services

<table>
<thead>
<tr>
<th>Authors</th>
<th>Location</th>
<th>Sample Description</th>
<th>Poverty Measures</th>
<th>Disability Measure</th>
<th>Services</th>
<th>Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victor &amp; Vetter (1986)</td>
<td>UK, General Household Survey, 1980</td>
<td>Random sample of 4553 individuals aged 65 and over</td>
<td>1. Receipt of Supplementary Pension</td>
<td>1. None</td>
<td>GP</td>
<td>Descriptive statistics</td>
<td>1. Recipients of SP were more likely than non-recipients to have been in contact with all services except chiropody.</td>
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<td></td>
<td></td>
<td></td>
<td>2. Income of 140% of the Supplementary Pension scale</td>
<td>2. Mild</td>
<td>Chiroprody</td>
<td></td>
<td>2. In terms of intensity of usage, the only statistically significant difference between the two groups was in the receipt of home help, in which case usage by SP recipients was four times that by non-recipients.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>3. Moderate</td>
<td>Health visitor</td>
<td></td>
<td>3. No differences were observed in the intensity of use of health services.</td>
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<td>4. Severe</td>
<td>District nurse</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Home help</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Meals on wheels</td>
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<tr>
<td>Vetter, Jones &amp; Victor (1987)</td>
<td>South Wales, UK</td>
<td>1288 individuals aged 70 and over from two General Practices, one urban, one rural.</td>
<td>Receipt of Supplementary Pension</td>
<td>1. None</td>
<td>GP</td>
<td>Multiple regression analysis</td>
<td>1. Those in receipt of SP were more likely to be high users of both, social services and health services.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Mild</td>
<td>District nurse</td>
<td></td>
<td>2. Physical disability accounted for 16% of the variation in usage, living alone and female gender contributed to a further 3%.</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3. Moderate</td>
<td>Home help</td>
<td></td>
<td>3. After controlling for disability, SP had no independent effect.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4. Severe</td>
<td>Meals on wheels</td>
<td></td>
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</tr>
<tr>
<td>Authors</td>
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| Evandrou et al.     | UK, General Household Survey, 1980            | Men and women aged 65 and over      | 1. Equivalent family income calculated by dividing the total gross family income by the appropriate equivalence scale.  
2. Housing tenure  
3. Socio-economic group | Personal incapacity  
1. moderate/severe as against none/slight.  
2. At least some level of disablement against none. | All services          | Multivariate probit. Dependent: use of service  
Independent: Age, gender, disability, social class, equivalent income, supplementary benefit, living alone, relative nearby, supportive local authority | 1. Indicators of need are significant determinants of utilisation.  
2. Those in receipt of supplementary benefit, living alone and very old are more likely to receive the service. Those who have a relation nearby and those who are home owners are less likely to use services.  
3. The price charged and expenditure per elderly person resident in the local authority have negative effects on use of services. The probability of receipt of home help is 0.67 in supportive LAs and 0.45 in less supportive LAs. |
| Boniface & Denham   | UK, North West Thames Health Authority, Health and Life Style Survey, 1990-91 | Random sample of 1841 individuals aged 65 and over | 1. Income below £75 per week  
2. Income below £275 per week  
3. Social class-manual | Limiting long term illness | GP  
District nurse  
Home help  
Meals on wheels  
Day centres  
Lunch clubs | Log-linear analysis  
Dependent: Use of health and social services  
Independent: mental state, living alone, female, income & social class. | 1. Having income below the Supplementary benefit level of £75 per week does not affect the likelihood of using any of the services. Those with income less than £275/week are more likely to receive home help.  
2. Being in manual social class increases the likelihood of attending lunch club.  
3. Use of NHS services is not affected by income and social class. |
Two of the studies (Victor and Vetter, 1986; and Evandrou et al., 1992) used General Household Survey data for 1980 for Great Britain, while the other two papers are confined to limited geographical areas.

Victor and Vetter (1986) used two definitions of poverty in their study of the 1980 GHS data; first the receipt of supplementary pension (SP) (a forerunner of income support), and second a monetary measure equal to income of less than 140% of the weekly long-term rate of supplementary pension. Using these two measures together, 56% of the elderly were defined as living in poverty. The fraction classed as poor increased significantly:

- with age. For example, 52% of the 65-69 age group had weekly income of less than 140% of the SP rate compared with 75% of those aged 85 and over;
- with disability, from 42% among the non-disabled to 71% among the severely disabled;
- amongst women and those living alone;
- amongst elderly living in the north and the west being as compared to those living in the south and the east.

In their analyses of the data, Victor and Vetter (1986) found that while the use of community care services increased significantly with age and disability, poverty resulted in increased demands for community care irrespective of the degree of disability. Recipients of supplementary pension were more likely than non-recipients to have been in contact with all services except chiropody. However, the only statistically significant difference observed was in the receipt of home help service, where recipients of supplementary pension were four times more likely to use services than those not receiving supplementary pension. This trend was observed within each of four disability groups: none, mild, moderate and severe. Additionally, amongst the severely disabled, usage rates for the meals on wheels service were also higher amongst those receiving supplementary pension. In contrast to these results, they found that when the monetary definition of poverty was used, the use of services demonstrated no statistically significant differences between the elderly classified as poor and the rest of the sample. No substantial differences in the use of health services, with the exception of district nursing service for the severely disabled, were observed between the two income groups.

As no differences in the use of services were observed when the monetary measure of poverty was used, Victor and Vetter (1986) suggest that poverty itself may not be causing increased use of services by the recipients of supplementary pension. Rather, it is probable that the increased use of services by SP recipients was due to cross referral between social services departments and the DHSS.

Vetter, Jones and Victor (1987) examined a group of over 70s in two general practices in South Wales, one urban and one rural. The measure of poverty used was the receipt of supplementary pension. Thirty five percent of the over 70s in the urban area compared with 20% in the rural area were recipients of supplementary pension. Those living alone, those who are relatively more disabled
and women were generally more likely to be recipients of supplementary pension in both areas. It was observed that the use of social services is closely related to the receipt of supplementary pension. Those in receipt of supplementary pension were found to be more likely recipients of statutory home help and meals on wheels and were generally less likely to have a private home help.

As the recipients of supplementary pension, in general, also had high levels of disability, Vetter, Jones and Victor (1987) performed a multiple regression analysis to estimate the independent effects of income, disability and demographic factors on the use of services. The results indicated that physical disability accounted for 16% of the variation in usage while living alone and female gender accounted for a further 3% of the variation. The important finding, however, was that after controlling for disability, receipt of supplementary pension had no independent effect on the use of services.

Vetter, Jones and Victor (1987) conclude that although poverty itself does not have an independent effect upon the use of services, the combined effect of poverty and disability leads to an increased use of social services by the elderly. This along with the observation that some recipients of supplementary pension make use of private home help, is an indication that needs of some of the highly disabled elderly remain unmet, forcing them to buy extra help despite their poverty.

Evandrou et al. (1992) analysed 1980 GHS data to identify the principal factors determining elderly persons’ utilisation of community care services. The income measure used is equivalent family income, calculated by dividing the total gross family income by the appropriate equivalence scale. (Gross equivalent income was generated using a simplified version of the ‘ordinary’ SP scale rates where the following scale values were attributed: single adults=1.00, married couples=1.61 and each child=0.44).

The study is methodologically better than the other studies, because factors influencing the use of services were selected using theoretical considerations of the demand for and supply of services. In addition to the level of disability, factors such as living alone, age, gender, housing tenure, socio-economic group, equivalent income and the receipt of supplementary pension were regarded as factors influencing the demand for services. The supply factors that were considered as influencing the use of services were the charging policy, per capita expenditure on the elderly and the price of home help, in the local authority areas. The multivariate probit analysis results suggest that indicators of need are significant determinants of utilization. Those in receipt of supplementary benefit, people living alone and those who are very old are more likely to receive the service. Those who have a relation nearby and those who are homeowners are less likely to use services. The policies of the respondent’s local authority were found to be significant determinants of service receipt. The price charged and expenditure per elderly person resident in the local authority had negative effects on use of services, while the total number of hours provided per elderly person in the local authority had a positive effect. After adjusting for the most significant needs-related circumstances, the probability of receipt of home help in supportive local authority areas was 0.67 whereas in the less supportive local authority areas, the probability was 0.45.
Boniface and Denham (1997) analysed the relationship of age, health status and social and economic factors to the use of community health and social services, using 1990-91 Health and Life Style Survey data for North West Thames Health Authority region. Results of their analysis indicated that all local authority social services are more likely to be used by persons who are living alone. Females were also, in general, more likely to be in receipt of home help or attending day centres. In addition, it was also found that the use of home help, lunch club and day centre services is influenced by age and health status. Some specific long-term health problems (e.g., musculo-skeletal) were observed to be associated with increased dependency on services. Surprisingly, having income below the supplementary benefit level of £75 per week was not found to affect the likelihood of using any of the services, whereas those with income less than £275 per week were found to be more likely recipients of home help. With respect to the influence of social class on the use of services, the significant result was that those belonging to the manual social class were more likely to attend lunch clubs compared to the non-manual classes. As in the other studies, use of NHS services was found to be unaffected by income or social class.

