PSSRU

Analysing the costs and benefits of social care funding arrangements in England: technical report

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1 Introduction

The funding of long-term care is highly complex and involves a range of different funding sources and funding organisations. It is quite common for a person's care needs to be simultaneously supported by funds from local councils, the benefits system, and their own income and savings. At present, public financial support is mostly subject to a detailed and complicated financial means-test, that assesses in depth applicants own financial situation. Once broad eligibility for financial support is determined, the amount of funding support that a person receives depends largely on the intensity and cost of the support they are assessed as needing. The latter is established after a detailed needs assessment. Moreover, the type of care that a person uses also affects the nature and level of funding support. There are at present, for example, separate funding rules for residential and non-residential care. The upshot is that overall older people end up paying a significant proportion – around a half – of total expenditure on social care out of pocket.

Funding social care services is likely to become more difficult in to the future. Underlying demand for care is set to rise significantly as a result of the ageing population and trends in chronic diseases. The price per unit of care service has been and is likely to continue to rise faster than general inflation. Although there is perhaps scope to improve the use of resources, the pressure to find more money looks to be significant. These resources will need to be raised from public funds, from the pockets of individuals and their families, or both.

A number of high profile reports have argued the case for reform of the current funding system, including the King's Fund Wanless Social Care Review (Wanless et al., 2006) and an inquiry by the Joseph Rowntree Foundation (Joseph Rowntree Foundation, 2006). These reports promoted a commitment by Government to produce a Green Paper to investigate these issues.

This report outlines the analytical work that was commissioned by the Department of Health to feed into the development of a Green Paper. It describes the methods and assumptions underlying the model used for analysing long-term funding systems. The paper gives details of potential and actual users of care, their levels of need, and their income and assets. It details the system of support available, the current funding arrangements and the benefits system. The report looks at costs and to the degree to which population need is being met. It concludes with an assessment of the current system.

Three considerations are particularly salient when assessing the case for reforming the funding of long-term care. First, how does the reform affect the benefits or outcomes of the system for its stakeholders (e.g. service users, informal carers, service providers)? Second, what are its costs implications – for the public purse and for individuals? Third, what is the distribution of these costs and benefits across the population? In other words, who stands to gain and who to lose from any changes?

The goal of the analysis is for these three considerations to be made in specific, quantifiable terms so that the *size* of changes can be assessed. This means not only determining the change in costs but also (and as far as possible) the changes in outcome. Importantly, these changes ought to be assessable at the individual person level as well as in aggregate terms, in order to assess the distributional effects of any reform.

2 The PSSRU micro-simulation model

These analysis requirements outlined above can be met with a *dynamic micro-simulation* approach. Our simulation model takes basic data about the observed population of older people in England and applies the rules and features of the current social care and benefits systems to determine what amount of help people in different circumstances would get, how much they would pay and so forth. The model is built around key basic data, including details of people's wealth, levels of need, rates of disability, health, housing tenure, household composition, socio-economic characteristics, etc. Since this model is applied to a real (sampled) population, the total predicted service use, benefit uptake, costs etc. can be aggregated to achieve national estimates. Having built and calibrated this baseline model, we can then explore the consequences of alternative policy reforms by modelling changes to the rules and features of the modelled care and support system.

The PSSRU dynamic micro-simulation (DMS) was developed from an earlier static micro-simulation model used for the Wanless Social Care Review which reported in 2006. This Wanless model used the English Longitudinal Survey Ageing (ELSA) for baseline data and focused only on people over 65. Due to certain limitations with this data (and in particular the relatively small sample size that was available), a new model was developed using the British Household Panel Survey (BHPS). The BHPS is a longitudinal survey that interviews the same people over time with replacement for people that drop out or die.

2.1 Rationale for a dynamic micro-simulation model

With a *dynamic* micro-simulation model in which people are 'aged' through time, we are able to understand the implications for individuals in society of alternative assumptions about key factors (e.g. rates of disability, people's wealth, policy scenarios) in the present as well as through time, which allows the analysis to describe people's 'care paths' in time.

Dynamic micro-simulations allow the analysis of longitudinal aspects of policy, such as the phasing in of a new care and support system. We can for instance explore the effects of reforms which assume 'transitional protection' of existing arrangements, whereby only new service users from the point of implementation are treated under new arrangements, and pre-reform arrangements are applied to existing service users.

A dynamic model is also especially useful for exploring the effect of funding systems on the possible draw-down of assets by service users, one of the central policy questions of the current care and support systems. A dynamic model allows us therefore to simulate how individuals' assets are depleted, giving information on the profile of assets used over time. The issue of asset depletion is most relevant for the over 65 user group who (in contrast with younger disabled people) in the main accumulate significant assets by the time they become dependent. Younger disabled people are far less likely to hold significant assets that could be used to pay for care.

Balancing the extra analytical benefits of a dynamic model against the significant additional development costs of such a model, we therefore decided to use a DMS only for the over 65 client group. For under 65s the same baseline model was used but only a static micro-simulation (SMS) version was used for the analysis.

2.2 Structure of the model

At baseline (2007), the approach distinguishes the following types of data or variables. First, there is baseline characteristics data as provided by the BHPS survey: e.g. age, sex, baseline wealth, baseline need, etc. A second type are 'policy-derived' variables, such as the type and level of care and support consumed, the amount of state funding received, and the size of out of pocket charges paid. These derived factors are calculated in the model using:

- rules and features of the care and support, benefits and tax systems (as laid down by current policy), and
- assumptions about rules underpinning people's behaviour, including estimates of how people adjust the amount of care they buy depending on the charges they face.

In the dynamic model most derived variables are also related to their past values, so that for example, a person that was in a care home in the past would be more likely to be in a care home in the present.

The sample used in the dynamic model is made-up at baseline of just under 30,000 people (over 65), pooling data from waves 3 to 15 of the BHPS.[1] For any given year, the model estimates the care and support requirements associated with somebody's circumstances. Dependency profiles are calculated on the basis on past health states and assumptions about present and future prevalence of disability (by age and gender). The level of care associated with different levels of need reflects broadly the average packages of care provided currently by local authorities, and depends on factors such as physical and mental health and the availability of informal support. The level of state funding provided varies depending on the resources of the person in need (i.e. income and assets) and the eligibility rules of the funding system assumed in the model. The impact on individuals wealth varies depending on the care contributions required of them. Individual people in the model are then aged by one year, and new levels of dependency, care support requirements and state and user funding contributions calculated. The probability of dying between periods in the model is estimated as a function of a person's characteristics, including age, gender and health state. The overall probability of death was adjusted to ensure that the population in the model evolved in line with the 2006 GAD population projections.

Two versions of the DMS are used.

- The first has population *replacement*, that is, a new sub-sample of 65 year olds is added to the sample every new period. This number of new older people 'borne' to the model is set to produce the right size of over 65 population (net of those who died) as projected by the Government Actuaries Department (GAD). In this way, the model can be run indefinitely into the future with a representative cross-section of the older people population. However, since the projections about future populations become less and less reliable the further into the future we look, it was decided to run the model for 20 years after baseline.
- The second version of the model does not have replacement, and so no new cohorts of 65 year olds are added every year. As a result, in this version of the model everybody in the sample has died approximately 42 years after the initial period. This version of the model is useful when we are only interested in seeing what happens to individual people rather than ongoing population totals.

People’s characteristic change as they age. If they survive from one year to the next, individuals in the sample can experience changes in their health condition, their marital status, living arrangements and in their income and wealth (independently of any effects of the care and support system). These changes through time are replicated in the model through a set of *transition probabilities* that, like the chance of death, govern how each person’s state through time. Transition probabilities are based on estimations of how these characteristics changed in the past (exploiting in particular the longitudinal nature of the BHPS) and assumptions about the future (e.g. interest on savings, capital gains or losses on assets etc.). Since most individual characteristics in the model are modified through time, transition probabilities are crucial to the results of the model because they affect the levels estimated of the derived variables through time.

Box 1 lists the main variables in the DMS model, distinguishing characteristics and derived variables. As noted above, most characteristics variables are modified through time. Derived variables also change through time depending on how people’s characteristics variables change and also directly on the past values of the derived variables themselves. For example, we assume that people that receive Attendance Allowance in the previous year also claim in the current year. Current wealth is given by past wealth plus the net difference between current income (including returns on assets) and outlays (including care and non-care expenditure).

Box 1. Variables in the model

Base need and socio-economic characteristics

Baseline:

- Age
- Gender
- Health/disability state
- Household composition and Tenure
- Marital status
- Availability of informal care by a surviving co-habitants (e.g. spouses) and by people living outside the person's home (e.g. grown-up children)
- Gross income sources and baseline assets (before care costs)
- Benefits (other than Pension Credit/Income Support and DLA/AA)
- Unit costs of services (including breakdown of care and housing costs)

Modified through time:

- Survival/death
- Age
- Disability state
- Housing composition – whether the person lives alone
- Marital status
- Informal care by co-habitants and by people living outside the person's home
- Unit costs of services (including breakdown of care and housing costs)

Derived variables#

- Derived benefits uptake – AA/DLA and Pension Credit – and expenditure on benefits*
- Total housing and non-housing assets at the individual level (including savings and draw-down of assets)*
- Need and assessment (FAC levels)*
- Informal care use*
- Service use and intensity: residential and non-residential; privately arranged and publicly-supported*
- Cost of service use: privately purchased (care and housing); cost of care top-ups on public care packages; public supported care and housing costs.
- Charges to individuals: private care fees, care top-ups payments, housing charges, charges made to the public system
- Net public spend in above categories
- Unmet need
- Net income and housing- and non-housing wealth (given care costs to individuals)*

These are variables that are directly depend on the set-up of the care system and would therefore be affected by any reform of the care system

* These variables depend on prevailing characteristics variables and past (or 'lagged') values of that variable.

3 Characteristics of the population

The main characteristics variables were determined at baseline and changed through time as follows. As outlined above, the model is either run for 20 years or until the baseline population cohort are all dead (for 42 years). For our purposes, we particularly identify the baseline year, the financial year ending 2007, the current period (FY to 2010) and also five years later (FY to 2015). As a shorthand, the convention in this report is that when a date is mentioned e.g. 2015, this means financial year ending 2015.

3.1 Age and gender

These variables were as given directly by the BHPS sample. Gender does not change through time and age changes on a yearly basis.

3.2 Mortality and need

3.2.1 Survival

Probabilities of death by age and gender are taken from GAD 2006 principle population projections, which provide the model with targets for yearly changes in 1-year-age and sex population groups. The model also reflects, however, that not all people within each age-sex group are equally likely to die. We generate a continuous mortality-risk severity score based on people's disability and need, their age and sex, their time spent in care and, importantly, a random component, on the basis of the results of survival models estimated from BHPS data. Based on these scores, individuals in the sample are ranked in terms of their estimated mortality risk (within their respective age and sex group). The required target number of deaths within each age/gender group is then achieved by eliminating first those individuals with the highest risk scores.

To counter very small sample size numbers at the extreme right tail of the age distribution, we truncate the age distribution so that no-one survives past 107 years.

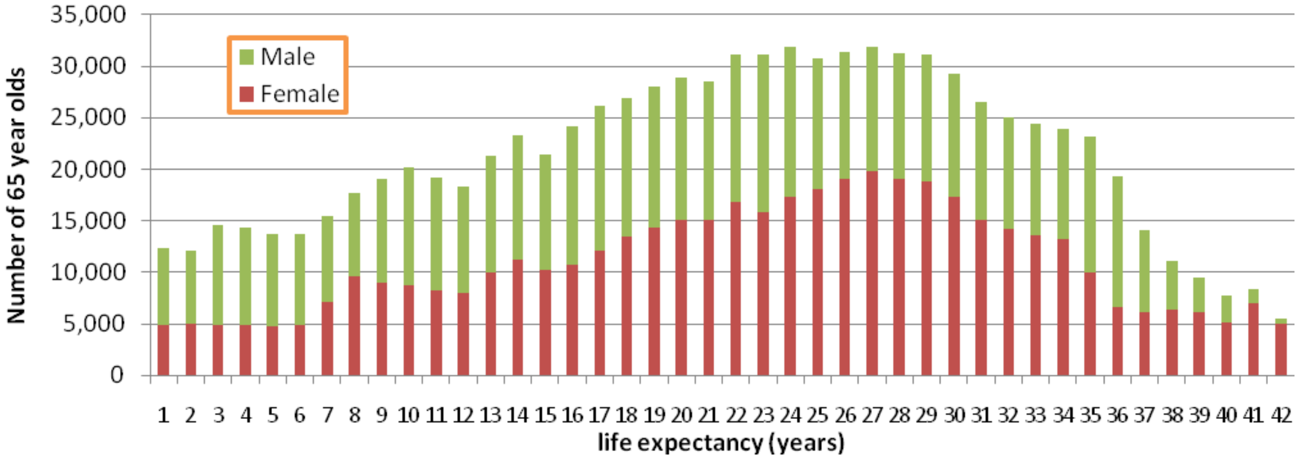
This method ensures that the total numbers in the sample (weighted to the England total 65+ population level) who survive corresponds to the published GAD population tables. However, the likelihood of dying in each age-sex group is also dependent on people's prevailing health (as indicated by their stated disability).

Life expectancy at 65 years old in the model (measured from the base year 2006/7) is given in Table 1 and the full distribution is given in Figure 1.

Table 1. Life expectancy at 65

	Mean	Median
Female	22.9	24
Male	20.5	21
All	21.7	22

Figure 1. Life expectancy at 65, by sex



3.2.2 Needs

A standard measure of a person's impairment (and hence need) is their ability to carry out activities of daily living (ADLs), such as dressing, feeding, walking and also 'instrumental' activities such as shopping and cleaning. The BHPS reports a variety of activity of daily living (ADL) problems that people experience and also whether people regard themselves as having long-standing illnesses that limit their usual activities.

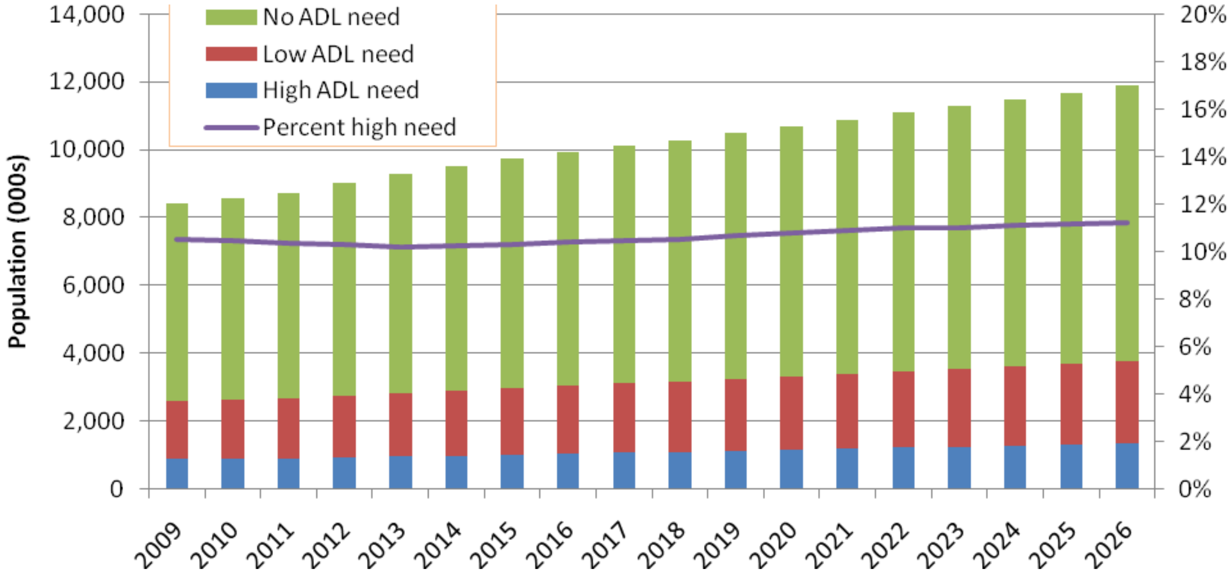
While the BHPS uses a subset of ADL indicators, including dressing, walking and housework, the English Longitudinal Survey of Ageing (ELSA) has a more detailed list. In order to achieve a finer distinction of disability levels amongst the population in the model, we used the relationship found between ADLs, age, gender and limiting long-standing illness (LLSI) in the ELSA survey to impute a 0 to 5 count of ADLs in the BHPS sample. This indicator is used as the main disability indicator, and is referred to as the person's *ADL need level*. We used previous service usage to improve the ADL count need measure. A count of ADL problems of this type has shown itself to be a good indicator of need as it relates to the use of social care (Wanless et al., 2006).