3. DATA AND METHODS

Sources of Data
The statistical analysis carried out in this paper is based on data from three surveys:

- the 1994/5 General Household survey (GHS);
- the 1995 PSSRU Survey of Admissions (SoA) to Residential and Nursing Homes;
- the PSSRU cohort study of elderly users of community care, their principal informal carers and their care managers conducted as part of a study of Evaluating Community Care for Elderly People (ECCEP).

GHS
The GHS is a continuous survey based each year on a random sample of the general population resident in private households in Great Britain. Interviews are carried out during the financial year with people aged 16 and over, either in person, or sometimes by proxy, in approximately 10,000 households. In 1994/5, the survey included a detailed elderly supplement with a sample size of 3,500. Prior to this survey, similar data were collected in the 1991, 1985 and 1980 surveys, and also subsequently in the 1996/7 survey, though this was not available in time for the present analysis.

Survey of Admissions
The data available to identify those characteristics of elderly people that might be associated with use of residential or nursing home care are from a different source: the PSSRU surveys of residential and nursing home care. Our evidence is based principally on the 1995 PSSRU Survey of Admissions (Bebbington et al., 1996), which provides information prior to admission: principally for our present purposes about income and wealth. This survey included 2500 nationally
representative people admitted at the end of 1995 in 18 local authorities of England. However, this survey excluded privately funded residents, which were included in the 1996 PSSRU Cross-Sectional Survey of homes (Netten et al., 1998). This latter study included 12,000 residents in 21 local authorities, designed to represent different types of home but capable of being reweighted to national averages.

ECCEP
Additional data used in analysing the effect of income and its correlates on the amount or intensity of service receipt are from a survey conducted by the PSSRU of elderly users of publicly funded community care services (ECCEP), their informal carers and care managers in ten local authorities during 1995. The sample is selective rather than random, as only those users for whom the care managers believed the service package would last more than two months, were included in the survey. Though the survey is longitudinal, the analysis here is based only on the first phase of the study. Most of the 419 users in the first phase were new referrals or review cases for services in the community, with initial assessment taking place either in the community or prior to their discharge from hospital. By selection, the users in the sample are, therefore, heavy users of social (and health) services and living in the community. As some users in the sample were cognitively impaired, information about the users needs and circumstances was also derived from interviews with the carer or a proxy, when there was no carer. Information about the use of social and health care services by the users was, however, obtained from the care managers rather than from the users, carers or proxies.

Objectives of analysis
The objective of the analysis was to determine whether there are differences in the use of long-term care services for elderly people according to their economic circumstances, after allowing for disability, health status and other factors that may also influence demand of a social and demographic type, and where possible with the ECCEP data, supply. The factors that could be taken into account are limited by the secondary data available and follow those considered by previous authors. Further discussion of these factors is given below.

The analysis is divided into three parts, as follows:

- The use of community based long-term care services using the GHS;
- The use of using all long-term care services including residential or nursing home care using the GHS and SoA surveys combined;
- Variations in the volume of use of publicly funded community based services using mainly the ECCEP survey.

In each case the analysis is for people aged 70 and over. The method of analysis is by the use of regression in each case to control simultaneously for the effects of all factors so as to examine, in particular, whether economic circumstances make any difference.
Use and Volume of Use
The remainder of this chapter discusses the key variables in the analyses:

- the use of services;
- economic circumstances;
- other factors which are being controlled for.

Some of the detailed definitions used with each variable are contained in the appropriate sections.

Logistic regression is used for the analysis of whether or not someone is a user. Results of these analyses are presented in the form of odds ratios for the factors associated with service utilization. Odds ratios represent the odds of a particular type of person using a service, compared with another type. For example, an odds ratio of two between men and women would indicate that a man has double the odds of a woman of getting the service. This is similar, but not quite the same as saying that the probability is twice as much (it is virtually the same in the case of long odds). The logistic equation can be used to predict the probability of service receipt given demand factors, and we show the consequences for a few illustrative caricatures of elderly people. However, we stress that it is here being used as a method of testing the significance of factors rather than building a fully fledged statistical model, and the probabilities are illustrative only.

For service volumes, ordinary least squares regression is used in a similar manner, though the results are presented in terms of ‘beta’ coefficients rather than odds ratio. Volume is measured in terms of the total package cost. Costs were calculated using the frequency of use multiplied by its national average unit cost (Netton and Dennett, 1997): this to avoid price effects complicating the analysis. As is usual, the log of the cost is used rather than the cost itself, though this does make the interpretation of the beta coefficients rather less intuitive.

An alternative, and possibly preferable approach to testing whether economic circumstances are associated with use or volume of services, would be through indirect standardisation. For example, it is possible to standardise use/volume by disability, health status and the other variables using similar regression techniques to the above, and then determine after standardisation whether economic circumstances, as defined are associated with use/volume. This approach has been tested in a few cases and in practice leads to almost the same conclusions as our main method. It is not reported here.

Economic Circumstances
How to define economic circumstances is a complex subject. Income and capital (including property capital) are the first thought, but wealth and poverty may also be regarded in terms of lifestyle, and by access to and possession of material resources. Arguably, the most appropriate definition of poverty is one that focuses on insufficient access to resources to enable one to participate fully in one’s social environment (Townsend, 1978).
Whatever poverty actually is in practice the available measures in the surveys we are examining are limited. Some of the indicators that have been used in the past with the General Household Survey are shown in Table 1. The list of indicators we considered for the present analysis are income, receipt of means tested benefits, capital/property, and possession of consumer durables.

**Income**

Household income is available in the GHS. In order to be able to compare the income of people living in different household types, gross weekly income has been equivalised using McClement’s (1997) scale, with the married couple household providing the standard of comparison. (The great majority of elderly person households are either one person alone or a married couple.) Much of the analysis is based on quintiles of people over 70 calculated on these equivalised incomes. The cut-off points for these quintiles are £115.50, £145.20, £193.44 and £285.80.

In the PSSRU admissions survey personal rather than household income is available: this is the income used for assessing residential care charges. This cannot be made equivalent to household income except for people living alone. The ECCEP survey collected relatively crude information about income.

**Income Support**

Because receipt of income support implies that individuals have been assessed as having insufficient income of their own for their needs, it is natural to consider this as a measure of poverty. The only obvious problem is that of up-take: people who do not receive IS when their actual income and needs warrents it. All three surveys measured income support, and so it is particularly useful for analyses requiring more than one survey.

However, there is a complication when using IS as an indicator of poverty to study use of social care services. Some people receive IS even though the household income is quite high. The proportion receiving IS in the five quintiles (starting with the lowest) are 31, 12, 10, 15 and 3% respectively. In some cases this may be because of misreporting income receipt, or perhaps because an exceptional income period was reported. However, the proportion of elderly people reporting receiving IS in the GHS is 15%, similar to the national rate.

In the lowest quintile, it may be that not all people entitled to claim income support do so. However, the main reason for this apparent anomaly is that the threshold at which IS is payable increases greatly with disability. Thus for a healthy couple both aged 70 in 1994/5, the IS income threshold was £99 (lowest quintile), but this could rise to £176 (third quintile) if both are severely disabled; and might well be higher if the disability required household adaptions and other expenses on the property. These high rates are likely to be claimed when social workers become involved in assessment of disability needs, and when state services are required for which there may be charges. Of those receiving IS in the highest quintiles, exactly one half received the home help service, and two-thirds received attendance allowance, the main non means-tested benefit for disabled elderly people.
Capital and property

Only the PSSRU admissions survey established the value of capital assets, and this from social services departments assessments at the time of entry. Hancock (1998) has shown a close correlation between capital and income for elderly people. ECCEP established savings levels, which are more appropriate to choices when in the community.

Most capital is tied up in property, and the 1994/5 GHS confirms the link between owner occupancy and income. Three-fifths of people aged 70+ lived in owner occupied homes (including those with a mortgage), who had an average weekly household income of £224, compared with £123 for those in households renting.

Consumer durables

Car ownership is highly correlated with household income, but arguably ownership reflects factors such as household composition, need for access to facilities, and abilities as well as wealth. Less ambiguous is possession of a range of labour-saving and leisure consumer durables which contribute directly to lifestyle. Using the 1994/5 GHS an index was calculated based on household possession of eight: Video, Freezer, Washing Machine, Drier, Dishwasher, Microwave, Telephone, CD player. Weekly household income is very closely related to the number possessed, ranging from an average of £95 for people aged 70+ in households with none, up to £604 for those with all eight.

Choice of indicator

It is evident from this analysis that income, receipt of income support, tenure and ownership of consumer durables are closely related. This justifies the use of equivalised weekly household income as the preferred indicator of economic circumstances for the analysis. Income support is best where analysis combines data sets because its comparability across data sets is not in doubt. However, it is less satisfactory as a measure, because in some cases receipt of income support may be the direct consequence of the factors leading to the provision of state funded social care. For the analysis of ECCEP, only limited information on weekly household income was available, a range of indicators were used which are described in Section 6.

Factors Controlled for in the Analysis

These are factors which also affect the need for or availability of services which may also determine whether or not an elderly person receives them.

Dependency and Health Status

Three types of measure have been used:

- Activities of daily living (ADL) and instrumental activities of daily living (IADL). These are each based on a short list of items. IADL is not available in the survey of admissions. Many studies have shown that inabilities with ADLs in particular is one of the strongest predictors of use of long-term care services;
Cognitive impairment, available in the Survey of Admissions and the ECCEP surveys only;

Self-rated health – limiting long-standing illness and similar.

Supply

It is no longer possible with the GHS to identify local authorities and hence make allowance for local differences in supply, as Evandrou et al. (1992) did. For analysis based on ECCEP, local authorities were included in the list of factors to be controlled for. This would permit allowance to be made for both supply and price differences between local authorities.

Unlike Evandrou et al. (1992), we are not trying to produce a model to explain variations in use. Whether it is desirable to control for differences of supply in our context is questionable. The argument about differences in access is in part ecological. If, for example, wealthy people are more likely to use a particular service because it is more likely to be located in a wealthy area, is that not evidence of inequality?

Informal Care

Whether it is appropriate to control for informal care in order to understand the relationship between economic circumstances and formal services is also a matter of contention. We would argue that the usual pattern, one which is in part embedded in policy thinking at least regarding publicly funded services, is that people most commonly turn to help for disability from formal services once informal resources are exhausted. Certainly the pattern of service use is very different between disabled elderly people who live alone and those who live with others. Arber and Ginn (1991) found that the availability of informal care is not greatly different between social classes, but for the working class care is more likely to be from another household member, and is therefore likely to be more intensive. If poorer people use less formal care because they are likely to get more informal care – with of course the added burden on partners and family that that implies – is this to be regarded as evidence of inequality? We have elected to assume instead that inequality exists if there is a difference in the use of services after allowing for the availability of informal care.

Two types of measures of the availability of informal care are used:

- Household composition: the number of people in the household. The great majority of people over 70 live in 1 or 2 person households: the latter usually being a married couple;

- Whether any help is reported as being received from spouse, family, neighbours or friends with any ADL or IADL task (though omitting those occasional tasks for which help is often purchased, like cleaning windows and laundry).

Demographic Characteristics

Finally, age and sex are controlled for in all analyses.
4. **USE OF COMMUNITY-BASED SERVICES**

The GHS has information on the use and frequency, during the month before the survey, of the following services: private domestic help, public home help, district nurse, day centre, social worker, meals on wheels and lunchclubs. The statistical analyses in this section are as follows:

- The use or not of any of the above services collectively
- The use or not of private domestic help
- The use or not of publicly funded home care
- The use of a district nurse
- The use or not of statutory social services, that is, all the above services less private domestic help and district nurse.

The definitions of predictor variables are as follows:

- **Age-group**: Four categories: 70-74, 75-79, 80-84, 85+.
- **Sex**: Male/Female.
- **Equivalent household income quintiles**: As defined in Chapter 2.
- **Income support**: Recipient or non-recipient.
- **ADL score**: A continuous variable derived from a score of 1 if the respondent can do a task fairly very easily, 2 if fairly very difficult, and 3 if cannot do task on own. Tasks include climbing stairs, getting around the house, toilet, bed, dress, feed, bath, wash and walking.
- **IADL score**: A continuous variable derived from a score of 1 if the respondent can do a task on own, 2 if does not do the task on own but could if had to, and 3 if does not do the task on own and could not do on own. Eleven items are used in the scale: shop, business, dishes, windows, vacuum, steps, laundry, opening bottles, cook, preparing snack and making a cup of tea.
- **Informal help**: Whether or not receiving. This is defined as receiving help for tasks which cannot be done easily oneself from spouse, neighbours, relatives and friends. The items included are all ADL tasks, and all IADL tasks except those not considered to be important daily activities – steps, laundry and windows.
- **Self-reported health**: General health during the last 12 months: good or poor.
- **Long-standing illness**: Three categories: limiting long-standing illness, non-limiting long-standing illness, no long-standing illness.
- **Household size**: Number of persons in household. This particular definition of household type was used for the sake of consistency with the SoA data. (In the GHS data, a 2-person household is predominantly a married couple.)

There are two sets of results, one using equivalised household income, the other income support.
Equivalised Household Income

Table 2 summarises the results of the logistic regression equations based on income quintiles. We show odds ratios and whether they are statistically significantly different from one another. The reference group in each case is shown by an odds ratio of 1.00. For example, the odds ratios related to age and the use of home help services show that, by comparison with the reference group aged 70-74, people aged 74-79 have odds more than twice as high (2.32) of using home helps. The odds for someone aged 85+ are almost six times (5.7) as great for this particular service.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Any service</th>
<th>Private domestic help</th>
<th>Home help</th>
<th>District nurse</th>
<th>Statutory social services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70-74</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>74-79</td>
<td>2.28</td>
<td>2.64 s</td>
<td>2.32</td>
<td>1.43</td>
<td>1.76</td>
</tr>
<tr>
<td>80-84</td>
<td>2.79</td>
<td>2.69 s</td>
<td>2.90</td>
<td>3.03</td>
<td>2.33</td>
</tr>
<tr>
<td>85 and over</td>
<td>4.86</td>
<td>3.49 s</td>
<td>5.70</td>
<td>3.37</td>
<td>3.68</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Female</td>
<td>1.08</td>
<td>1.55</td>
<td>1.09</td>
<td>0.91</td>
<td>0.90</td>
</tr>
<tr>
<td><strong>Income quintile</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom Quintile</td>
<td>0.31</td>
<td>0.08</td>
<td>1.69</td>
<td>0.94</td>
<td>1.17</td>
</tr>
<tr>
<td>2nd Quintile</td>
<td>0.55</td>
<td>0.12</td>
<td>1.98</td>
<td>1.01</td>
<td>1.86</td>
</tr>
<tr>
<td>3rd Quintile</td>
<td>0.47</td>
<td>0.19</td>
<td>1.89</td>
<td>1.02</td>
<td>1.55</td>
</tr>
<tr>
<td>4th Quintile</td>
<td>0.75</td>
<td>0.27</td>
<td>3.44</td>
<td>1.07</td>
<td>2.08</td>
</tr>
<tr>
<td>Top Quintile</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>ADL score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IADL score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Informal help</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.60</td>
<td>0.45</td>
<td>0.67</td>
<td>1.47</td>
<td>0.68</td>
</tr>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Self reported health</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Fairly good</td>
<td>1.29</td>
<td>0.77</td>
<td>1.98</td>
<td>1.02</td>
<td>2.15</td>
</tr>
<tr>
<td>Poor</td>
<td>1.39</td>
<td>0.80</td>
<td>2.19</td>
<td>1.79</td>
<td>2.23</td>
</tr>
<tr>
<td><strong>Long-standing illness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limiting</td>
<td>1.37</td>
<td>1.89</td>
<td>1.08</td>
<td>0.96</td>
<td>1.05</td>
</tr>
<tr>
<td>Non-limiting</td>
<td>1.12</td>
<td>1.25</td>
<td>1.11</td>
<td>1.15</td>
<td>1.04</td>
</tr>
<tr>
<td>None</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Household size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One person</td>
<td>12.54</td>
<td>10.81</td>
<td>31.35</td>
<td>3.17</td>
<td>14.15</td>
</tr>
<tr>
<td>Two persons</td>
<td>3.59</td>
<td>6.36</td>
<td>9.46</td>
<td>1.18</td>
<td>3.32</td>
</tr>
<tr>
<td>Three plus persons</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

s = significant at 5% level.  ss = significant at 10% level.  ns = not significant at 10%.
For the two continuous variables, ADL and IADL, the interpretation is a little different. The odds ratio shown is in effect a comparison of the odds implied by an increase of one in the score on the variable. The method is based on the assumption that the odds ratio is constant for each unitary increase in the score.