The disability measure therefore has six states (ranging from no problems to five ADL problems); their disability/need state can go up and down through time.

A key element of the modelling process is the assumption made about the extent to which the prevalence of disability among older people will change in the future. Following our previous work (Wanless et al., 2006), we assume constant age-sex prevalence of each need level in the population. This scenario approximates the case where falling incidence rates of chronic disease are offset by increasing life expectancy. In the same way as the mortality calculations, we estimate a target number of people in each of the six states. The dependency level for people in the sample is assumed to depend on their previous need level (the higher a person's previous need level, the greater their chance of being in a high need level for the current period, other things equal), their age and sex. In particular, we calculate a continuous need severity score for each person based on their previous need level, age, sex and a random component in each five year-age and sex band. People are then allocated to each of the six need levels in rank order of their severity score (the most severe in the highest bands) until the required number of people at each need level is reached for each 5-year age and sex group. This approach means that people with the highest risk of need are in the highest ADL need levels but that the total proportions of people with need in the population is held constant (within the year-sex groups). The dependency transition probabilities between years were also calibrated on the basis of observed transitions in the BHPS sample.

Figure 2 shows the size of the population in each of three categories of ADL need: none, low (one or two ADL problems) and high (three or more ADL problems). In keeping with the constant prevalence assumption, the proportion of the population in each category changes little through time.

Figure 2. Population by ADL need level, and percentage high ADL need, 2009–2026



The link between ADL need and mortality is strong. Table 2 shows the population in the model five years from now (2014/15) in each need group. The proportions remain largely constant through time as noted above. The table also shows the population in the model in their last year of life i.e. who die before the start of the next year. This population is predominantly in the high need category. With the assumptions made in the model, we see a mortality rate of nearly 25% for the high need group, falling to just 0.3% of the population dying for the no ADL needs group. For low needs people the mortality rate is much lower. A small proportion of people die relatively suddenly having not suffered a chronic condition before death.

Table 2. Need and mortality, 2014/15

ADL need	Total population (65+)		Population (65+) in last year of life		Mortality rate (%)
	N	Per cent	N	Per cent	
None	6,763,000	70	22,000	6	0.3
Low	1,965,000	20	96,000	26	4.9
High	1,002,000	10	246,000	68	24.6
All	9,730,000	100	364,000	100	3.7

Healthy life expectancy can be defined as the years from 65 until a person develops a care need. In this case we focus on the time before someone develops a high ADL need. Table 3 shows the years until the first period of high need for all people at 65 and then for only those people that suffer high need before death. The table also shows the number of years people are free of high need. This number is higher than the equivalent years to high need because some people recover to lower levels of need for a time.

Table 3. Healthy life expectancy (at 65)

	All people (65)		Only people (65) that develop some need before death		All people (65)	
	Years to high need	Number	Years to high need	Number	Years free of high need	Number
Female	17.4	239000	15.8	164000	19.6	239000
Male	17.2	225000	15.8	110000	18.6	225000
All	17.3	464000	15.8	274000	19.1	464000

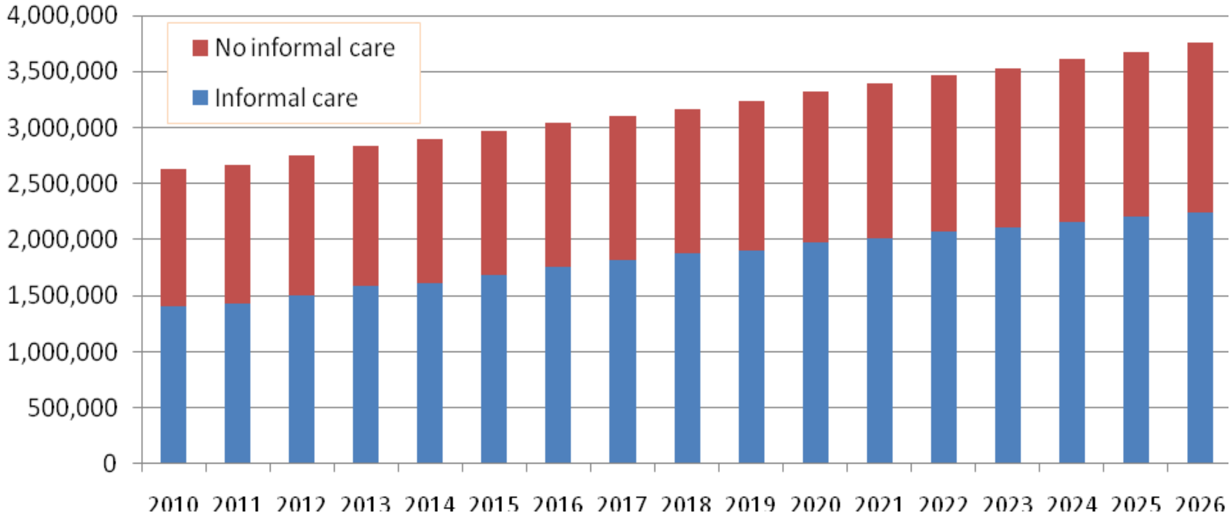
The central assumptions in the model mean that around 60% of 65s go on to develop some episode of high need before they die (70% for females, 50% for males).

3.3 Household composition, marital status and informal care

Whether a person lives alone and their marital status is sampled directly in the BHPS at baseline. A little over 35% of the older population live alone at baseline, and nearly 55% are married (including cohabiting). Informal care giving from identified household inhabitants to other members of the household is also recorded and allows the calculation of whether people receive informal care from co-habitants and the intensity of that care input. Informal care by people living outside the home was imputed using data from ELSA.

The change in informal care receipt through time is based on an estimation using BHPS of current year informal care on previous year informal care receipt and also on marital status and need level. The results give the likelihood that a person's state will change year-on-year from informal care receipt to non-receipt and vice versa. A randomiser is used with these probabilities to select which people changed state. This method is relatively straightforward to apply and works well for binary states (i.e. informal care or not). Table 4 shows that this method produces largely constant proportions of people with need in receipt of informal care through time.

Table 4. Informal care receipt – people with some ADL need



A similar method was used to determine whether for married people, their marital status changed through time. The main cause in this case is death of a spouse but can also be as a result of divorce. For simplicity among this age group we do not allow for people who are not married at baseline to become 'married'. For people living only with a spouse, a change in marital status automatically means that they are living alone from that time onwards. For people living with more than one other person, we assume that situation persists until they die. People living alone at baseline stay living alone until they die. These central assumption results in a largely constant proportion of the older population both living alone and being married at any given time.

4 Model outputs: derived variables

The derived variables fall into three categories: benefits variables, need variables and care service variables.

4.1 Benefits

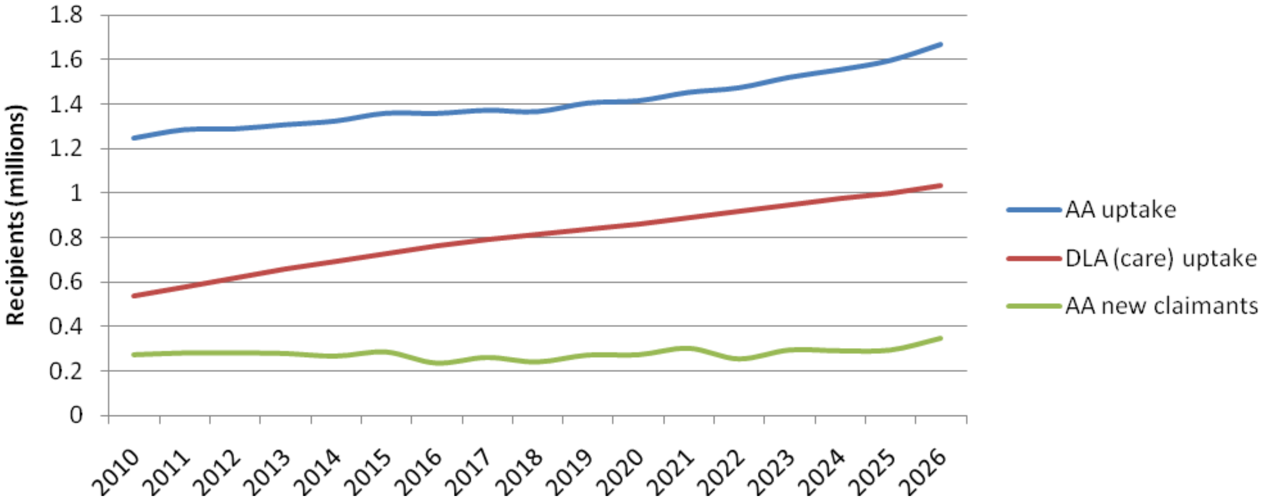
The BHPS asks people about whether they claim Pension Credit and/or Income Support and the amount they receive. These are critical variables because they are key elements in the means-testing rules that determine the amount of financial support that people receive towards their social care. To be able to explore uptake rates of these benefits and to look at how they interact with the social care system, in the model we apply the Pension Credit rules to people's circumstances to determine directly how much benefit each person receives (including zero benefit). In particular, this allows us to model the increase in uptake rates that occurs for people subject to means-testing for social care.

Attendance Allowance (AA) and Disability Living Allowance (DLA) are universal benefits that provide disabled people with additional income (see section 8.1.2 below for further details). Uptake of these benefits is also derived in the model. The BHPS records use of these benefits and we use this data to predict (using regression analysis) people's likelihood of claiming these benefits at baseline. The predicting factors are: need (activities of daily living count and limiting long-standing illness), age, gender, income and (non-housing) assets. This approach is used to ensure that AA and DLA uptake and spend correspond to published levels for these benefits. This correspondence is important because reform of the care and support system could include changes in spending on these benefits.

For estimates of future values of these disability benefits (i.e. after the baseline) we use a constant age-sex-need prevalence approach. In other words, the proportion of people claiming these benefits within each population grouping by age, sex and need remains constant through time. For Attendance Allowance, each year recipients will be those people that were in receipt last year plus new recipients in each population group required to maintain a constant prevalence. For DLA constant prevalence is maintained in new 65 year olds, with people over 65 continuing to receive this benefit if they were already in receipt (DLA cannot be newly claimed for people over 65 – who seek AA instead – but current recipients can continue after 65). For both AA and DLA, people in receipt in the past remain in receipt until they die.

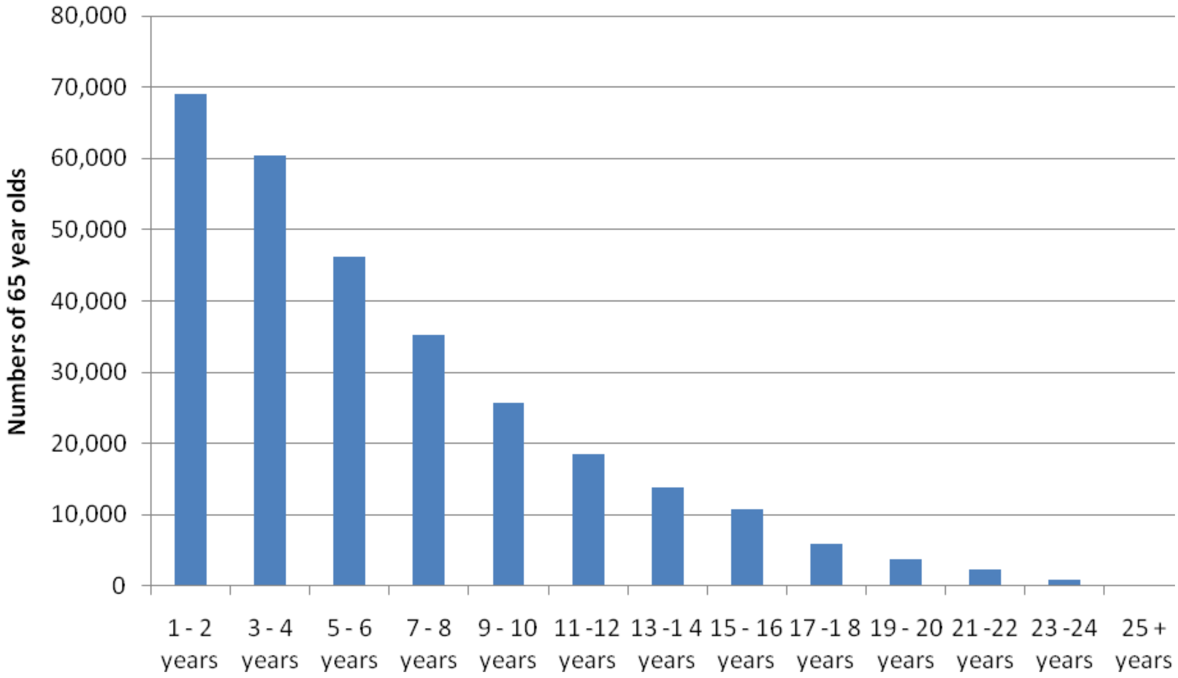
Table 5 shows the numbers of people claiming AA and DLA (care) projected in the model. Also reported is the number of new AA claimants in that year (i.e. people that did not claim in the previous year). Approximately 20% of current AA claimants are new claimants in that year. Overall, about 14.5% of the older population are in receipt of AA in any given year.

Table 5. Uptake of Attendance Allowance and Disability Living Allowance (care) in older population



The mean duration of receipt of AA for people from 65 to death is around 6.5 years in the model, with a median of five years. Figure 3 shows the distribution of durations in receipt. In the model just over 63% of people at 65 will go on to claim AA for at least some time before they die (this lifetime risk can be compared to the yearly prevalence of AA recipients of around 14.5% of the older population).

Figure 3. Numbers of 65 year olds, by time in receipt of Attendance Allowance



As noted above, (ADL) need is a strong risk factor in explaining the receipt of AA. The results of the regression modelling on the BHPS sample show that people with low and high need are much more likely to be in receipt than people with no reported need. On the other hand, the data do nonetheless suggest that people with zero reported ADL need do have a small but not negligible chance of being in receipt. Moreover, since the population size in this zero ADL group is comparatively very high, the totals numbers of recipients in any given year with zero reported ADL need is relatively large. Figure 4 shows uptake (the bars) and recipient numbers (the line) for 2009/10 for people by ADL need.