The results for income after adjustment for factors such as age, gender, health status, functional disability and household composition are quite complex. The different pattern of relationship between income and service utilisation can be seen most clearly by contrasting the results for the three individual services; private domestic help, public home help and district nursing. The odds ratios for private domestic help and district nursing are the most clear and easy to interpret. The odds ratios for the bottom four income quintiles in relation to private domestic help are all statistically significant and have values below 1.00 and there is a clear gradient with the bottom income quintile having the lowest odds, which implies a positive association between income and receipt of this service. In contrast, none of the income quintiles are statistically significant in relation to district nursing and the values are all very close to 1.00, which suggests that income is not associated with the utilisation of this mainstream health service. The results for publicly-funded home help are less straightforward. The odds ratios for the bottom four income quintiles all exceed one, which means that utilisation among these groups is higher than that among the most affluent in the top income quintile. However, the highest odds ratio (3.44) is found in the fourth income quintile. Elderly people in the bottom half of the income distribution use home helps less than those in the second highest income group.

Income support
It is worth noting that IS receipt is closely associated with both age and disability. In the 1994/5 GHS, the proportion of recipients rises from 9% in the 70-74 band up to 27% in the 85+ age band. Average scores on the ADL index previously described are 9.0 for those in receipt of income support compared with 6.0 for non-recipients. This is important for interpretation. Our analysis focuses on the question of whether there is equity between the poor and the better-off after allowing for differences of need. But the relationship between poverty, disability and service receipt may be inherently more complicated if disability itself is in part the consequence of poverty earlier in life. This question is beyond our present scope, though evidence from the literature on social inequalities in health would suggest that it is at least partly true. However, the relationship between poverty and disability is to a considerable extent the consequence of an age cohort effect. The ‘oldest-old’ not only have most disability but also are most likely to be poor, due both to lower life-time income, lack of private pension, and the likelihood of having exhausted savings.

The analysis below replaces the income quintiles of the previous section with income support as the measure of economic circumstances. Table 3 summarises the results, showing just the odds ratio of a person over 70 receiving income support getting help, compared with non-recipients, after controlling for disability, ill-health, age, sex, household composition, informal help etc. The remainder of the logistic regression equations have been omitted for simplicity, the results for other factors are in every case substantially the same as in Table 2.
Table 3: Odds ratios for IS receipt as a predictor of service use

<table>
<thead>
<tr>
<th>Model</th>
<th>Odds ratio</th>
<th>Significantly different from unity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any one domiciliary service</td>
<td>1.02</td>
<td>No</td>
</tr>
<tr>
<td>Private domestic help</td>
<td>0.34</td>
<td>Yes</td>
</tr>
<tr>
<td>LA Home Care</td>
<td>1.86</td>
<td>Yes</td>
</tr>
<tr>
<td>Community nurse</td>
<td>1.29</td>
<td>No</td>
</tr>
<tr>
<td>Any LA social service</td>
<td>1.50</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The results in Table 3 may be compared with the results for income quintiles in the respective columns of Table 2. Even allowing for differences of need, it is evident that IS recipients are much more likely than non-recipients to get help to get from local authority services. This is particularly true of the LA home care service which IS recipients have odds of using of twice that of non-recipients, all else being equal. On the other hand, their odds are only as third as great for using a private domestic help. These balance out, so that overall IS recipients and non-recipients are about equally likely to get some form of formal domestic service, given equal need. As with income quintiles, receipt of community nursing is shown to be unrelated to income.

**Scenarios**

Another way of presenting the results of Tables 2 and 3 is in terms of the estimated probabilities if the formulae were to be used for prediction. While we have cautioned against this, as it is not the objective of the analysis, nevertheless it may be of interest. Tables 4-8 provide illustrative scenarios of the probability of people with specified characteristics, using a particular service. There are three such caricatures:

1. A man aged 85+ with ADL score of 10, IADL score of 16, informal help, no long-standing illness, self reported good health, living in a two-person household;

2. A man aged 85+ with ADL score of 10, IADL score of 16, informal help, limiting long-standing illness, self reported good health, living alone;

3. A woman aged 85+ with ADL score of 10, IADL score of 16, informal help, limiting long-standing illness, self reported poor health, living alone.

Each of the subsequent rows in Tables 4-8 show how the probabilities vary by income quintiles as these basic characteristics change in the direction of progressively greater needs. For example, rows 1 and 2 of Table 5 show how living alone and having poor subjective health have a marked increased effect on the probability of receiving local authority home help regardless of income quintile. The broad pattern of the effects of belonging to a particular income quintile shown in Tables 4-8 are basically the same as those reported in Table 2. *Ceteris paribus* the most affluent people in the top income quintile have the highest probability of using private domestic help, people in the fourth income quintile are most likely to receive local authority home help and there are no significant differences between income quintiles in patterns of utilisation of district nursing.
Discussion
Perhaps the most interesting feature of these scenarios is that if we ignore the top quintile, mainly people living alone with a weekly income above £171 or couples above £286, then it appears throughout that as income rises, so too does the probability of using publicly funded (and chargeable) social services. The most
plausible explanation to account for these results is that the most affluent elderly people rely on the private sector for domestic help, whereas some of the poorest people may be deterred from using public home care services because of user charges.

Of course, this seems to imply that private domiciliary care is pretty much a substitute for social services home care. Whether this is really so is an interesting question. The number of elderly people using private domestic help has risen rapidly over the last twenty years, and is bound to continue to rise. There have been few investigations of the nature and quality of the service that is provided.

The results for Income Support are different from those for income quintiles, in that the relationship between poverty and receipt of local authority services is now much clearer. We touched on the likely explanation for this in Section 3. The threshold at which IS is payable increases greatly with disability, and a severely disabled elderly person could well be in the third and possibly even the fourth income quintile yet still be entitled to IS. These high rates are likely to be claimed when social workers become involved in assessment of disability needs, and when state services are required for which there may be charges, as Victor and Vetter (1986) suggested. The reverse side of the coin is that elderly people on very low incomes who do not receive IS may be low recipients of domiciliary help because they prefer not to accept, or there are other barriers to their obtaining, all forms of assistance.

5. USE OF CARE HOMES, AND ALL LONG-TERM CARE SERVICES

We now turn to consider the use of residential and nursing home care. This section is based on evidence from the PSSRU Survey of Admissions, described in Section 3. As the analysis must compare people who do and do not use a service, the 1994/5 GHS is used to provide a comparison group of non-users.

An additional complication is that the SoA excluded people who were privately funded. The related 1996 PSSRU Survey of Care Homes (Netten et al., 1998), found that just over one-quarter of all recent long-stay admissions aged 70+ to homes (in the last 12 months) are wholly privately funded. Probably few of these were previously receiving income support. If we assume none were, then overall 38% of all people aged 70+ admitted to a care home in the last 12 months were formerly receiving income support. As 15% of all people aged 70+ are IS recipients, it is evident from this that IS recipients are disproportionately represented among admissions.

The same survey found only moderate difference between publicly and privately funded clients in terms of disability, age, and the other factors with which we are concerned. So to make allowance for this group, we have simply reweighted non-recipients of IS in the admissions survey to represent privately funded clients.

The sampling fractions of the GHS and the SoA are of course very different, as there are many more elderly people living in private households. To allow for these differences, both the GHS and SoA data were reweighted to match the size of populations over 70 that they represent.
The statistical analyses in this section are as follows:

- The use or not of any long-term care service, either community based or residential.
- The use or not of residential/nursing care.
- The use or not of statutory social services, including those of the previous chapter plus residential or nursing home care from the local authority.

The definitions of predictor variables are:

- **Age-group**: Four categories: 70-74, 75-79, 80-84, 85+.
- **Sex**: Male/Female.
- **Income support**: Recipient or non-recipient.
- **ADL score**: A continuous variable derived from a score of 1 if the respondent can do a task fairly very easily, 2 if fairly very difficult, and 3 if cannot do task on own. Tasks include climbing stairs, getting around the house, toilet, bed, dress, feed, bath, wash and walking.
- **Long-standing illness**: Two categories: limiting long-standing illness, no limiting long-standing illness.
- **Household size**: Number of persons in household, one or two (larger households were excluded).

The position of people in care homes is rather different from those living in the community, with regard to their economic resources. The way resources affect use of care in a home is best understood at the point of entry, since it is rare for long-term entrants to subsequently leave, even if their financial position alters. So for the SoA, all the above variables were as they applied at the time immediately before admission.

Unfortunately the data about income in the PSSRU Admissions survey, which are derived from the financial assessment made at the time of admission, are not strictly comparable with the GHS evidence about elderly people in the community. The data represent the person’s own resources, not those of the household: it is only likely to match for people who live alone. For this reason, receipt of income support is the only indicator of economic circumstances used in this chapter.

As in the analysis of Section 4, a logistic model was used to estimate the probability of service use (residential care, statutory social services or any one service). Table 9 summarises the results of the logistic regression equations based on receipt of income support. We show odds ratios and whether they are statistically significantly different from one another. The reference group in each case is shown by an odds ratio of 1.00.
Chapter 5 — Poverty, Disability and the Use of Long-Term Care Services

It is instructive to compare use of care homes (Table 9, column 2) with community services (Table 3, column 1). Table 9 shows that given apparently equal need, IS recipients are significantly more likely than others to enter a care home, whereas they were similar in their use of domiciliary services. We are here considering both publicly and privately funded services.

The reason why this is so is beyond the scope of the evidence available to us. But we may can appreciate why demand for care in a home might be higher among those who expect the state to pay for it, than for those who will partly or wholly fund it themselves. The better off may have more to lose not only financially but in terms of giving up independent living in their own home. It is not as if the care most self-funders receive is greatly different from that of the publicly funded, as the PSSRU Survey of Care Homes found.

| Table 9: Odds ratios from logistic regressions on service utilisation |
|-------------------------|-----------------|-----------------|
| Variable                | Any service (including care home) | Care Home | Any LA provided Social Service |
| Age                     | s                | s               | s                |
| 70-74                   | 1.00             | 1.00            | 1.00             |
| 74-79                   | 2.21             | 2.65            | 1.82             |
| 80-84                   | 2.90             | 4.37            | 2.65             |
| 85 and over             | 5.47             | 7.88            | 4.49             |
| Sex                     | ns               | ns              | ns               |
| Male                    | 1.00             | 1.00            | 1.00             |
| Female                  | 0.92             | 0.76            | 0.84             |
| Received income support | ns               | s               | s                |
| Yes                     | 1.18             | 1.66            | 1.70             |
| No                      | 1.00             | 1.00            | 1.00             |
| ADL score               | 1.15 s           | 1.13            | 1.16             |
| Limiting long-standing illness | s               | s               | s                |
| Yes                     | 1.54             | 9.57            | 1.54             |
| No                      | 1.00             | 1.00            | 1.00             |
| Household size          | s                | s               | s                |
| One person              | 2.85             | 2.16            | 3.32             |
| Two persons             | 1.00             | 1.00            | 1.00             |

s = significant at 5% level. ss = significant at 10% level. ns = not significant at 10%.

We might expect the higher demand to mean that publicly funded people enter residential care at lower levels of dependency, but in fact this is not so. The link between disability and demand seems to be weaker for self-funders who do not have to undergo an assessment. The PSSRU Survey of Care Homes found there are a small group of quite independent self-funders in care, though there are also rather more with high levels of dependency. However the differences are not great.
Chapter 5 — Poverty, Disability and the Use of Long-Term Care Services

Put together with the earlier conclusions about the impact of charging, this difference in use of residential and community services raises important questions as to whether the current policy regarding charging is creating incentives which result in different types of care being provided to people on the basis of their economic resources, regardless of need. Does it imply that there is a group of moderately well-off, who are doing everything to avoid entering a care home because of the cost implications, even though it might best suit their needs to be there? Or does it imply that it is too easy to encourage the poorest people to enter a care home, perhaps because it ultimately it is cheaper for the local authority than providing the level of domiciliary care necessary? These are questions that deserve further investigation.

6. INTENSITY OF USE OF COMMUNITY-BASED SERVICES

This section explores the relationship between intensity of service usage and users’ economic and needs related circumstances. It assumes that the intensity of service usage is a function of needs related circumstances of the user, demographic characteristics, income and the availability of services. Analyses based on GHS data indicate there is little difference between income groups in the volume of community services received, once the elderly person is ‘through the gate’. This section, therefore, concentrates on the analysis of ECCEP data.

Following on from the modelling of probability of service use, a similar number of models were estimated to predict the intensity of use, using the GHS data. Least squares regressions were computed which included the same independent factors used in the logistic models but with the sample restricted to users of services. The dependent variable in these equations is the cost of the package of services in the last month. However, the intensity equations did not yield very significant results – in most cases, the only significant variable being IADL score. This suggests that given an individual is a user of services, the intensity of use is not strongly related to any specific factor other than a dependency measure. Since income variables, quintile measures and receipt of income support, did not figure significantly in the intensity equations, we do not report these results in this paper in any detail. However, we do report some summary findings on the intensity of publicly financed service use from the analysis of ECCEP data, and an indication of the variables employed are set out below.

Two analyses of the intensity of service usage are presented:

- weekly SSD package costs;
- weekly total package costs including NHS costs in addition to the SSD costs.

The predictor variables are as follows:

- **ADL score**: The total number of activities of daily living the user was either unable to carry out or could carry out only with help. Five basic tasks of daily living included were bathing, dressing, toileting, transfer and feeding. The variable therefore has values ranging from zero (no problems) to five.
Chapter 5 — Poverty, Disability and the Use of Long-Term Care Services

- **IADL score**: The total number of instrumental activities of daily living the user was either unable to carry out or could do only with help. Seven activities included in this category were shopping, preparing a meal, preparing a snack, preparing a hot drink, light housework, heavy housework and handling own money. The variable has values ranging from zero (no problems) to seven.

- **Katzman score**: This is based on a standard test to measure the level of cognitive impairment of the user. Values range from zero to 28. (A score of more than 22 indicates severe cognitive impairment).

- **Living alone**: A dummy variable, 1 if the user lived alone, 0 otherwise.

- **PIC**: A dummy variable representing the presence of an informal carer, 1 if the user had an informal carer, 0 otherwise.

- **Age**: User’s age as on the day of the interview, a continuous variable.

- **Gender**: A dummy variable, 1 if female and 0 otherwise.

- The **SSD area** where the user resides was used as a dummy variable, to account for possible variations in the provision of services and charging policies.

As the weekly household income of the user was categorical and had considerable missing values, six alternative methods of measuring economic resources are used:

- **Weekly household income of the user**: A dummy variable set equal to one if less than £100 and zero otherwise.

- **Receipt of income support**: A dummy variable, 1 if in receipt of income support, and 0 otherwise.

- **Receipt of housing benefit**: A dummy variable, 1 if in receipt of housing benefit and 0 otherwise.

- **Savings of less than £3000**: A dummy variable, 1 if the user had savings of less than £3000 and 0 otherwise.

- **Social housing**: A dummy variable, 1 if the user lived in council or housing association accommodation, 0 otherwise.

- **Weekly income of less than £100 plus savings of less than £3000**: A dummy variable, 1 if this measure of absolute poverty was true, 0 otherwise.

Using these variables we employed ordinary least squares regression to investigate whether variations in the costs of packages of services provided to users were statistically significantly associated with any of the six measures of economic resources, after controlling for other needs-related characteristics.

In general the explanatory power of the models we investigated was not very high, which suggests the possibility of mis-specification and biased estimates of coefficients on the variables which were included. It is important that this
cautionary note is borne in mind. However, we do not believe that it seriously invalidates the points we make below. Having adjusted for many of the characteristics of elderly people commonly associated with the receipt of services we find that low income (less than £100 per week in 1995) is just about statistically significantly and inversely related to the intensity of use of publicly-financed health and social services. Table 10 summarises the results of two parsimonious models that reflect the general pattern of findings obtained from more detailed analyses of the ECCEP data (not reported here).

For both SSD costs alone and SSD and NHS costs combined the coefficients on low income shown in Table 10 are negative. We believe that the most plausible explanation for these findings is that some people on low income who would otherwise be entitled to receive services do not do so because they are deterred by the widespread reliance on user charges, especially for local authority home help services.

### Table 10: Income and the intensity of service use

<table>
<thead>
<tr>
<th>Variable</th>
<th>Package Costs</th>
<th>SSD only</th>
<th>SSD &amp; NHS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>coefficient</td>
<td>+- statistic</td>
<td>coefficient</td>
</tr>
<tr>
<td>Constant</td>
<td>2.192</td>
<td>4.523</td>
<td>6.331</td>
</tr>
<tr>
<td>IADL score</td>
<td>0.129</td>
<td>1.848</td>
<td>0.257</td>
</tr>
<tr>
<td>Age</td>
<td>-</td>
<td>-</td>
<td>-0.218</td>
</tr>
<tr>
<td>Katzman score</td>
<td>0.105</td>
<td>1.597</td>
<td>0.147</td>
</tr>
<tr>
<td>Principal informal carer</td>
<td>0.099</td>
<td>1.534</td>
<td>-</td>
</tr>
<tr>
<td>Living alone</td>
<td>0.112</td>
<td>1.487</td>
<td>-</td>
</tr>
<tr>
<td>Female</td>
<td>0.082</td>
<td>1.325</td>
<td>-</td>
</tr>
<tr>
<td>Low income (less than £100)</td>
<td>-0.115</td>
<td>-1.797</td>
<td>-0.138</td>
</tr>
</tbody>
</table>

N= 264 146
R² 0.06 0.18

7. THE FUTURE LEVEL AND DISTRIBUTION OF FINANCIAL RESOURCES AMONG THE ELDERLY

As we have shown, an elderly individual’s utilisation of public and private long-term care services is, to an extent, dependent upon their financial circumstances. Predicting the future demand for these services, on the premise of no policy changes, requires some knowledge of how the level and distribution of financial resources within the elderly population will change over time. Such knowledge is also required in order to consider the impact of many policy changes on the demand for services. The purpose of this section is to offer an informed judgement, based on the evidence available, of the changes most likely to take place in the average level of financial resources available to elderly individuals and in the distribution of these resources across the elderly population.