Figure 4. AA uptake rate and numbers in receipt, by ADL need (ADL count), 2009/10

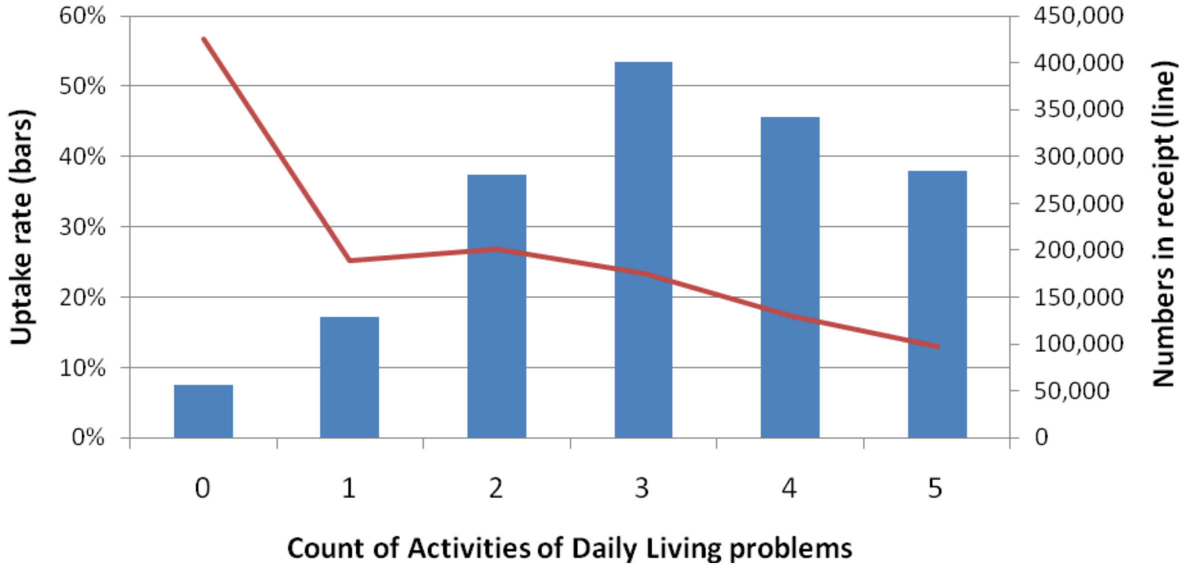


Figure 5 reports the analysis of the relationship between AA uptake and (pre-benefit) income. Two relationships are shown – one accounting for the (inverse) relationship between income and need and the other without this adjustment. Both analyses indicate that wealthier people are less likely to claim AA than poorer people, but also that very wealthy people still show a significant propensity to claim (at over a 10% rate compared to the whole population average of 14.5%).

Figure 5. AA uptake rate, by income deciles, 2009/10

4.2 Assets and income

Home ownership rates and the value of housing assets are given for the baseline year according to the values in BHPS and calibrated with data from the English Longitudinal Survey of Ageing (ELSA). Non-housing assets are determined in the same way. For new people (65 year olds) entering the sample in future years, both housing and non-housing assets are assumed to be 2% higher in real terms than 65s in the previous year. For people ageing in the sample after the base year, the following processes affect the size of asset values.

- First, spend-down of assets where spending in that year to meet care costs and other costs-of-living exceeds income.
- Second, savings from any remaining income (after costs) are calculated at a rate given by analysis of the BHPS. These are added to the current non-housing assets total and accrue a 2% real rate of return.
- Third, capital gains accrue to remaining housing assets (also at a rate of 2% real).
- Fourth, people are assumed to make non-care-related draw-downs of assets at a rate of approximately 5% per year (although it is modelled in a non-continuous way).

These processes were specified to produce a profile of asset holding that matches people in the BHPS. The rate of change in these processes is assumed to be constant through time.

The PSSRU microsimulation modelling distinguishes benefits income, pension incomes and other incomes. For new 65s in the sample, all income is assumed to be 2% higher in real terms than 65 year olds in the previous year (analogous with the treatment of assets). For people ageing in the sample after 65, income related benefits income (i.e. Pension Credit) is assumed to increase by 2% (in line with increases in earnings). Disability related benefits are assumed to remain constant in real terms. All other benefits increase at 2%. Pension income is also assumed to increase at 2% real (from 2007 as a simplifying assumption, rather than from 2012). Earnings income is assumed to fall (by an average of 5% per year to reflect older people dropping out of the workforce). All other sources of income are assumed to remain constant.

4.2.1 Assets

Non-housing assets include all forms of savings and assets other than the person's own home. For example, they include other properties, cars, personal wealth such as valuables and all forms of savings (bank accounts through to stocks and shares). Housing assets are the value of people's own home (domicile property). For the analysis we calculate the assets of either individual people – where people live alone or do not live with a recognised partner – and the assets of couples divided equally between the two people. This latter specification therefore creates a pseudo-individual level asset total for couples. The rationale is that the social care means-test treats the assets of a married (or legally partnered) person needing care as equal to half the couple's total asset holding. In actuality, married people tend to hold assets in both individual and dual names. Furthermore, the head of the household (usually the man) holds a higher value of individual assets than the spouse. The result is that the sum of individual and shared dual-named assets is greater for men than for women. In practice, disentangling asset ownership is difficult and so the half-of-total rule for couples is a useful convenience. In any case, taking an average of asset holdings of individuals calculated in this way provides the same number as the average of actual individual level holdings when taken over the whole 65 population.

The value of assets is extremely skewed (in the BHPS and other surveys), with the richest 10% of people in the asset distribution holding more than half of the total asset value of the whole (over 65) population. Table 6 reports the mean and median level of non-housing assets of people in the whole population, and by ADL need group. The median holding is £8700 per individual (a far more meaningful number given in skew) with the mean at £35600. People in high need groups have significantly fewer assets than people without disabilities.

Table 6. Non-housing assets (2009/10), by need group, whole population

Need group	Mean (£s)	Median (£s)
None	38000	10100
Low	30200	6800
High	30600	5600
All	35600	8700

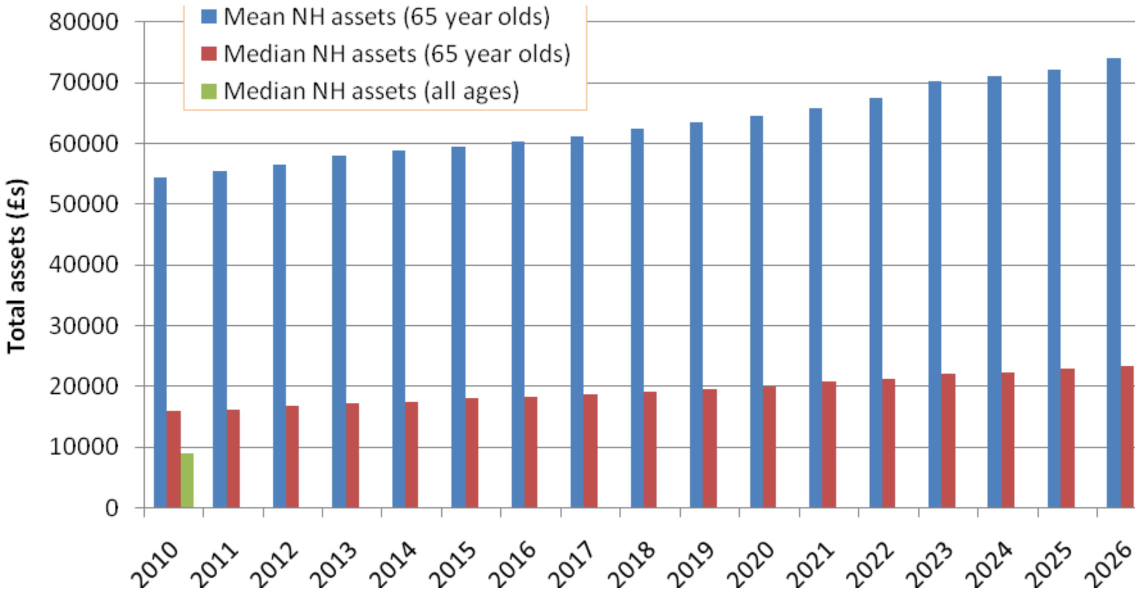
The skewed nature of the asset holdings is demonstrated in Table 7, which shows the average level of non-housing wealth for ten groups of people ranked from lowest to highest wealth.

Table 7. Non-housing assets (2009/10), by NH wealth decile, whole population

NH Wealth decile	Mean asset holding (£s)
1	0
2	600
3	1800
4	3800
5	6900
6	11500
7	18600
8	31200
9	58300
10	225800

Figure 6 shows the change in non-housing wealth of people at 65 through time. Non-housing wealth is not shown for all age groups because it will be affected by the nature of the care and support system that is in place. Although not constant, this trend increases by an average of 2% in real terms between 2010 and 2026 (a 37% increase). The increase in the median level is slightly higher at 46% over the period.

Figure 6. Non-housing wealth (per individual) – various years, population at 65 and all older population



4.2.2 Income

Net (total) income (i.e. gross income less any taxes) of older people in the model in 2009/10 is estimated to have a mean of £230 p.w. and a median of £200 p.w. Net income includes pensions, benefits, work, asset return and other income. Two sets of benefits are particularly relevant for older people with care needs – Pension Credit and disability-related benefits such as Attendance Allowance. Table 8 reports net income and also net non-benefit income which is net total income less pension credit and disability-related benefits (but not other benefits). Before these benefits, net income is lower for people with higher needs. However, higher needs people are also more likely to qualify for and claim high levels of pension credit (especially the severe disability premium) and disability-related benefits. Our estimates suggest that these benefits are sufficient to restore some equality of income between the needs groups in the population.

Table 8. Net total and net non-benefit income per week, 2010, by need

	Net (total) income		Net non-benefit income	
Need	**Mean**	**Median**	**Mean**	**Median**
None	230	190	220	190
Low	230	200	200	170
High	230	210	180	160
All	230	200	210	180

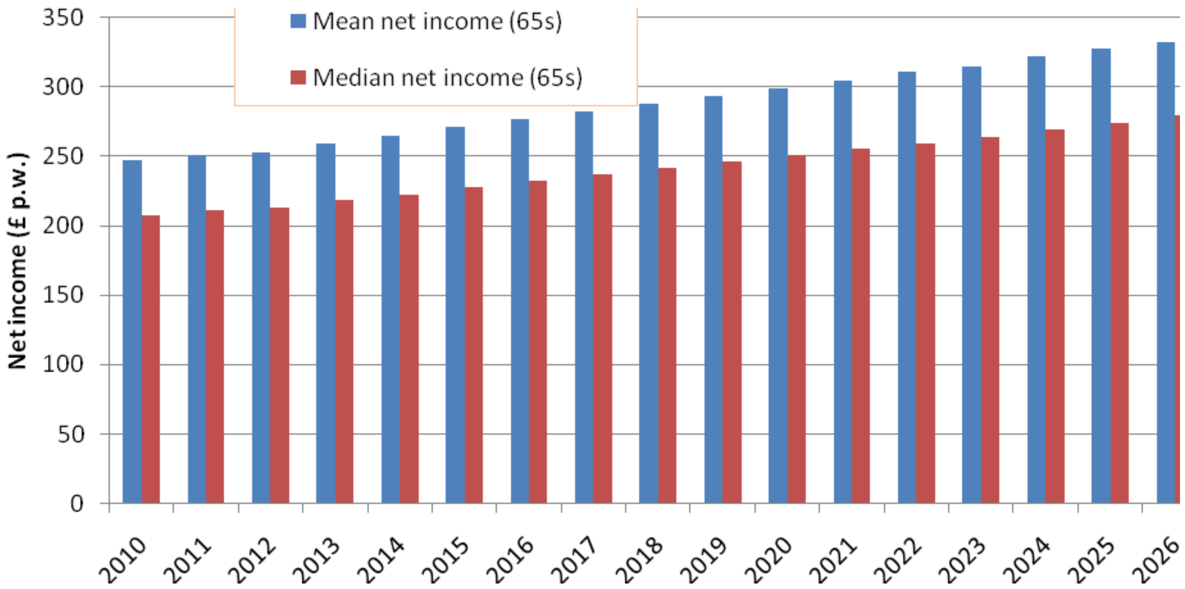
The income of people over 65 (as represented by the people in the model's BHPS sample) is also skewed. Table 9 shows net income by income quintiles. Pension Credit (in particular) and disability-related benefit income is higher for the lower income quintiles.

Table 9. Net income per week – by income quintile (2010), total and non-benefit

Income quintile	Net total income (£ p.w.)			Net non-benefit income (£s p.w.)	
	Min	**Mean**	**Max**	**Mean**	**Difference between total and non-benefit (%)**
1	0	100	130	70	30
2	130	150	170	130	13
3	170	200	220	180	10
4	220	250	300	240	4
5	300	450	8130	440	2

Figure 7 shows the change in net income of new 65 year olds into the model on central assumptions regarding the future. In this case, the increase in incomes averages around 2% per year. The mean net income of people at 65 in 2010 is slightly higher (at £250 than the over 65 population mean).

Figure 7. Net income, 2010–2026, mean and median – for 65 year olds



Where the care and support system is means-tested (as it is to a substantial extent at present), people's pre-care income and assets are an important determinant of how much financial support that people receive. In turn, however, the resultant charges that people pay for care and support will influence how they have to draw on assets (given their income) which will affect their eligibility for financial support from the public system in the future. Developing care needs that entitle people to claim Attendance Allowance also gives them an entitlement, generally speaking, to enhanced levels of Pension Credit. Overall, the long-term (i.e. lifetime) impact of care costs on (residual expenditure) and assets is a highly relevant part of any assessment of the reform of the care and support system (see section 9.3 below).

4.3 Care service utilisation

The amount of service and support any individual person actually uses in the care system will depend on their assessed level of need and two 'tests': a needs-test and a financial means-test. The assessment is based on professional practice but the needs- and financial- tests are mechanisms to ensure that public expenditure falls within budget. The needs-test at present controls expenditure by limiting access to the public system. Each person is assessed to determine their level of need. Councils then set a needs-eligibility threshold; people with needs assessed at below this threshold do not receive support. The financial test depends on the funding arrangements in the system. We consider these in detail in section 8, but here we can think of the test as (a) limiting support to people with low levels of wealth and (b), by levying a charge on people, limiting public expenditure and also giving people who face charges an incentive to delay or reduce their service use.

In the model these steps are disaggregated. We calculate the basic amount of support, which is determined only according to people's needs. After applying the needs test, we determine a potential amount of care and support for each person. The public system *care offer* is the amount of support after applying the needs test and any exclusions for public support specified in the financial test. The financial test will also specify care charges. The *actual* use of services is determined after allowing for the response of individuals to charges.

4.4 Need

4.4.1 Assessing need

Current practice in social care is guided by the DH *Fair Access to Care (FAC)* framework (Department of Health, 2002). The framework defines 4 categories of need or *FAC levels*: critical, substantial, moderate and low. People are assessed and placed into one of these 4 levels (or no needs). These levels are then used as a basis for allocating resources as outlined below. The model uses data on the uptake of publicly-funded services using BHPS, the Health Survey for England (HSE) and the General Household Survey (GHS) to estimate FAC levels as derived from ADL need, age and access to informal care (especially from cohabiting carers).

Table 10 reports the numbers of people in the model that fall into each FAC level, as based on their severity of impairment, but before any consideration of their informal care situation (using the regression modelling results).

Table 10. Fair Access to Care groups
(before informal care considerations), 2010

FAC level	Number (65+)
Critical	933,000
Substantial	471,000
Moderate	391,000
Low or none	6,762,000

The correlation between ADL need (measuring impairment) and assessed FAC level is high as we would expect – see Table 11.

Table 11. Relationship between ADL need and FAC levels – 2010.

ADL need (count)	FAC Need			
	Critical	Substantial	Moderate	Low (or none)
1	0%	0%	23%	92%
2	3%	50%	72%	8%
3	24%	40%	4%	0%
4	36%	10%	0%	0%
5	38%	0%	0%	0%
Any	100%	100%	100%	100%

The availability of informal care has an important impact on the numbers of people who have any potential need for formal care services. Informal care effects work in two ways. Some people with impairment will have high levels of informal support and so would not approach social services. Some others might be formally assessed but their FAC need would be reduced (in to the low or none category). We describe these as people with *full* informal care. Table 12 gives the numbers of people in need when informal care is assessed.

Table 12. Fair Access to Care eligibility groups (including informal care considerations), 2010

FAC eligibility (simulated)	Number (65+)
Critical	647,000
Substantial	321,000
Moderate	257,000
Low or none	7,330,000

4.4.2 Needs assessed levels of support and unit costs

We can directly map between a person's level of need and the amount of care they would (hypothetically) receive under the current system in the absence of resource constraints. The model distinguishes between care home and community-based services at this stage. It defines a need for a care home placement based on analysis of relevant risk factors, including ADL need, age and living arrangements. In the main, potential care home residents are the most dependent (e.g. around 80% are in the critical FAC band).

We use a simplified model of care home placements in the model in that the costs of a care home package are assumed to be the same for all people. These costs include both hotel costs and care costs. Table 13 gives the costs of care home placements per week (including care and hotel element) and also the hotel charge separately. For example, total care home costs in 2009/10 were £500 per week including £267 hotel costs. The distinction is important because different care and support funding systems might wish to treat housing costs in care homes in an equivalent way as housing costs that people face in their own homes (Wanless et al., 2006).

The table also gives the unit cost of community care services as measured in units of an hour of contact time or equivalent.

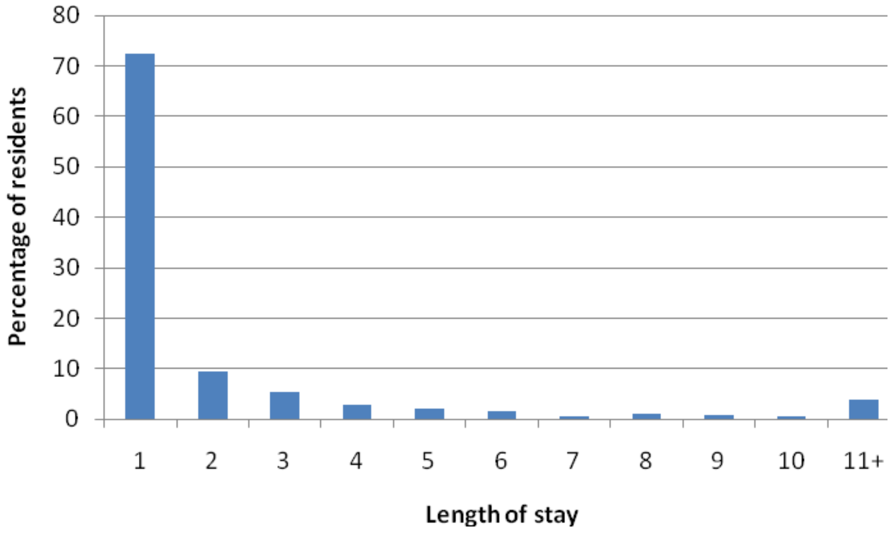
Table 13. Unit costs of services

Year	Care home charge £ per week	Hotel charge £ per week	Community care £ per hour
2010	499.8	266.7	15.2
2011	509.8	272.0	15.5
2012	520.0	277.4	15.8
2013	530.4	283.0	16.1
2014	541.0	288.6	16.4
2015	551.8	294.4	16.7
2016	562.9	300.3	17.1
2017	574.1	306.3	17.4
2018	585.6	312.4	17.8
2019	597.3	318.7	18.1
2020	609.2	325.0	18.5
2021	621.4	331.5	18.8
2022	633.8	338.1	19.2
2023	646.5	344.9	19.6
2024	659.4	351.8	20.0
2025	672.6	358.8	20.4
2026	686.1	366.0	20.8

In assessing the total cost that an individual would have to pay for residential care we also need to know their length of stay in the home. Compared with establishing the total number of people in care homes at *any given time*, estimating how long over time different people stay in care homes is far more difficult. And yet, for individuals, length of stay is a source of considerable cost risk. A 10-year stay in a care home from 2010 in the model would cost £285,000, for example, and would obviously have serious implications for the spend-down of that person's assets were they to be liable for the cost.

The difficulty in estimating this number stems from the requirement to run long-term longitudinal research that follows people through time. We draw on PSSRU research as the best source but this is now becoming somewhat dated, whilst in the meantime the average level of dependency of people in care homes has increased with the corresponding likelihood that average length of stay will have fallen. The relevant assumptions in the model – based in this research – produce a mean length of stay of two years and a median length of stay of one year. Figure 8 shows the distribution of care home residents by their lengths of stay.

Figure 8. Lengths of stay in care homes



People that get community-based care (i.e. do not go into residential care) potentially receive a formal care package that varies according to their: ADL need, age, living alone (as a proxy for informal care), age, gender and whether the person has limiting long-standing illness. The first three factors are the main ones. Throughout the analysis we are concerned with inputs required for personal care needs. (Practical care needs – that may or may not be higher due to disability – are not covered – see Wanless et al., 2006)

The size of the care package is assessed in community-care hour equivalent units per week and the unit costs in Table 13 above are applied to produce a community care package in cost per week terms. Table 14 gives the average weekly potential care packages in £s per week i.e. the amount regardless of FAC eligibility, budgetary or full informal care considerations. In essence this is a measure of a person's need in cost-equivalent terms summarising the net effects of ADL need, living arrangements and age. For example, the mean package per week of someone with five ADLs, living alone and over 85 is £210 per week. Whilst this figure does not include people with full informal care (which reduces the formal care need to zero), it does reflect an informal care input that complements formal support that people might get from cohabitants. The amounts in the columns for people living alone can be interpreted as the total value of required caring inputs (under the current system), regardless of whether addressed through formal or informal support. We should also note that this is just the personal care element and that these are mean figures (and so hide substantial variation person-to-person).

Table 14. Need-indicated community-based care inputs (mean) £s per week, 2010–by ADL need, living alone and over 85

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	50	55	85	88
2	59	65	99	102
3	72	77	116	117
4	98	103	152	153
5	138	142	209	210

In addition, the model assesses whether people need one-off pieces of equipment, and these are valued at around £600 per year (equivalent) in the model.

5 The needs test and the care ‘offer’

The above amounts of formal care support are indicative levels only i.e. those levels of care that would be received if there were no overall budget constraints and all people with any disability received formal care support. In practice councils are budget constrained and therefore need a method for allocating support to people. To do this, councils set eligibility thresholds relative to the FAC levels described above such that people with needs that are greater than the threshold level are eligible for public-funded support (although they are then tested with regard to their financial means) (Forder, 2007). For example, many councils currently support people with critical or substantial needs. In the micro-simulation model, the eligibility threshold has two components: first which FAC levels are completely supported and then the proportion of people within the next lower level. At present, 100% of people in critical and substantial levels are eligible and also 33% of people in the moderate needs level.

Eligibility thresholds are a form of *needs test*, which in this case, rules out lower-need people in the population from getting public support. It leaves the number of people that are FAC eligible and this number is estimated at 1.3 million in 2010. Whether this subset of people actually do get public support will also depend on the form of any *financial means-test* that also applies.

The number of people who are FAC eligible (passed the needs test) can also be assessed as a proportion of the whole population with any ADL need. The result is shown in Table 15 and confirms that an eligibility-threshold form of needs test reduces access to public support among the low needs groups (this table excludes equipment only recipients).

Table 15. Probability of access to care, 2010 – by ADL need, living alone and over 85

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	0%	0%	2%	36%
2	14%	43%	76%	99%
3	65%	68%	100%	100%
4	71%	74%	100%	100%
5	81%	80%	100%	100%

The amount of care assessed for FAC eligible recipients will vary according to their assessed need characteristics. Potential levels of care – before the application of the needs test and exclusions due to full informal care – are as given in Table 14 for community care and Table 13 for care homes. Once these considerations are applied, the amount of public support for affected people (mainly low need people) drops to zero. Including hotel costs of care home placements and equipment costs, the total cost of supporting people who are FAC eligible i.e. after the needs test is just less than £14.1bn in 2010. Table 16 gives the break-down of the total and Table 17 gives the average across the whole over 65 population (note that other needs factors also apply).

As a shorthand, we describe this amount care received by FAC eligible people as the *normative* package of care.

Table 16. Total care-offer cost of care for FAC eligible people, 2010 – by ADL need, living alone and over 85 (£bn p.a.)

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	0.15	0.00	0.66	0.31
2	0.30	0.04	0.96	0.45
3	0.42	0.09	0.85	0.48
4	1.08	0.21	1.84	0.93
5	1.14	0.54	2.20	1.42

Table 17. Average potential cost of care for FAC eligible people, 2010 – by ADL need, living alone and over 85 (£s p.w.)

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	4	1	35	72
2	20	34	105	116
3	59	63	154	146
4	184	177	359	323
5	299	297	455	417

In the model, the normative level of care varies only with people's need characteristics, including their receipt of informal care.[2] It comprises the determination as to whether people gain access to the system (i.e. are eligible for any support), what form of support (care home or other) and the level of support (over their lifetime). These processes are all conducted as part of the assessment and needs test. To re-iterate, these are potential amounts. The actual amount of support people get will also depend, not only on their needs, but also their financial circumstances as dictated by the financial means-test in operation in the care system. The model is designed to investigate different financial means-tests (i.e. different funding systems), holding the needs-test constant. So the starting point for the application of any funding system for care is that all people in the population receive the normative level of care according to the application of the same current needs-test. For example, we could assess the implications of moving to a free personal care model of funding (as used in Scotland) and the starting point would be the same.

To illustrate this, if we imagined a hypothetical financing system that levied zero charges on all people that are FAC eligible (i.e. passed the needs test) and where people have no desire to top-up on their care offer, then eligible people would receive the benchmark normative care described in the above tables. The costs of the system would be £14.1bn for eligible people (and this cost would fall entirely on the public system). People that are not FAC eligible – because their needs fall below the need-test threshold might want to buy care privately, but would face the full costs themselves. So for non-FAC-eligible people we might see an additional private spend, but this amount would be additional to the £14.1bn public cost.

Now if a different financial system were in place – one where FAC eligible people do face charges, then there is a chance that people would not want to take the full care offer – because they were unable or unwilling to pay for it. In this case, despite the same care offer for FAC eligible people (the £14.1bn), people would take less care. Indeed, under some systems, the financial rules may mean that FAC eligible people may not offered any public support – they pay the full costs of care. So although the offer is the same, the actual amount of care used by FAC eligible people would be different. Non-FAC-eligible people would operate in the same way as before, because they can only buy care outside the system (i.e. privately) anyway.

The way that people respond to the charges they face in the model depends on the behavioural assumptions we make. These are outlined below in section 6.

5.1 Altering the needs test

The needs test outlined above is specified in the model to reflect current practice as far as possible. As will be described in what follows, when the current funding system is applied, the model produces results that correspond closely with current costs and utilisation.

A central theme of the Wanless Review, nonetheless, is that this current assessment and needs-testing practice may not be the best arrangement. Indeed, with an application of an outcomes-based approach to assessment, the normative package of care changes quite significantly from its current form. Since we are concerned here with the implications of different funding systems, and that the same care requirement is used for the alternatives, the scale of the differences that result from different funding systems is not directly affected by the nature of the needs-test. It is important, however, to caveat that a change in the needs-test to those suggested in the Wanless Review would indirectly affect the funding system comparison results.

5.1.1 Carer blind scenario

The current needs test centrally recognises the level of informal care support that is available to people. Indeed, where informal care inputs are high, the (formal) care offer is low. This situation carries all sorts of assumptions about the willingness and ability of carers to provide this support. An option is to modify the needs test so that it is less dependent on carers; in other words to make the assessment rather more 'blind' to the current input of informal carers.

In the model, simulating carer-blindness can be achieved by removing account of informal care when assessing FAC level. This will place people with informal care into the same FAC levels as people without informal care, other things equal. The more difficult part of configuring a carer-blind system is in estimating how the number of people that currently have full levels of informal care – such that they do not receive any formal care – would change. People that actually approach social services but due to high levels of informal support are assessed as needing no formal care should now qualify for full formal care support. However, there will still be people that *choose* not to approach services, an option available to them because they have high levels of informal care. We make an assumption that effectively treats 70% of people with full informal care still choosing not to approach informal services (even though they would be assessed as needing formal care, although would likely face charges for that care). In other words, the model is not completely carer-blind; people with informal care are still likely to receive less formal support on average even though the difference is much reduced compared to the carer-sighted option.

Under the carer-blind option the number of people passing the needs test would be 1.6m, including people just receiving equipment, rather than 1.3m under the carer-sighted option above.

When assessed as a proportion of the whole population with any ADL need, the difference between number of people who are FAC eligible and live alone and those that live with others is reduced – see Table 18.

Table 18. Potential chance of access to care, 2010 – by ADL need, living alone and over 85 (carer-blind)

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	7%	24%	7%	39%
2	63%	69%	76%	99%
3	92%	94%	100%	100%
4	99%	98%	100%	100%
5	100%	100%	100%	100%

Table 19 gives the total potential cost of the carer-blind normative package, which increases from £14.1bn in 2010 to £16.7bn. The new averages are given in Table 20 and although not the same between the alone and not-alone groups are far closer than before.

Table 19. Total potential cost of care for FAC eligible people, 2010 – by ADL need, living alone and over 85 (£bn p.a.) (carer-blind)

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	0.46	0.06	0.70	0.31
2	1.07	0.09	0.98	0.45
3	0.86	0.18	0.86	0.49
4	1.49	0.28	1.85	0.94
5	1.37	0.66	2.20	1.42

Table 20. Average potential cost of care for FAC eligible people, 2010 – by ADL need, living alone and over 85 (£s p.w.)

	Not Alone		Alone	
ADL need	**Less than 85**	**Over 85**	**Less than 85**	**Over 85**
1	13	28	36	73
2	72	77	107	117
3	119	120	157	147
4	255	239	360	325
5	360	363	455	417

5.2 Lifetime risks and costs

The cost implications of the current (carer-sighted) assessment and needs-test as estimated in the model were described in population cross-sectional terms above, that is, the cost of the whole population in a given year (see Table 16). It is also useful to consider the expected cost of care at the *normative* level over a person's remaining lifetime (i.e. before applying the financial means-test). This number is the sum of care costs for each year of life that a person is expected to live. We make this judgement for people at 65 years old.