Any attempt to predict the future is susceptible to a high degree of error. Fortunately, there is a growing body of evidence on the current and past financial circumstances of the elderly and non-elderly populations which helps reduce, but
by no means eradicates, the degree of uncertainty attached to the forecasts. The section does not provide new data analysis nor original forecasts but synthesises the published evidence available. Particular use is made of a recent report for the Department of Social Security’s (DSS) Pensions Review (Pension Provision Group (PPG), 1998), a report commissioned by the Retirement Income Inquiry of the National Association of Pension Funds (Johnson, Disney and Stears, 1996) and an analysis of the Retirement Surveys for the DSS (Disney, Grundy and Johnson, 1997). The consensus emerging from the literature is that, on average, the real and relative incomes of the elderly have been increasing for over 30 years. The degree of inequality in these incomes shows a less consistent pattern, decreasing in the 1960s and 1970s before increasing during the 1980s and early 1990s. On average, real incomes are expected to continue to rise over the next thirty years and relative incomes to remain roughly constant. The increase in inequality is also expected to continue. While the majority of pensioners will be better off in the future, there will be a significant minority who will not enjoy these gains. This minority is identified, to a large extent, by the lack of a private pension to supplement that provided through the state.

The section is organised as follows. The next part reviews the evidence on the levels and distributions of income and wealth among the current elderly population. The purpose is to determine the baseline and to identify the main correlates of income and wealth among the elderly, since these are the factors which need to be considered when contemplating future developments. Next, past trends in income and wealth among the elderly population are examined in order to identify patterns which might be expected to continue into the future. The final part examines the PPG (1998) projections of pensioners’ incomes over a horizon of almost thirty years. The final section concludes.

The level and distribution of income among the current elderly population

On average, the elderly have lower incomes than the non-elderly. In 1995/96, 53% of pensioners\(^1\) were among the 40% of the overall population with the lowest incomes (PPG, 1998, p. 18)^2. Approximately one-quarter of married pensioners and one-third of single pensioners had household incomes below one half of the population average – the European Commission poverty standard – in 1993/94 (PPG, 1998, p. 142). On retirement, the median individual experiences a fall in their income to 70-80% of its pre-retirement level but there is a great deal of variation in this replacement ratio. For a fifth of individuals, the figure is less than 50% (Disney, Grundy and Johnson, 1997, p. 6).

Retirement incomes are more compressed than non-retirement incomes (Johnson and Stears, 1995; Webb, 1997). However, there is still a great deal of inequality across the retired population. The polarisation of the elderly population in relation to financial circumstances, a fact long recognised (Titmuss, 1955), has been confirmed by recent evidence (Carnegie Inquiry, 1993; Disney, Grundy and Johnson, 1997). Women, especially widows, older and single pensioners are all more likely to have low incomes in retirement (PPG, 1998; Disney, Grundy and Johnson, 1997). A major factor in avoiding poverty in old age is the possession of a non-state pension (PPG, 1998; Disney, Grundy and Johnson, 1997). Those without entitlement to a full state pension and/or who are not claiming Income Support are more likely to be in poverty (PPG, 1998; Disney, Grundy and Johnson, 1997).
The percentage of total pensioner incomes by source is as follows:

- state pensions and benefits – 51%;
- occupational pensions – 24%;
- investment income\(^3\) – 16%; and

The large contribution of the state to pensioners’ incomes is apparent. In fact, the state contributes three-quarters of the income of one-half of pensioners (Hancock and Weir, 1994, p. 21). Given such involvement, government policy will be a major factor in determining the future level and distribution of income among the elderly.

After the state, occupational pensions provide the largest share of pensioners’ incomes but their distribution is uneven and individuals without this source of income are significantly more likely to be poor. In 1995/96, 65% of pensioners were in receipt of an occupational pension (PPG, 1998, p. 61). Receipt is higher among married and younger pensioners, those from higher socio-economic groups and with greater financial wealth (PPG, 1998; Stears, 1997). Among females, receipt of occupational pensions continues to grow with younger pensioner cohorts. This is no longer true for males, but the amounts paid to younger cohorts are greater for both sexes (Stears, 1997). Over time, the incomes the elderly receive from occupational pensions will increase. On average, personal pensions do not make a significant contribution to the incomes of the current pensioners. The contribution from this source will not increase substantially until the generation which took out personal pensions in the 1980s retires.

The level and distribution of wealth among the current elderly

As with the non-elderly population, the distribution of wealth among the elderly is even more unequal than the distribution of income. Using data from the Retirement Survey, Disney, Johnson and Stears (1998, p. 172) report an average value of total assets at or around retirement of £200,000, in 1996 prices, with an interquartile range of between 2 and 3. Excluding social security wealth, a large proportion of the elderly population have little or no wealth (Disney, Johnson and Stears, 1997, p. 258). Data from the first wave of the Retirement Survey showing the level and distribution of wealth, by source, for individuals aged 55-69 in 1988/89 is summarised in Table 11.

<table>
<thead>
<tr>
<th>Source of Wealth</th>
<th>% with Asset Mean</th>
<th>Non-zero Median</th>
<th>Non-zero Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td>Housing</td>
<td>59.3</td>
<td>74,300</td>
<td>69,500</td>
</tr>
<tr>
<td>Occupational Pension</td>
<td>53.9</td>
<td>46,200</td>
<td>24,900</td>
</tr>
<tr>
<td>Social Security</td>
<td>99.4</td>
<td>45,100</td>
<td>41,900</td>
</tr>
<tr>
<td>Financial</td>
<td>70.6</td>
<td>12,900</td>
<td>4,600</td>
</tr>
</tbody>
</table>
For owner-occupiers, their house accounts for the largest share of their wealth. However, a large proportion have no housing wealth. Owner-occupation is higher among the younger and married elderly and those with high incomes (Disney, Johnson and Stears, 1998). Occupational pension wealth is even more unevenly distributed than housing wealth. Not only is the proportion without such wealth higher, but the positive amounts display greater variation. As would be expected, the coverage and amounts held of social security wealth are much more even than the other sources. Wealth held in financial assets is lower than that of the other sources and displays greater variation. Holdings of financial wealth are greater for younger cohorts, those from higher socio-economic groups, with higher lifetime incomes and longer periods in the labour force (Disney, Johnson and Stears, 1997). Men have greater savings than women but the difference is not large (Disney, Johnson and Stears, 1997). One-half of elderly individuals report making no non-pension provision for their retirement, even though only 40% of this group held an occupational pension (Disney, Johnson and Stears, 1997, p. 203). One-third of those who had not made deliberate savings for their retirement had thought of doing so but could not afford to. The main negative shock to holdings of financial assets among the elderly is the onset of disability (Disney, Johnson and Stears, 1997).

**Trends in the level and distribution of financial resources among the elderly**

Further understanding of how the financial circumstances of the elderly are likely to develop in the future can be gleaned from studying past trends. Recent experience is of improvements in the average living standards of the elderly, in both real and relative terms, accompanied by an increase in disparities in these living standards.

On average, the real net income of pensioners more than doubled between 1961 and 1993 and also increased relative to that of non-pensioners (Johnson and Stears, 1995). These improvements have been particularly marked from the 1980s. From 1979 to 1995/96, the real net income of pensioners rose by 64-70% (PPG, 1998, p. 16). In 1979, 68% of pensioners could be found in the bottom 40% of the population income distribution, by 1995/96 the figure had fallen to 53%. Further, while the percentage of pensioners with incomes below half the population average has increased from 16% in 1979 to 25% in 1992/93, the number of pensioners on incomes at or below the Income Support level fell from 3.4 million in 1979 to 2.8 million in 1992. As a result, the proportion of the poor who are elderly has fallen from 44% to 20% over the period (Goodman, Johnson and Webb, 1997, pp. 247-252).

The improvement in the average incomes of the elderly population reflects the fact that each cohort to reach retirement age is better off than the previous one (Johnson, Disney and Stears, 1996). This is reflected, indirectly, in the negative correlation between income and age within the elderly population. The low incomes of old pensioners are less attributable to the long period they have spent in retirement and more to the date at which they retired (Johnson and Stears, 1995; Disney, Grundy and Johnson, 1997; PPG, 1998). The reasons younger cohorts of pensioners are better off than older ones lie mainly in developments in state and occupational pensions. As time passes, more and more individuals, particularly women, are entitled to a basic state pension on retirement.
Additionally, amounts paid in SERPS increase as each cohort to retire has been paying into the scheme for a longer time since its inception in 1978. The result is that, despite the linking of the basic pension to prices rather than earnings since 1979, state pension payments to a male on median earnings increased from 23% of average earnings in 1978 to 37% in 1998 (PPG, 1998, p. 49). However, this trend will not continue. Changes made to SERPS in the 1986 Social Security Act and the 1995 Pensions Act will reduce the amounts paid to individuals retiring from the year 2000 onwards (PPG, 1998, p. 50). The other major cause of the upward trend in pensioners’ incomes is more likely to continue. Economic growth allows each generation to save more for their retirement and, in particular, lifetime contributions to occupational and personal pension schemes are growing. As noted above, payments from private pensions are increasing for each new generation of pensioners. In addition, possession of housing wealth has been increasing, with the expansion of owner-occupation. The percentage of pensioners who are owner-occupiers increased from 43% in 1971/72, to 47% in 1981/82, to 60% in 1991/92 (Johnson, Disney and Stears, 1996, p. 53). On average, each new generation of pensioners will have greater values of pension and non-pension wealth to draw on in their retirement.

Inequality in the pensioner income distribution decreased in the 1960s and 1970s but, as with the non-elderly population, increased during the 1980s. The 10% of pensioners with the lowest incomes experienced growth rates in their real incomes of 41% between 1961/62 and 1971/72 and 38% 1971/72-1981/82 (Johnson and Stears, 1995, p. 80). For the same periods, the growth rates experienced by the top decile in the income distribution were 11% and 22% respectively. The trend reversed during the 1980s. From 1981/82 to 1991/92, the bottom decile experienced an increase in real income of 10%, while the top decile enjoyed an increase of 57%. Income inequality among the elderly peaked in 1991 (Johnson and Stears, 1995).

From the detailed analysis of Johnson and Stears (1995), the decline in pensioner income inequality over the earlier period appears to be mainly attributable to the rise in coverage and levels of state pensions, the decline in employment earnings and the diminishing of investment income by high inflation. The increase in inequality during the 1980s can be attributed, in part, to the price, rather than earnings, indexation of the basic state pension since 1979, resulting in a decline in the relative incomes of the poorest pensioners who had few additional sources of income (PPG, 1998, p. 17). In addition, this period saw a growth in income received from private pensions and high levels of investment income driven by high real interest rates (Johnson and Stears, 1995). Both sources of income are held disproportionately by those with higher incomes. Hancock and Weir (1994) found that the 1980s were a period in which the incomes of the elderly with occupational pensions grew further apart from those without. As with trends in income levels, developments in state and private pensions are mainly responsible for the recent trends in income inequality among the elderly. This will also be true for future trends.

**Relevant characteristics of the non-elderly population**
The non-elderly of today are the elderly of tomorrow. Predicting the financial circumstances of the future elderly population therefore requires examination of some pertinent characteristics of the current non-elderly. Wealth holdings,
particularly housing and pension entitlements, as well as labour market experiences, are the most relevant factors to consider.

The real value of personal wealth almost doubled between 1977 and 1992 (Hills, 1995, p. 94). The assets accounting for the greatest shares of wealth were state pensions (25%), residential (23%), occupational pensions (19%) and shares and insurance (13%). The biggest proportionate increases over the 1977-92 period were in occupational pensions, shares and insurance policies and residential wealth (Hills, 1995, p. 94). The distribution of marketable wealth has changed little over time and remains highly unequal. In 1991/92, one half of families held financial assets of less than £500; 90% held less than £8000 (Hills, 1995, p. 105).

The past twenty-five years has seen a dramatic increase in owner-occupation in the UK. The percentage of all dwellings in the owner-occupied sector increased from 52% in 1972 to 67% in 1995 (Hills, 1998, p. 152). Although the rate of expansion has levelled off somewhat since the early 1990s, the increase which has already taken place can be expected to raise substantially the rate of owner-occupation among the elderly for some time to come. In 1993, rates of owner-occupation among the 61-65 and 66-70 year old age groups were 70% and 64% respectively. Twenty years earlier, in 1973, when these two cohorts were aged 41-45 and 46-50, their respective owner-occupation rates had been 53% and 52%. Comparing these rates with those for 41-45 and 46-50 year olds in 1993 – 77% and 80% respectively – gives an indication of the scale of increase to be expected in home ownership among the elderly over the next twenty years or so.

Membership of private pension schemes among people in work in 1995 is presented in Table 12. More than a third of workers have no private sector pension provision. Some of the employees who do not have private pensions are contracted into SERPS but 15% have no second-tier pension provision at all – they are relying solely on the basic state pension (Retirement Income Inquiry, 1996, p. 7). Membership of occupation pension schemes in 1995 was higher among male employees (55%) than it was among females (40%). Among males, membership increased from 35% in 1953 to 63% in 1963, but then levelled off, before falling from the early 1980s when personal pensions became more popular. Among females, there has been a steady rise in membership of occupational schemes since the 1950s. Membership of occupational schemes is lower amongst part-time workers, low earners, ethnic minorities and those with low job tenures throughout their working lives (PPG,1998). At a point in time, two-thirds of the working age population are not members of occupational pension schemes (PPG,1998, p. 62). This reflects the gaps in coverage among employees plus the lack of coverage for the self-employed and non-workers. However, this figure does not allow for the fact that individuals may move in an out of schemes over their working lives. On reaching retirement age, 81% of men and 42% of women have been members of an occupational pension scheme at some point in their working life (Disney, Grundy and Johnson, 1997).
Table 12: Percentage of workers with private pension provision in 1995

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Self-employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational pension</td>
<td>48 %</td>
<td>–</td>
</tr>
<tr>
<td>Personal pension</td>
<td>16 %</td>
<td>60 %</td>
</tr>
<tr>
<td>No private pension</td>
<td>37 %</td>
<td>39 %</td>
</tr>
</tbody>
</table>


Second-tier pension provision is clearly extensive, and growing, in the UK. However, the gaps in coverage are substantial. There is a particular problem with the self-employed who are not covered by SERPS and have no obligation to take out a personal pension. In general, coverage is lowest among the sections of society least able to make non-pension provisions for retirement – women, part-time workers, low earners and those with least attachment to the labour force. This is of particular concern when consideration is given to recent developments in the labour market. Since the 1980s there has been an expansion of both self-employment and part-time work. In the last quarter of the century, unemployment rates, and particularly long-term unemployment, have been persistently high. Further, this unemployment is disproportionately concentrated among the less skilled, the group who find it is most difficult to make provisions for retirement during periods of employment. Among males, early retirement and non-labour force participation rates were increasing in the 1970s and, particularly, the 1980s, but have levelled out in the 1990s (Johnson, Disney and Stears, 1996, p. 51). Earlier retirement gives individuals less time to build up assets that must be spread over longer periods. There appear to be two distinct groups entering early retirement (PPG, 1998). Individuals with occupational pensions are more likely to retire early and to have done so voluntarily. Those without such cover are more likely to have retired involuntarily, with the most common reason being ill-health. This latter group are not likely to be withdrawing from the labour force early because they have sufficient financial resources with which to enjoy their retirement but because there are a lack of opportunities for them to remain in employment. This group can expect to encounter financial hardship in their old age. Given the high, and growing, prevalence of earnings-related pensions, the increase in earnings inequality which took place during the 1980s will increase the disparities in the distribution of future pensioners’ incomes.

The level and distribution of financial resources among future elderly populations

Making projections about the financial circumstances of the elderly populations of the future involves combining knowledge of the demographic and economic characteristics of the current non-elderly population with assumptions about future developments in society, the economy, the labour market and policy. The inevitable uncertainty which surrounds the reality of these assumptions makes the exercise fraught with difficulty. No attempt is made here to generate new projections. Instead, a summary is presented of the recent projections made for the Pension Provision Group (1998). These projections are made using a simulation model (PENSIM) developed within the Department of Social Security. This model simulates all sources of pensioners’ incomes, with the exception of Council Tax benefit and disability benefit. Projections are made under the
assumption that state pensions and National Insurance contribution earnings limits continue to be up-rated in line with prices. Two sets of projections were made under alternative assumptions that means-tested benefits and entitlement thresholds are increased in line with prices and earnings. The latter is argued to be the more realistic assumption and only the predictions consistent with this are presented here. The base year is 1997 and forecasts are made until 2025. Further assumptions made are (PPG, 1998, p. 106):

- growth in average earnings exceeds that of prices by 1.5% per annum;
- unemployment remains in the range of 1-1.5 million;
- real returns on investment are 4% per annum;
- prices rise by an average of 3.8% per annum; and
- rents rise in line with prices.