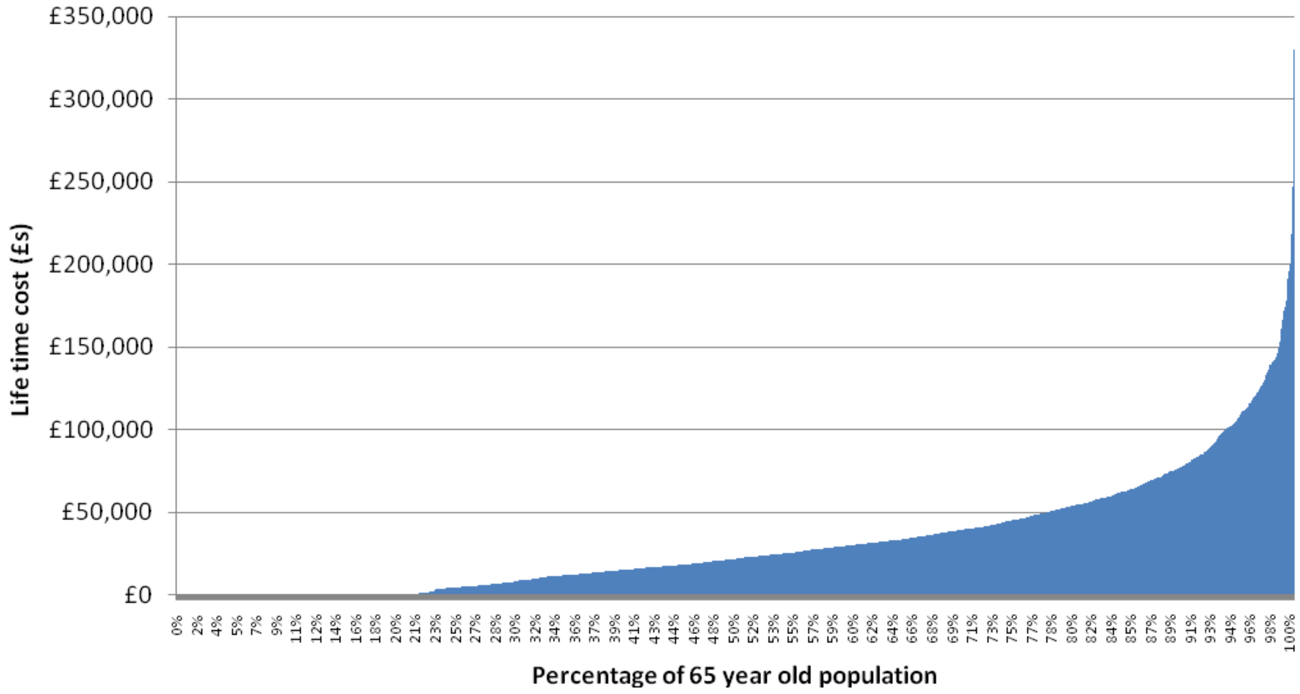
Table 21 reports the average risk of needing care and the cost over a person's lifetime at 65. For example, 65 year old males have a 68% chance of potential (FAC eligible) need before they die. As indicated in section 3.2.2. this need is likely to occur in the last year or two of life. Females at 65 would on average require £40,400 of care before they die, although the underlying distribution is highly skewed, with the mean cost pulled up by a very small number of very high cost cases. The median cost is £30,100.

Table 21. lifetime expected risk of needing care and expected lifetime cost – at 65 years old

	Probability of (FAC eligible) potential need		Lifetime expected cost	
	Only recurring	Recurring and equipment	Mean	Median
Female	0.85	0.90	£40,400	£30,100
Male	0.68	0.78	£22,300	£13,800
All	0.76	0.84	£31,700	£21,400

Figure 9 shows the distribution of costs for all 65 year olds in the model sample. A quarter or so have either zero cost or just an equipment cost need. The next 65% of the population have steadily rising costs. The last 10% have very high costs – mostly long-stay care home residents.

Figure 9. Lifetime expected cost of care at 65 years (£s)



Lifetime costs for current 65 year olds are also relatively high because their care need develops a good way into the future (e.g. in 25 or more year's time) by which time real unit cost inflation becomes very significant. We assume in the model a 2% real increase. This means, for example, that a £500 per week care home placement in 2010 will cost £820 per week in 35 years time in real terms (when a 65 year old would be 100 years). If we applied a 0% real cost inflation assumption, by contrast, the mean lifetime cost would fall from £31,700 to £21,100.

Lifetime costs also change significantly with age. Older people are more likely to develop care needs in any given year but with a shorter life expectancy have fewer years left to experience this risk. Much will depend on the time at which care needs develop in the life course (i.e. how close to death). Figure 10 shows the distribution of lifetime costs by age group, with the top figure showing costs including real cost inflation and the bottom graph with zero cost inflation. The results suggest that care costs are concentrated in the final few years of life although the mean figures can get distorted by a small number of younger people experiencing very long lengths of stay. Older people are more likely to be already experiencing a care need and so will only have part of the length of stay to cost before they die. In other words, an 85 year old is likely to already have spent some time in receipt of care and so we are only counting the costs of care remaining in their life.

Figure 10. Distribution of lifetime cost – by age group

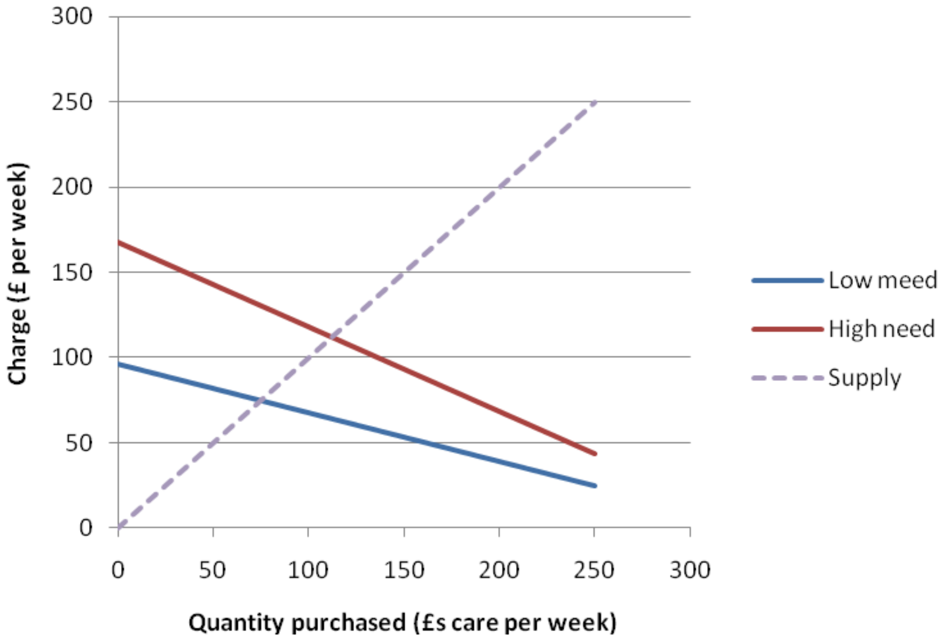
6 Behavioural assumptions

People value care and support to different degrees. People with high levels of need will, as a rule, pay more to secure care than people with low levels of need. Rich people are generally willing and able to pay for more care than poorer people. Analysis of the English Longitudinal Survey of Ageing, as outlined in the Wanless Review, was used to give all people a set of preferences regarding how much they would pay privately for different levels of care, preferences that vary by their wealth and need characteristics. These preferences define a person's demand functions for care i.e. the relationship between the amount of care people would demand for different charges. In the model we use a two-step demand process. People decide whether or not to buy care at all (given the charges they face). Then, if the system allows people the choice, people that wish to buy decide how much.

The financial rules in operation in the care system will determine the relationship between the cost of a care package and the amount a person is charged for that package. To take a straightforward example, suppose the care system is purely private: that is,people face the full costs of care themselves. In other words, each £1 of care they buy costs them £1. This supply charge relationship can be mapped onto demand to give the amount that a person with given characteristics will buy privately (i.e. when demand at the given charge equals supply).

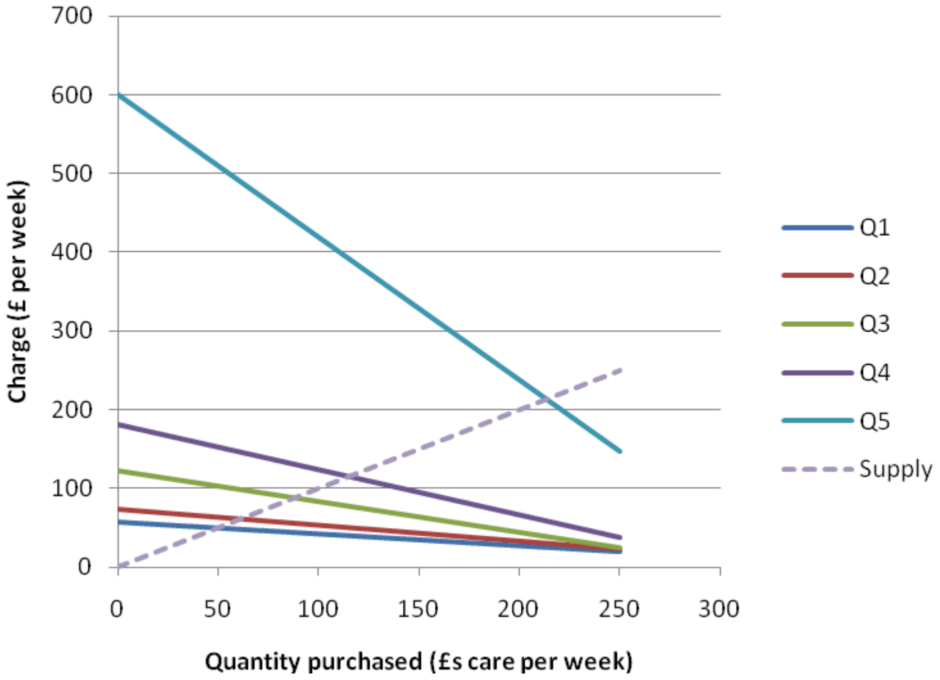
Figure 11 illustrates the quantity- (step-two) demand functions used in the model. In this case, we distinguish between demand by people with high and low ADL need. In view of the difficulty in estimating these demand functions, we use simplified linear versions. In a private market, the average high need person would buy £112 of care per week (where the amount demanded equals the amount supplied). A low needs person would buy £75 worth of care.

Figure 11. Demand and supply for care – private purchase, by need group



The actual relationships in the model are more complex than the averages shown above. We assume a range of preferences (that vary with wealth and need). Figure 12 shows demand functions for the population divided into five quintiles according to strength of preference for care. Quintile 5 (Q5) people have the strongest preference (being the richest and highest need group) and would buy significantly more care than quintile 1 people, for example.

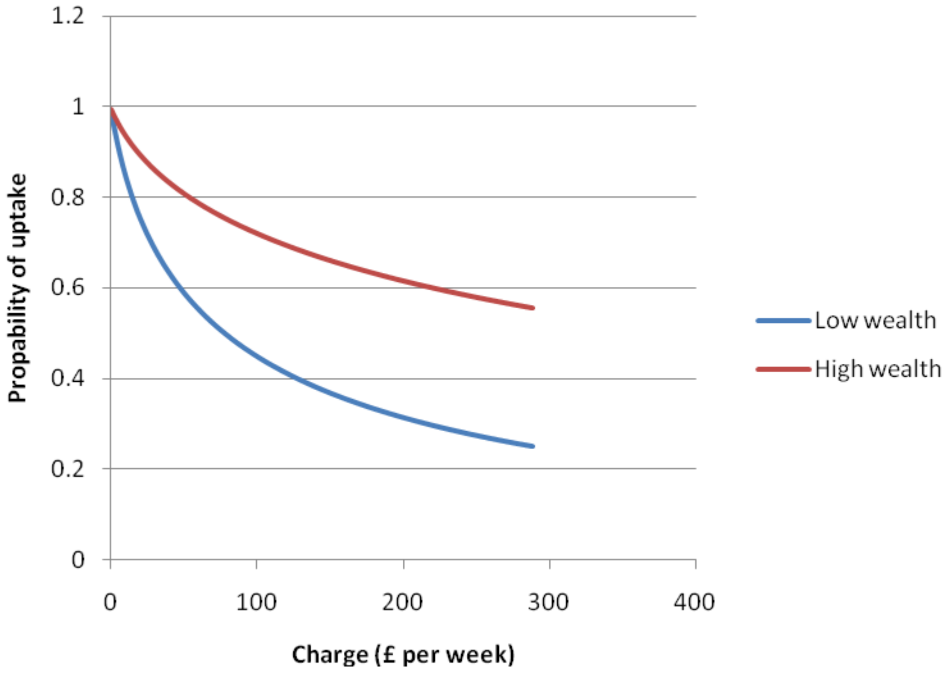
Figure 12. Demand for care – by need quintiles of strength of preference



The shape of the supply curve in the model can be altered in order to simulate different financing rules in the care system. For example, if all people received a basic entitlement of £50 per week without charge, and then faced the full cost of care, the supply curve in the above figures would be shifted to the right by £50.

The size of uptake- (step-one) demand is given in Figure 13. Again, uptake demand varies by wealth and need.

Figure 13. Demand for care – by need quintiles of strength of preference



For care homes, only uptake demand is relevant (people cannot buy a part of a care home place). There is also an associated housing component to the care given in a care home. Uptake demand for care homes takes the same form general form as uptake demand for community services, but only the care cost is taken into account. This assumption means that a person with identical characteristics would have the same chance of buying a £220 per week care package in the community as paying for the £220 care cost component in a care home.

7 Unmet need

The effects of charging (in the public or private systems) means that some people with a disability will not take-up formal care, or will take less care than if the charge was zero. How do we assess the implications of this situation? Clearly, people who take no formal care and have no informal care will have some level of 'unmet' need. But how much? Also, other people will respond to charges by buying less care than if the charge was zero. This behaviour might generate unmet need, depending on how drastic their response to charges is, and what the target for fully 'met' need is in terms of the amount of care they actually receive. There is also the issue of assessing how much informal care input people have and how far this reduces unmet need. There are many ways to approach these problems. The one taken in the model is as follows.

- We assume the normative package of care (expressed as hours of care) is the target. As described, normative packages depend only on people's needs-characteristics.
- People who receive formal and informal care inputs that sum to equal or greater than the normative package of care have no unmet need.
- People who have total inputs that fall short have unmet need equal to the shortfall. This includes people that have a need for a care home place but decide instead to take a community care place where the care hours are less than they would have received in a care home.

Any 'deficit' approach to counting unmet need treats an hour's worth of shortfall in a care package as equal whatever the needs level of the person in question. Potentially this could mean that a system that only failed to support low needs people (albeit a relatively large number since there are more low-needs people) could have more unmet need than a system that catered well for low needs people but failed significantly to meet the needs of high-needs people. We address this problem in the model by reducing the target level of support to zero for people with a FAC level of 'low' (or none) – see Table 12. Unmet need as so measured is therefore equal to zero for people with a low (or none) FAC level, regardless of the amount of care these people receive. This assumption means that our unmet need measure is likely to be an under-estimate of the actual total.

Table 22 gives mean target hours per week (the normative package). People with a care home need have a target of 20 hours per week. Those in a care home have this need fully met; otherwise unmet need is the difference between the sum of care inputs (informal and formal) and the amount of the target.

Table 22. Target hours of (personal) care per week – by ADL need level

ADL need	Target hours per week
1	6.8
2	7.3
3	8.8
4	15.6
5	18.7

Unmet need occurs because there are demand effects and actual use of services falls short of potential. We should also note that this concept of unmet need is based on the reference point of the normative care package, which is in turn based on current practice. As noted above, current practice may be seen as insufficient in which case actual unmet need would be higher than the measured level.

8 Applying funding arrangements

8.1 Current funding rules

8.1.1 Social care

Internationally, there are a wide range of financing arrangements for social care (OECD, 2005). England falls into the *means-tested* grouping – that is, where contributions to the system are mandated according to ability to pay, and where low income groups are subsidised with public funding through general taxation. In England, almost all public spending on social care is made via local councils, with funds allocated from general taxation and also raised through local (council) tax. The Government calculates a target total public budget for social care and this amount is passed to councils after netting off local tax revenue. Overall, the amount is budget-constrained, i.e. not determined by actual demand, and generally derived in an incremental, rolled-forward way (Wanless et al., 2006). The criteria for calculating the total level of the public budget are not explicit. If demand turns out to be higher than the budget will support, councils have to make the needs test harsher (raise the FAC eligibility thresholds), which is what has been happening in recent years (Forder, 2007).

The costs of long-term care can be divided into three components: a nursing care element; a personal care component that relates to a person's ability to undertake activities of daily living; and a hotel/housing component, covering accommodation-related costs. In broad terms, nursing care is free at the point of use to service users in any setting after an assessment, be that a hospital or care home. Public support for all the other costs is means-tested with a possible charge levied on individuals.

There are national rules for means testing of residential care support (Department of Health, 2005). If the assessed person has (eligible) assets over a specified amount (the *upper capital limit* – £23,000 as of April 2009), they are liable for the full cost of the care home except for any eligible free nursing care. Eligible assets in this case include the person's house as long as no spouse or other eligible dependent is living in that home. Anyone with total assets of less than the upper capital limit will be asked to contribute all their weekly eligible income (including pension and other state benefits) less a 'personal expenses allowance' of around £20 a week, up to the cost of the placement. In addition, for people with assets above £14,000 (the *lower capital limit*), a 'tariff income' of £1 for every £250 between the upper and lower capital limits is assessed for the person on top of actual income. Since assets do not generally generate income at this rate, people have little choice but to draw down on those assets. The definitions of eligible incomes and assets are detailed and there are exceptions, but these tend to be minimal.

The charging structure for non-residential social care services varies between the 150 local authorities in England, although there is national guidance that specifies the maximum contributions that people can be asked to make – the *Fair Charging* framework (Department of Health, 2003). Means-tested charges can be imposed for non-residential social care services including personal care, but councils are free to be more generous in their funding than the guidelines. There is variation in what is on offer. Some councils provide services free (although very few), others charge a flat rate, but most use a means-test that is based on the residential care means-test. In broad terms, assets can be assessed on the same basis as that for care homes. In this case, because the person remains living at home, their housing capital is exempt. People with capital below the upper limit can be asked to contribute an amount that leaves them with remaining income of at least 125% of the minimum amount of income they could secure from the Pension Credit system. Pension Credit tops up people's income to make up any shortfall in their actual income and a 'minimum guarantee' amount. This guarantee credit currently stands at £130 per week for a single person and £198 per week per household for married people (the minimum is higher for people who are severely disabled or have caring responsibilities). Councils can also disregard a part of a person's income on the basis that this income is needed to meet disability related costs (e.g. special diets, heating, laundry, etc..), generally when Attendance Allowance is also counted as income under the means-test.

Older person with savings above the upper capital limit (£23,000) can be asked to pay the full charges (up to the costs of their care package), or more generally, are encouraged to make private arrangements.

Charge income for non-residential care as a proportion of total care costs is much lower for councils than for care homes, but this is mainly due to the lack of hotel costs incurred in the care package (the housing costs of people receiving non-residential care could be met by housing benefit, but this does not fall on social care authorities).

8.1.2 Disability-related benefits

A number of social security benefits are available that provide people who have disabilities with extra income. The main rationale is that disability leads to additional living costs and/or lower earning potential. They are administered nationally as part of the Benefits System in the UK, providing additional income, not services, but are subject to a needs-test that is very similar to the needs-test for social care support. Attendance Allowance (AA) is available for people over 65 who have disabilities. The closely related Disability Living Allowance (DLA) is for younger disabled people but recipients who turn 65 keep DLA rather than switching to AA. These two benefits are universal i.e. not financially means-tested. Rates per week vary by severity of disability bands, but top rates are about £70 per week for AA and DLA (care) as of 2009. The lower rate for AA is £47 per week, which is about the same as the middle rate for DLA (care). The lower rate for DLA (care) is just under £20 per week.

People receiving public social care support at home continue to be entitled to AA/DLA, but people in publicly supported care home placements lose their entitlement. Self-payers in care homes retain entitlement.

Receipt of AA or DLA may also provide further entitlement for means-tested Pension Credit, where a severe disability premium of about £50 per week is added to the minimum guarantee credit (but not if people live with a non-disabled person).

Where a person is receiving substantial levels of informal care (a carer is providing more than 35 hours per week), the carer might also be eligible for Carers Allowance of around £50 per week. The actual amount is reduced by the amount of certain other benefits, including State Pension. Also, this is a taxable benefit.

Further details are provided below, but AA expenditure is around £3.7bn at present and DLA (Care) for over 65s is around £1.1bn per annum. Together they run to three-quarters of the net amount of public social care spending (and more adding severe disability premium and carers allowance), highlighting the significance of these benefits. The care and benefits systems are independently operated even though they support the same section of the population. This raises questions about coherence and best-value in the use of public resources, issues addressed in section 9.4 below.

8.2 The care offer under means-testing

When interpreted for purposes of modelling, the fair access to care rules are the needs test. The fair charging rules (for non-residential care) and the charging for residential accommodation guide (CRAG) rules are the financial test. The former limits access to only high need people (FAC eligible), who would get the normative level of support. The latter rules limit access to public support to less wealthy people. Together, these tests create a care offer under the current system. This offer can come with charges and so actual uptake depends on how people respond to those charges.

8.2.1 Publicly supported demand and top-up

Generally speaking, the financial means-test restricts support to people below the asset ceiling. These people are offered an amount of care depending on the needs-test, and for those who are FAC this amount is equal the normative package as described above. The charges for this care are determined by the financial rules of the public system. Because the quantity of support is determined in the system, quantity demand considerations do not apply. Only uptake demand is tested relative to the public system charge i.e. if people find these charges to be too high, then some will opt out.

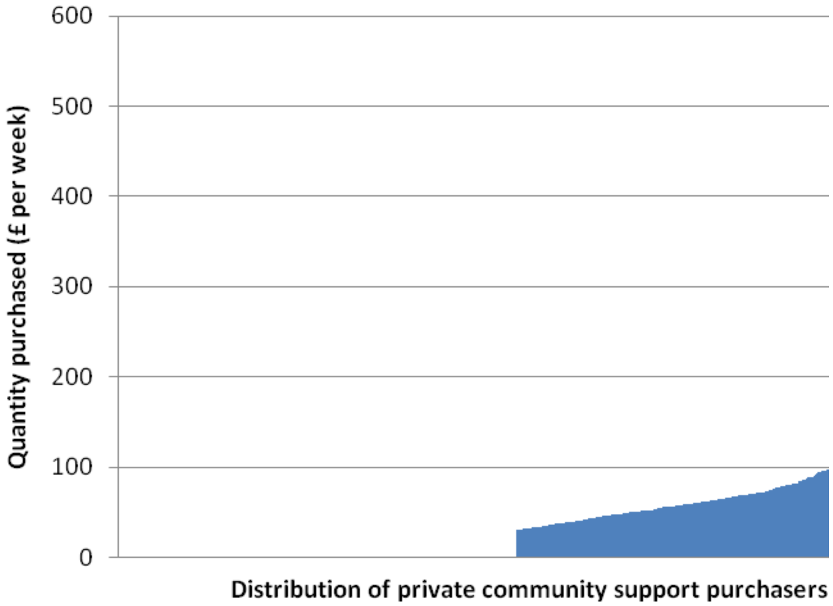
People that accept the public system offer (and its charges) can also top-up their care by buying additional support privately. In this case both quantity- and uptake- demand applies to the top-up component, but where the size of demand at any given price is scaled to reflect the amount of care they already receive through the public system. So if the public system is very generous, the amount of top-up care sought is correspondingly small, and vice versa.

8.2.2 Private demand

People who are not eligible for public support (due to failure of the needs test or the financial means-test) can buy care privately using the same demand functions but these people face the full costs of care. Compared with people in the public system, higher prices (i.e. without any public subsidy to lower the charge), should mean lower demand. However, if they are excluded on financial grounds, the counteracting effect of wealthy people having greater ability to pay, means that private-pay service use need not be lower than publicly-supported service use.

The assumptions made about demand lead to a relatively skewed purchase of care privately by people not eligible for support under the current means-tested system. Figure 14 shows the amount of care bought by non-eligible people in 2010. A good proportion decide not to seek any formal care as shown by the cut-off (and so rely on informal care or manage without support).

Figure 14. Distribution of demand by people not eligible for public support (community-based services)



8.3 Costs

The model applies the assessment, needs-test, financial tests, behavioural response and so on to people in the sample to determine the costs and charges of the current means-testing funding (MT) model in the following categories.

Net public cost	Cost to PSS public funds net of point of need charges
AA spend	Attendance Allowance expenditure
Scheme charges	Charges made to the scheme at point of need (PoN)
Scheme hotel charges	Amount of PoN charges to cover hotel costs
Scheme care charges	Amount of PoN charges to cover care costs
Scheme top-up charges	Private payments made by service users in the scheme to buy private care beyond that provided by the scheme

Non scheme charges	Payments made by people not in the scheme
Non scheme hotel charges	Non-scheme payments to cover hotel costs
Non scheme care charges	Non-scheme payments to cover care costs
Total private spend	Total private expenditure: non-scheme payments plus top-up payments
Total social care spend	Total expenditure: net public plus total private plus scheme charges (subject to rounding errors) *This does not include AA spending*

For means-testing 'scheme' refers to people who qualify for any council (public) support. Non-scheme people are those that buy care privately and pay from their own resources.

Table 23 reports costs and charges. In this (and all other such tables) total spend is the sum of net public spend, scheme charges and private payments (the latter being the sum of scheme top-up charges and non-scheme charges). It does not include the spend on Attendance Allowance.

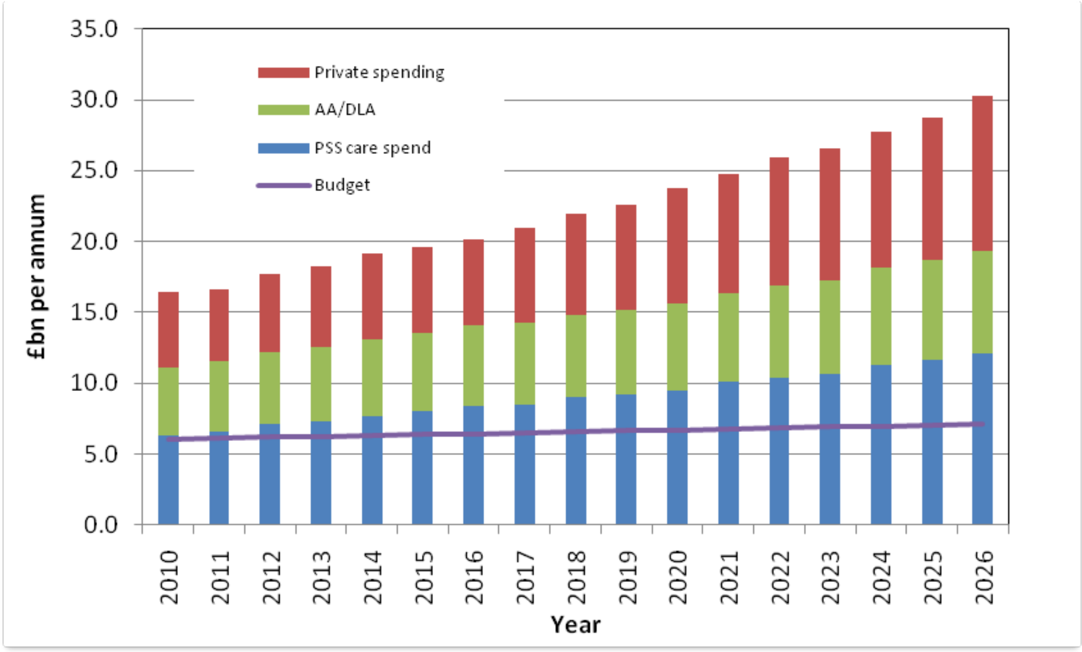
The increasing spending requirements are shown in Figure 15. Over the period 2009 to 2026, net public expenditure would need to increase by 4% p.a. in real terms in order to maintain the current support offer to all people with needs above the current eligibility threshold into the future. As with any projection, changing the underlying assumptions will change the results. For example, councils could further increase eligibility thresholds in the future and this would reduce the growth in net public cost, but at the same time would create more unmet need.

Table 23. Costs and charges–MT unreformed AA, carer-sighted

Year	Net public cost	AA spend	Scheme charges	Scheme hotel charges	Scheme care charges	Scheme top-up charges	Non scheme charges	Non scheme hotel charges	Non scheme care charges	Total private spend	Total social care spend
2010	6.3	3.7	1.8	1.3	0.4	0.6	4.7	1.9	2.8	5.3	13.3
2011	6.6	3.8	1.9	1.5	0.4	0.6	4.5	1.8	2.7	5.1	13.7
2012	7.1	3.8	2	1.5	0.4	0.7	4.8	1.9	2.9	5.5	14.5
2013	7.3	3.9	2.1	1.6	0.5	0.7	5	2	3	5.8	15.2
2014	7.7	4	2.2	1.7	0.5	0.7	5.3	2.1	3.2	6	15.8
2015	8	4.1	2.3	1.8	0.5	0.8	5.2	2	3.1	6	16.3
2016	8.4	4.1	2.4	1.9	0.5	0.9	5.3	2.1	3.2	6.2	17
2017	8.5	4.1	2.5	1.9	0.6	0.9	5.9	2.4	3.6	6.8	17.8
2018	9	4.1	2.5	2	0.5	0.8	6.2	2.5	3.7	7.1	18.6
2019	9.2	4.2	2.6	2	0.5	1	6.5	2.6	3.9	7.5	19.3
2020	9.5	4.3	2.6	2.1	0.5	1	7.1	2.9	4.2	8.1	20.3
2021	10.1	4.4	2.8	2.2	0.6	1.1	7.3	2.9	4.4	8.4	21.4
2022	10.4	4.5	2.9	2.3	0.6	1.2	7.8	3.2	4.6	9	22.4
2023	10.7	4.6	3	2.3	0.7	1.3	7.9	3.2	4.7	9.2	22.9
2024	11.3	4.7	3.2	2.5	0.7	1.4	8.2	3.3	4.9	9.6	24
2025	11.7	4.9	3.3	2.6	0.8	1.6	8.5	3.4	5.1	10	25.1
2026	12.1	5.1	3.4	2.6	0.8	1.7	9.3	3.8	5.5	11	26.4

The figure below shows that private spending is projected to increase proportionately faster than net public spend. This follows from our base assumption that successive cohorts of older people will be wealthier in real terms coupled with the assumption that the wealth test in the MT model does not change in real terms (although Pension Credit is up-rated in line with earnings). This implies an increase in the proportion of non-scheme i.e. privately funded people in the future. Reduced public spending is also consistent with a relative increase in unmet need as more people defer care where they face the full point of need cost. The 'budget' line in the figure is the 2007 PSS spend (£5.8bn) up-rated at 2% real. Unreformed AA (plus DLA) spend also increases, broadly in line with the growth in dependent population.