Average earnings are predicted to increase by 52% in real terms over the 1997-2025 period. In general, the average incomes of pensioners are predicted to increase by a similar proportion – married pensioners doing slightly worse (48%) and single pensioners significantly better (66%) (PPG, 1998, p. 108). According to these projections, there will be no substantial depletion of the relative gains in income experienced by pensioners in recent decades and single pensioners will see a continuation of these gains. In real terms, the average pensioner’s income will be worth half as much again in 2025 as it is now, and single pensioners will see a gain of two-thirds.

As the average pensioner becomes better off, fewer will be on Income Support, although a substantial number will remain. Compared with 1.8 million pensioner units claiming this benefit in 1997, 1 million are predicted to be claiming in 2025 (PPG, 1998, p. 107). Although the numbers claiming Income Support are predicted to fall, if the basic pension continues to be linked to prices, while IS is raised with earnings, pensioners at the bottom of the income distribution will become increasingly dependent on IS.

Income paid to pensioners by the state is predicted to fall as a percentage of their total incomes – from 45% to 40% for married and 60% to 50% for single pensioners, 1997-2025 (PPG, 1998, p. 107). SERPS, occupational pensions, personal pensions and returns on investment – all of which are positively related to lifetime earnings – will all increase as a proportion of total incomes. This is one factor contributing toward a predicted increase in pensioner income inequality. For married pensioners, real incomes are predicted to keep pace with average earnings only for the top fifth of the income distribution (54% increase 1997-2025). For the bottom two-fifths, the predicted increase is only about 40%. For single pensioners, the increase in real incomes will more than keep pace with average earnings for all but the middle fifth of the income distribution (44%). The richest fifth of single pensioners are predicted to experience an increase in real incomes of 90% (PPG, 1998, p. 108). As a result of these differential growth rates, the income of the richest fifth of pensioners relative to that of the poorest fifth is predicted to increase from 3.3 to 4.0 among single pensioners and from 3.5 to 3.9 among married pensioners (PPG, 1998, p. 109).
Besides the growth in earnings-related pensions, the predicted increase in pensioner income inequality is mainly attributable to the indexing of the basic state pension to prices rather than earnings. If Income Support rates were also to be up-rated with prices, the increase in inequality would be even greater. If current policies continue, state pensions will continue to fall in value relative to earnings and pensioner income inequality is predicted to continue to increase beyond 2025 (PPG, 1998, p. 112).

Conclusion
Any attempt to quantify future changes in society must be treated with scepticism. However, there is a weight of evidence from the research reviewed in this section which allows the direction and the broad magnitude of future developments in the financial circumstances of the future UK elderly population to be forecast with some confidence. The real gains in the income of average pensioners experienced in recent decades can be expected to continue into the future. The purchasing power of the average pensioner of the future will be substantially greater than it is today – perhaps 50% higher in 25-30 years time than it is today. On average, these incomes are expected to hold their position relative to the earnings of the working population. However, the increase in inequality in pensioner incomes, seen in recent years, is expected to continue. There are two main reasons for the increase in inequality.

First, with the increasing prevalence of earnings-related pensions, inequalities which exist in the earnings distribution will be increasingly preserved in the distribution of pensioners’ incomes. The declining relative contribution of the flat rate basic state pension to pensioners’ incomes will reduce the compressing effect which retirement has on the income distribution. While inequality will increase by this effect, poverty will not necessarily rise. The second cause of the rise in inequality has greater repercussions for poverty. With the basic state pension tied to prices, the difference between the incomes of pensioners with and without a second-tier pension will increase over time. Under current policies and patterns of wealth holdings, the significant minority of individuals without non-state pension coverage, who tend to be those with lower lifetime incomes, cannot look forward to the real gains in retirement living standards which are anticipated by the majority.

8. SUMMARY AND CONCLUSIONS

The main empirical results
The pattern of results we have presented is a complex one. Not least because the relationship between ‘poverty’ and the use of local authority funded services differs to some extent depending on whether equivalent household income or receipt of income support is taken to be the most appropriate indicator. Nevertheless, some important conclusions can be drawn:

- There is no evidence of a relationship between either measure of ‘poverty’ and receipt of district nursing services;
- The most affluent elderly people are those who make the greatest use of private home help services;
Elderly people in receipt of income support are disproportionately represented among those admitted to residential or nursing home care.

The results that are most difficult to interpret are those concerned with the relationship between ‘poverty’ and the use of local authority funded community based services. To some extent the findings point in different directions depending on whether income support or household income quintiles are used to represent current material resources. People who report low incomes appear to use services less than might be expected on the basis of their disability and living circumstances. On the other hand there is some evidence that people in receipt of income support make rather more use of local authority services than would be predicted. Part of the explanation is because benefits and service receipt are linked through the social work assessment process.

We cannot provide a wholly satisfactory explanation for these findings with the data currently at our disposal. However, one possibility is that there are some perverse effects at work associated with the way in which fees and charges and means tests influence the demand and supply of different kinds of public and private services.

The consequences of changing wealth
Sections 3 to 6, based on evidence from the mid 1990s, discovered three types of difference between the better off and the poor in regard to the demand for long-term care.

- Source of care: The better off generally use privately funded social care services while poorer people use state funded services. This is the most clear-cut of our findings;

- Type of care: The poor are more likely to use institutional services, and possibly to be steered there earlier;

- Volume/quality: As far as the evidence goes, there is probably not much difference. The PSSRU residential/nursing home survey found private and publicly funded clients mostly sharing the same homes with no striking difference of care. However, the ECCEP data do suggest that poorer people may use small service packages than might be expected in relation to their needs.

These results are reflected in evidence based on changes through time. There have been national surveys of long-term care for elderly people going back to ‘The Aged in the Welfare State’ in the mid 1960s; and Section 2 reviewed evidence from studies in the early 1980s.

The main changes that have taken place have been linked by contemporary commentators to the growth in the number of elderly people and to changes in public policy, in particular (a) abolition of long-stay geriatric beds in NHS hospitals and (b) improved targeting of services in response to need, for example as part of the community care programme.
However, in certain respects these changes may be due improving financial resources among elderly people. In particular the last 20 years has seen a considerable growth in services that are privately funded. The proportion of disabled people who are receiving private domestic care has doubled since 1976.

What do these findings imply about the future? The analysis of trends in incomes in Section 7 concludes two things:

- Elderly people will get progressively better off (relative to the remainder of the population), as a result principally of the growth in earnings related pensions and in home ownership;

- There is however a risk of increasing inequality, particularly among the quite large minority of elderly people without earnings related pensions, whose poverty will become more severe than today.

Each of these in turn has implications for the future of long-term care:

First, the rise in wealth will create extra demand for privately funded rather than state funded care. It is also likely on past trends that an increasingly wealthy group will look to domiciliary rather than institutional forms of care as far as possible. This of course assumes that current policies regarding eligibility and charging for state subsidised care continue;

Secondly, the polarisation of wealth might in the long run present a threat to the state run service. It is arguable that the huge improvements in state provided services over the last quarter of a century, particularly in residential care, have arisen partly because these have been a universal service for the majority of elderly people with long-term care needs. A future limitation of state funded services to a poor minority, combined with rising costs, might present a danger of returning to a second-class service.

Is it practicable to quantify the effect of these changes? In principle there should be no difficulty through a long-term care forecasting model such as that of Wittenberg et al. (1998). But such a model would need to incorporate a specific element relating to assumptions about the changing wealth of the elderly. At present Wittenberg’s model does so in only a simplified manner, using trends in owner occupation. It might be extended so as to be able, for example, to consider the consequences of trends in income that have been forecast for example by the DSS Pensions Inquiry.
Footnotes

1. Throughout ‘pensioners’ will be used to refer to individuals at or above the state retirement age.

2. Based on income after the deduction of housing costs. Using income before housing costs the respective figure is 58%.

3. Investment income includes income from personal pensions.

4. In addition to the estimate of just under 60% owner-occupiers among the 55-69 age group given in Table 15, Banks and Tanner (1996) estimate a figure of 66% for the 60-75 age group in 1993.

5. 64% using before housing cost income and 70% for after housing cost income.

6. The respective figures using income before housing costs are 71% and 58%.

7. The equivalent figures for women are 24% and 28%.

8. These figures refer to weekly, current, net, equivalent, family income.

9. The proportion with personal pensions includes those who may not be contributing at present. Percentages do not sum to 100 due to rounding.

10. No change in take-up rates are assumed. The reduction, in part, reflects the increase in the female retirement rate which will reduce the total number of pensioner units.

Acknowledgments

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References