Figure 15. Projection of costs under Means-testing–base case assumptions



The move from a carer-sighted to a carer-blind offer is modelled to begin in 2014/15. The impact is mainly on the spend on non-residential care. Overall – as shown in Table 24 – net public cost increases by around 25%.

Table 24. Costs and charges – MT unreformed AA, carer-blind

Year	Net public cost	AA spend	Scheme charges	Scheme hotel charges	Scheme care charges	Scheme top-up charges	Non scheme charges	Non scheme hotel charges	Non scheme care charges	Total private spend	Total social care spend
2015	9.9	4.1	2.6	1.8	0.8	0.8	5.1	2	3.1	5.9	18.4
2016	10.4	4.1	2.7	1.9	0.8	0.8	5.3	2.1	3.2	6.1	19.1
2017	10.5	4.1	2.8	1.9	0.9	0.8	5.9	2.4	3.5	6.8	20.1
2018	11.1	4.1	2.8	2	0.8	0.8	6.1	2.5	3.6	6.9	20.9
2019	11.5	4.2	2.9	2	0.9	1	6.5	2.6	3.9	7.4	21.8
2020	11.9	4.3	3	2.1	0.9	1	7.1	2.9	4.2	8.1	23
2021	12.5	4.5	3.2	2.2	0.9	1.1	7.2	2.9	4.3	8.3	24
2022	12.9	4.5	3.3	2.3	1	1.2	7.8	3.2	4.6	8.9	25.2
2023	13.3	4.6	3.4	2.3	1.1	1.3	7.9	3.2	4.7	9.2	25.9
2024	13.9	4.8	3.5	2.5	1.1	1.4	8.2	3.3	4.9	9.6	26.9
2025	14.5	4.9	3.7	2.6	1.2	1.6	8.4	3.4	5	10	28.2
2026	15	5.1	3.9	2.7	1.2	1.7	9.2	3.7	5.4	10.8	29.7

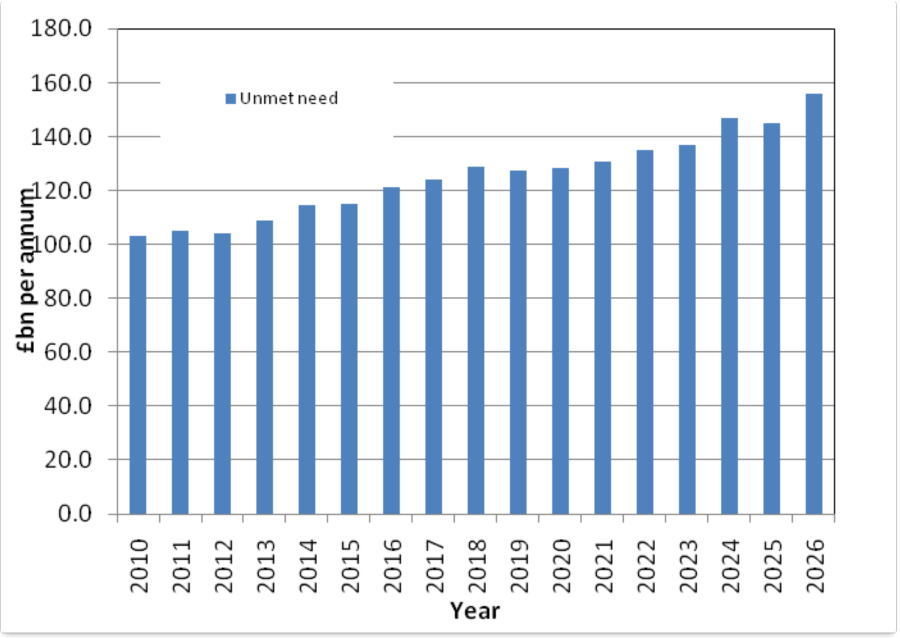
8.4 Unmet need

Table 25 reports levels of unmet need as defined in section 7 above. The table gives the results in terms of millions of hours per annum and numbers of people with unmet need. Figure 16 below shows that despite the increase in expenditure, the current service offer is also consistent with an increase in total hours of unmet need. This occurs even though the average level of unmet need per person is constant through time because there are more older people with care needs.

Table 25. Unmet need – MT unreformed AA, carer-sighted

Year	Unmet need inc. informal care (hours (m) p.a.)	Number of high dependency people with unmet need	Average unmet need – high dependency (Hrs p.w.)	Unmet need (no informal care) (hours (m) p.a.)	Proportion unmet need re. normative input
2010	111	0.3	3.7	218	27%
2011	111	0.3	3.6	227	28%
2012	116	0.3	3.8	233	28%
2013	115	0.3	3.6	236	27%
2014	118	0.3	3.8	242	28%
2015	122	0.3	3.8	254	28%
2016	122	0.3	3.8	264	29%
2017	122	0.3	3.8	267	28%
2018	129	0.3	3.8	279	29%
2019	133	0.3	3.9	291	29%
2020	132	0.3	4.0	296	29%
2021	141	0.3	3.9	306	29%
2022	141	0.3	4.0	309	29%
2023	154	0.3	4.2	334	30%
2024	155	0.4	4.0	336	30%
2025	157	0.4	4.1	342	29%
2026	157	0.4	4.1	342	29%

Figure 16. Projection of unmet need hours (including informal care) – MT base case assumptions



Unmet need is inversely proportional to the total spend on formal services (not the public spend).

8.5 Recipients

The number of people receiving services under the current funding system is given in Table 26. Under this system there are a significant number of people that purchase care privately because they are not eligible for scheme support. In addition to these people, there are those individuals with some care need that are not eligible and choose not to buy care themselves – these are non-services users with some need in the table. Many people with low levels of need also make do without formal services and some high needs people enjoy high levels of informal care so that they do not need (or want!) to approach formal services. In addition, under MT, demand effects mean that some higher need people forgo or delay service uptake (and so experience unmet need as outlined above). Together, these people make up the third column of the body of the table. The three columns sum up to the total number of people with any level of measurable need.

Table 26. Numbers of people – MT carer-sighted

Year	Scheme recipients (millions)	Non-scheme (private) recipients (millions)	Non-service users with some need (millions)	Number of people with some need (millions)
2010	0.88	0.29	0.82	1.99
2011	0.9	0.29	0.83	2.03
2012	0.91	0.29	0.89	2.09
2013	0.94	0.3	0.91	2.15
2014	0.95	0.31	0.93	2.19
2015	0.96	0.31	0.99	2.26
2016	1	0.3	0.99	2.3
2017	1	0.33	1.02	2.36
2018	1.03	0.34	1.03	2.4
2019	1.04	0.35	1.06	2.45
2020	1.05	0.36	1.11	2.52
2021	1.1	0.37	1.12	2.59
2022	1.11	0.39	1.17	2.67
2023	1.13	0.38	1.2	2.71
2024	1.15	0.4	1.21	2.76
2025	1.16	0.41	1.25	2.82
2026	1.17	0.43	1.28	2.88

8.6 Spend-down

An important criterion in judging alternative funding systems is how they impact on people's ability to pay, and in particular, the degree to which people can pay care charges out of income or whether they have to draw on assets/savings.

Care charges are clearly not the only call on people's income. We therefore subtract a *cost of living* amount from people's net income to determine their residual income. The cost of living amount is equal to the minimum income guarantee of pension credit for people living in the community. For people in care homes, this amount is set equal to the personal allowance (in that most living costs are covered by the home). Also subtracted is the person's point of need care charge (including hotel costs for residential care). Pension credit should ensure that people's imputed income is at least equal to the minimum guarantee. However, this benefit also assesses an income stream from assets so actual income can fall short of the minimum. On the basis of this analysis, around 8.5% of the general population without care needs draw on assets in any given year.

To assess the effects of care charges on spend-down risk we need to look at the profile of expenditure through time. The analysis looks at the implications for people receiving services in 2014/15 in two groups: (a) those people that are in care homes at this time and thereafter for their lifetime and (b) those people that are non-residential service users and at no time before their death go into a care home. This distinction is made because spend-down rates are expected to be much higher in care homes[3].

Table 27 gives details of the amount that service users in 2014/15 have to draw on assets (i.e. have negative residual income) over the period 2015 to death or to 2026, whichever comes first. The table reports the amount of spend-down that results directly from paying care charges, as distinct from any spend-down the person might have incurred regardless of care charges. For example, of people that were residential care service users in 2015 under MT, the average care-related spend-down averages £10,000 over the period. Furthermore, we only consider charges associated with the *normative package* i.e. that amount of care a person ought to have to avoid unmet need. Some people will buy more care than this amount and so draw down assets faster than that suggested in the table. Also, these are people that are service users in 2014/15; they may have been service users in previous years and so have already drawn-down on some assets. This analysis does not compute lifetime actual spend-down of assets.

We distinguish between people that are entitled to state support under MT at the point in time where changes would be implemented and those that are not.[4] The latter people bear the full care and hotel costs and typically find their income to be £200 p.w. short of care home charges. Those people that are entitled average less than a £2 p.w. shortfall (although this is on the assumption that they only need £20 p.w. personal allowance to cover non-care costs of living in a care home). As a result, over their lifetime in care homes they spend-down only a few hundred pounds.

For this group of care home residents in 2015, median lengths of stay are 1 year, although with a long-tail, the average length of stay is 2 years. Non-residential care spend-down is much lower, mainly because charges are much lower, even for non-supported people.

Table 27. Spend-down characteristics – MT carer-sighted

	Residential care			Non-residential		
	Probability of spending down over period	Average period spend-down (£000s)	Total period spend-down of assets (£b p.a.)	Probability of spending down over period	Average period spend-down (£000s)	Total period spend-down of assets (£b p.a.)
Not MT entitled	0.99	-30.5	-3.8	0.18	-0.8	-0.1
MT entitled	0.12	-0.1	>-0.1	0.01	0	>-0.1
All	0.40	-10	-3.8	0.06	-0.3	-0.1

9 Assessing the current system

The main strengths of the current system are also to some extent its weaknesses. The MT system provides publicly funded support towards the costs of care for people on the basis of an asset and incomes (or wealth) test as outlined. This means that low wealth groups who would otherwise be unable to pay for care are able to receive the care they need to meet their needs (at least within the framework of the needs test inherent in the current system). It also means that the tax payer is not paying for wealthier people that would otherwise pay for care themselves. The direct implication is that a means-tested system is one of the cheapest on the public purse.

The weaknesses largely arise because the public help people receive only extends for a limited way up the wealth distribution, and tapers off very rapidly, leaving moderately wealthy people with very little public help and very modest opportunities to insure against the financial and other risks of needing care. There are particular issues to this argument.

First, the system is selective; only poorer people get any help. Like all such *safety net* systems, this selectivity can be divisive in a population characterised by significant wealth inequality. One of the key strengths of the NHS, by contrast, is its universalistic nature. With essentially a 'poor law' underpinning, the stigma in having to go cap-in-hand to social services is self-evidently large. Many people for this reason alone would avoid seeking support and muddle through (or not) on their own.

Second, because care can be very expensive for people with high needs, even the relatively wealthy and especially those just above the wealth threshold, may find affordability to be a real problem. Faced with the full costs of care, these people defer or delay buying care privately or are forced to draw on limited savings. The particular problem is the discontinuities in the system. Being below or above the threshold is only a difference of a few pounds but the cost implications in terms of the charges individuals face can be huge. Where people are able to secure less care they may experience unmet need.

Third, the concern is not only with the size of the costs involved but also the significant uncertainty that exists for individuals; some people will need next to no care in their lives, others might need hundreds of thousands of pounds of care. There is a safety net that protects the last £14,000 of capital but this will be of little comfort to the average home owner that has had to use 90% of their savings and assets, for example.

Fourth, a more general problem with means-testing arises in the form of the fairness and incentive issues. People that make financial provision for their old age through prudence and hard work, so the argument goes, are penalised compared to less careful people who get help from the public purse. Some people will deliberately (but not illegally) divest of assets in order to qualify for means-tested support.

We might also argue that wealthier people pay more in taxation anyway, so they are doubly penalised. This is, however, a public finance issue relating to re-distribution of wealth in society and in this sense has a limited bearing on the (relatively very modest) spend of public money on social care.

Fifth, means-testing is complex and potentially open to misinterpretation or even outright fraud. In practice, political realities may mean that means-testing is not completely avoidable, but it could be made more coherent and consistent.

These issues relate to the social care system. The help that people receive through the benefits system (e.g. as Attendance Allowance) suffers far less from some of the above problems. When considered alongside the social care system, however, concerns arise about whether this expenditure is good value for money. The stringency of both the needs-test and the means-test in social care mean that relatively few people get help and many people with not insignificant levels of need are left without public support. At the same time, AA provides a little support to a great many more people, some of whom are very wealthy anyway, and others (self-) report very low levels of disability – see section 4.1. Both groups would be very unlikely to be eligible for social care support. Again, this means that medium needs and medium wealth people lose out, comparatively speaking.

9.1 Distribution of net payout at the point of need and distribution of charges

The net amount of support people receive from the MT system can be measured as the cost value of their care package less the charges they have to pay. Publicly supported people generally pay less than the cost of their care and so are net beneficiaries. Purely private payers meet the full costs of care; their net support is zero. Being a means-tested system that determines eligibility on the basis of wealth we would expect the net amount of public support to be negatively correlated with wealth. This is indeed the case, as illustrated by results reported in Table 28. The table shows the pound value of care less charge over the period 2014/15 until 2025/26 for people receiving care in 2014/15. People in the highest two quintiles (4 and 5) receive considerably less support than people in lower quintiles.

Table 28. Net public support for service users in 2014/15 until 2025/26 – total by wealth quintile

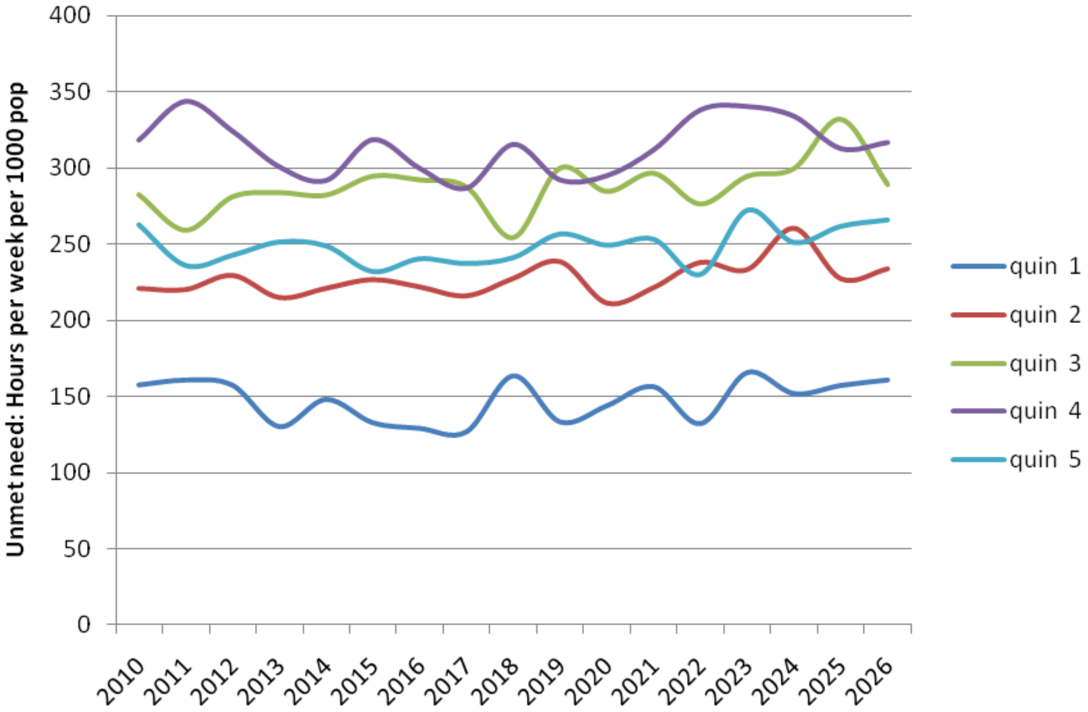
Wealth quintile	Net support (£s)			
	Care homes		Community-base	
	Mean	Median	Mean	Median
1	63900	25300	10500	6200
2	49200	23900	13300	8100
3	34900	21100	12000	6600
4	20500	16900	4800	200
5	5300	0	400	0
All	36300	21100	7800	1100

Taken in isolation these results are far from conclusive, however. Higher wealth people can afford to pay for care privately, so what is important is how much support they actually secure. In addition, because people might be inclined to top-up their care, it is perhaps more telling to look at whether they have unmet need rather than how much public support they receive.

9.2 Distribution of unmet need

Figure 17 shows mean levels of unmet need by wealth quintile. The chart shows that quintiles 4 and 3 have the highest levels, with quintiles 5 and 2 in the middle, and quintile 1 with the lowest levels. These results underpin the arguments that middle wealth people that are above the assets ceiling under mean-testing are the worst affected group because they face relatively high charges for care, but do not have the relatively unlimited ability to pay that quintile 5 people possess.

Figure 17. Unmet need – hours per week per 1000 population, by wealth quintile



9.3 Distribution of spend-down

The financial burden people are exposed to is also an important consideration. Even where people are able to secure enough care to meet their needs, if in the process they are financially impoverished this too is a highly negative outcome. This is also the question of how much risk is borne by individual people. If people are exposed to a very real possibility of losing most of their savings, even in practice they are lucky enough not to develop a high care need, this is still a major concern and an unattractive characteristic of the system.

In other words, we might expect richer people to draw on their assets – even though there are issues of fairness as outlined – but it would seem reasonable that this occurs in a proportionate way.

The following tables report estimates from the model of the extent to which people are forced to draw on savings and other assets as a result of the current system. In other words, are care charges they face greater than that which could be met from their current income less relevant living costs – see section 8.6. Spend-down is much greater for people in care homes and also, other things equal, for higher wealth quintiles. The tables also include figures for the range of likely spend-down levels (the median and also the people at the 5th percentile of the distribution). Again high wealth quintiles could face very high levels of spend-down if they are unlucky enough to be in the 5th percentile of the distribution.

Table 29. Spend-down of people in care homes in 2014/15 – by wealth quintile, total spend-down for period 2014/15 to 2025/26

Wealth quintile	Percentage spending down	Total spend-down amount			Percentage MT entitled	Spend-down of those that do spend-down
	%	Mean	Median	5%-tile	%	Mean
1	20	-£3,200	£0	-£23,500	91	-£15,700
2	32	-£5,700	£0	-£23,800	80	-£17,800
3	46	-£10,800	£0	-£41,800	62	-£23,200
4	50	-£12,700	£0	-£62,600	56	-£25,600
5	82	-£30,800	-£13,400	-£123,600	17	-£37,600
All	44	-£11,300	£0	-£55,700	65	-£25,800

Table 30. Spend-down of people with community packages in 2014/15 – by wealth quintile, total spend-down for period 2014/15 to 2025/26

Wealth quintile	Percentage spending down	Total spend-down amount			Percentage MT entitled	Spend-down of those that do spend-down
	%	Mean	Median	5%-tile	%	Mean
1	8	-£300	£0	-£500	92	-£3,400
2	5	-£200	£0	£0	89	-£4,100
3	6	-£400	£0	-£1,500	80	-£7,400
4	10	-£400	£0	-£2,100	58	-£3,600
5	4	-£200	£0	£0	21	-£3,800
All	7	-£300	£0	-£800	66	-£4,300

For community-based care, the highest wealth quintiles spend-down less than the middle quintiles because their income is large enough to meet the more modest care charges for these services. Table 31 and Table 32 give spend-down amounts as a proportion of total wealth (housing and non-housing). For both care homes and community-based services, it is the middle quintiles that lose the greatest proportion of their wealth.

Table 31. Spend-down of people in care homes in 2014/15– by wealth quintile, total spend-down for period 2014/15 to 2025/26 as proportion of wealth and income

Wealth quintile	Total spend-down amount	Imputed income	Wealth	Spend-down as percentage of…	
	Mean	Mean	Mean	Income	Wealth
1	-£3,200	£127	33000	-48	-10
2	-£5,700	£180	36000	-61	-16
3	-£10,800	£243	56000	-86	-19
4	-£12,700	£318	79000	-77	-16
5	-£30,800	£671	223000	-88	-14
All	-£11,300	£281	74000	-77	-15

Table 32. Spend-down of people with community packages in 2014/15 – by wealth quintile, total spend-down for period 2014/15 to 2025/26 26 as proportion of wealth and income

Wealth quintile	Total spend-down amount	Imputed income	Wealth	Spend-down as percentage of	
	Mean	Mean	Mean	Income	Wealth
1	-£300	£123	63000	-5	-0.5
2	-£200	£181	64000	-2	-0.3
3	-£400	£238	83000	-3	-0.5
4	-£400	£325	130000	-2	-0.3
5	-£200	£701	306000	-1	-0.1
All	-£300	£332	137000	-2	-0.2

Overall, taking net benefits, unmet need and spend-down into account, the means-tested model produces the worst results for middle wealth people – those people, in other words, who are mostly above the means-test threshold but do not have high levels of income and savings compared to the richest people in the population.

9.4 Reforming AA

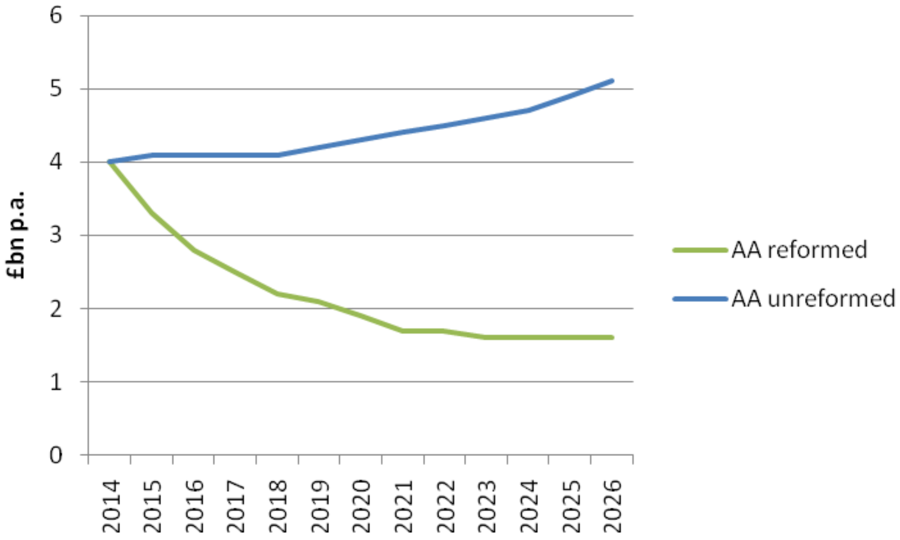
In order to investigate the inter-relationships between the use of social care under the means-tested system and expenditure on AA, we can use the model to simulate the cost implications of both (a) removing AA entitlement from wealthier people i.e. those unlikely to be eligible for social care as a result of the financial means-test and (b) those people already in receipt of social care. The latter in particular would be consistent with the idea of a unified (or at least more coherent) system where people did not simultaneously receive both forms of support. The overall savings to the public purse would then be available for re-allocation (presumably within the context of a unified system) on more coherent criteria. Here we are interested in the size of the cost saving and leave the implications of re-allocation to further analysis.

Our starting point for the analysis is current uptake of AA (we leave DLA uptake unchanged). We assume that the above 'reform' applies only to new potential claimants after 2014. People in receipt at 2014 continue in receipt until they die (or lose entitlement under the current rules e.g. by going into a supported care home place). Therefore, there are no actual (money) losers.

People that we would predict to newly claim after 2014 who are in the top three quintiles of the wealth distribution lose entitlement. Those people who would be in receipt of social care support also lose entitlement.

This reform would free up significant resources as shown by Figure 18. Transitional protection of recipients at 2014 means that the total savings begin to mount only after these recipients have died. The trend for reformed AA spend therefore falls initially and then flattens out (and then would being to climb again). Freed-up public funding (the difference between trends) reaches about £3.5bn by 2026. This is a substantial resource that could be re-directed. Any assessment of whether this money *ought* to be re-directed would have to weigh the disadvantages (of those that would lose AA theoretically) against the advantages (which would depend on exactly how the money was used).

Figure 18. AA reform under means-testing



10 Concluding points

The care and support Green Paper will consider the reform of funding arrangements for social care. To make judgements about alternative funding arrangements we need to consider the change in the cost (to the public purse and to the individual) and outcomes of the system for stakeholders. We also need to know the distribution of these cost and outcome changes to assess who stands to gain and who to lose out. A *dynamic micro-simulation* (DMS) approach can provide this analysis, taking an actual (sampled) population and simulating how people would respond to different social care systems.

The PSSRU DMS model uses the British Household Panel Survey. It determines people's needs and wealth/income and combines this with individual characteristics data for each person in the BHPS sample. Potential use of care and support is them calculated based on need and other characteristics. To reflect overall budget constraints for public support, the model applies a needs-test to mirror the application of needs-eligibility criteria used by Councils with Social Services Responsibilities (CSSRs). In this process individuals that are eligible on needs grounds receive a potential level of support (the 'normative' level). Actual use of services then depends on the financial rules that are in place and how people respond to any charge that would be levied upon them. Under the current means-tested funding system, only people with eligible assets below an asset ceiling are eligible for public support, and even then are usually required to pay a charge. Those not eligible will have to self-pay the whole cost. Some people are unwilling or unable to meet the charges and so defer the use of formal care services. The model calculates on this basis the level of public and private expenditure on care. It also produces estimates of recipient numbers by type of care and consequences such as: the level of 'unmet' need; how much people pay over their lifetime, potentially spending-down of assets. It can also estimate which people are winners and who are losers of any funding reform.

The model produces estimates based on the data and a range of assumptions about need, potential service use, demand responses, informal care rates etc. These assumptions are either set *a priori* e.g. that unit costs will increase by 2% in real terms, or are based on relevant analysis e.g. demand responses. In all cases, changing the assumptions will change the results, which underlines that the model makes *projections* based on assumptions, not *predictions*.

The DMS model is designed primarily to consider the effects of changing the financial system (although it is not limited to just this analysis). The starting point is to assume the same potential level of support as in the current system (i.e. a level of assessed care requirement and needs-tested eligibility as based on the current system). This assumption means that applying the current financial arrangements will result in the model producing the same actual service use as we see now. There is no particular reason, however, to assume that this assessment and needs-test are appropriate. The Wanless Review, for example, suggested a quite different needs-test based on cost-effective achievement of outcomes.

On the basis of plausible assumptions made about cost growth (2% real) and demographic change (Government principle population projections and constant prevalence of disability), public funding would need to increase by over 90% in real terms between 2009/10 and 2025/26. This is equivalent to around 4% per annum in real terms. Private spending would increase at a faster rate. These increases would be required to maintain the current care offer per person i.e. for a needs- and financially eligible person in 2026 facing the same charges to receive the same amount of support as that person would in 2010.

The means-tested funding model provides public support to people with assessable wealth that falls below a specified ceiling (currently £23,000 of assets). Charges are levied to those below the ceiling and people above have to self-pay. The system therefore protects the poorest and most needy people, but the very rapid tapering-off of support leaves problems for people above the asset ceiling, and people with moderate levels of need, creating unmet need in these groups. The system is also unfair on people that save and it is stigmatising and open to fraud. It is in stark contrast with universal access philosophy of the NHS. People above the asset ceiling – i.e. who have savings but would not be regarded as particularly wealthy by many – are more likely to experience disproportionately high levels of unmet need and more rapid draw-down of assets, according to the model.

Attendance Allowance and Disability Living Allowance are explicitly modelled in this work. These benefits are aimed at the same disabled population that can also benefit from social care support, but the two systems are independently operated. A greater overall coherence could be achieved by consolidating these disability-related benefits with the social care system. Model analysis suggests that a significant amount of AA expenditure goes to people that are either in the top three wealth quintiles or that already receive council funded social care. There also appears to be a not insignificant AA expenditure going to people with very low levels of need. Overall, the DMS model can help in decision-making about possible re-configuration or re-allocation of resources between these benefits and social care.

The model is designed to consider alternative funding arrangements and in particular to compare new funding arrangements with the current system. The model will start with the same potential care requirement and the same set of people. It will assess how costs and outcomes would be projected to change under the new system with respect to what they would have been if the current system continued. Subsequent reports will describe these analyses.

11 References

Department of Health (2002) Fair Access to Care Services: Guidance on eligibility criteria for adult social care, Department of health, London.

Department of Health (2003) Fairer Charging Policies for Home Care and other Non-residential Social Services: Guidance for councils with social services responsibilities, Department of Health, London.

Department of Health (2005) Charging for Residential Accommodation Guide (CRAG), Department of Health, London.

Forder, J. (2007) Self-funded Social Care for Older People: an analysis of eligibility, variations and future projections, Commission for Social Care Inspection, London and PSSRU, University of Kent, Canterbury.

Joseph Rowntree Foundation (2006) Paying for Long-term Care, Joseph Rowntree Foundation, York.

OECD (2005) Long-term Care for Older People, OECD Publishing, Paris.

Wanless, D., Forder, J., Fernández, J.L., Poole, T., Beesley, L., Henwood, M. and Moscone, F. (2006) Wanless Social Care Review: Securing Good Care for Older People: Taking a long-term view, King’s Fund, London.

12 Notes

[1] The characteristics of people at waves 3 to 15 were inflated as relevant to make all data consistent with base year (2006/7) prices. Pooling in this way means treating the same person appearing in different waves as a different person at the base year. Since people's situation changes through time and because there is a large turnover in the BHPS, this was seen as a reasonable step to give a large sample size. Turnover is significant in people over 65 in the BHPS. Of the 29,986 people in the pooled sample, only 5876 were present in all waves 3 to 15.

[2] Keeping this normative level invariant in this way is very useful when making comparisons between funding arrangements because it removes a potential source of difference and simplifies the assessment.

[3] The philosophy of the current care system is that people who move permanently in care homes are assumed to sell any housing assets and use some of this resource to cover hotel cost/rent in care homes

[4] We exclude the very small number of people that start as MT entitled but become not eligible for state funding subsequently. We wish only to compare people that are always entitled or always not entitled.