

# **Future demand for long-term care in the UK**



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**A summary of projections of  
long-term care finance for older people to 2051**

**Raphael Wittenberg, Adelina Comas-Herrera,  
Linda Pickard and Ruth Hancock**



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**University of  
Leicester**

# PSSRU

at the University of Kent,  
the London School of Economics  
and the University of Manchester

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# Executive summary

This paper summarises projections of future expenditure on long-term care services for older people in the United Kingdom to 2051. They were prepared through innovative linkage of models prepared by the Personal Social Services Research Unit at the London School of Economics and the Nuffield Community Care Studies Unit at the University of Leicester.

The projections show that future demand for long-term care services is sensitive to the projected numbers of older people and future dependency rates. They also show that future long-term care expenditure is highly sensitive to assumed real rises in the unit costs of care.

The paper examines the possible implications of making all personal care free to users. Introduction of free personal care would have a marked effect on the balance between public and private expenditure on long-term care for older people now and over the coming decades.

The distribution of public spending on long-term care also merits consideration. Under the current financing regime, public spending is concentrated on the poorest third of care home residents. The extra public spending required for free personal care would be concentrated on the top third of residents.

Free personal care might also have an effect on total demand for care. Within the range of scenarios explored, the demand effects of a policy of free personal care on public expenditure are modest.

The analysis shows that, even under current patterns of care and funding arrangements, there is much uncertainty about whether and how far the proportion of Gross Domestic Product (GDP) devoted to long-term care will need to rise over the next decades to meet demographic pressures and rises in the real unit costs of care. These findings suggest that policy makers need to plan for uncertainty in future demand for long-term care. Any changes to the system for funding long-term care need to take account of the extent of uncertainty about the future public expenditures that could arise.

# Main findings

- There is much uncertainty about how far (and even whether) the proportion of Gross Domestic Product (GDP) devoted to long-term care will need to rise over the next decades to meet demographic pressures and rises in the real unit costs of care, under current patterns of care and funding arrangements.
- Under the central base case, which assumes unchanged dependency rates, the numbers of dependent older people in the UK are projected to grow from approximately three million in 2000 to approximately 6.4 million in 2051, an increase of 113 per cent.
- To keep pace with demographic pressures over the next 50 years, residential and nursing home places in the UK would need to expand by around 150 per cent and numbers of hours of home care by around 140 per cent (central base case assumptions).
- Long-term care expenditure in the UK would need to rise by around 315 per cent in real terms between 2000 and 2051 to meet demographic pressures and allow for real rises in care costs of 1 per cent per year for social care and 1.5 per cent per year for health care (central base case assumptions).
- Long-term care expenditure in the UK would need to increase from about 1.4 per cent of GDP in 2000 to around 1.8 per cent of GDP in 2051, assuming a real increase of 2.25 per cent a year in GDP (central base case).
- This projection of 1.8 per cent of GDP in 2051, using the 2002-based official population projections, updates an earlier projection of 1.6 per cent of GDP using the 2000-based population projections (central base case).
- Under the low base case, the numbers of dependent older people in the UK are projected to rise between 2000 and 2051 by 61 per cent and under the high base case by 147 per cent, compared to 113 per cent under the central base case.
- Expenditure on long-term care is projected to change from around 1.4 per cent of GDP in 2000 to around 1.3 per cent in 2051 under the low base case and 3.4 per cent in 2051 under the high base case, compared to 1.8 per cent in 2051 under the central base case.
- Public expenditure on long-term care is projected to reach around 1.20 per cent of GDP in 2051 under current funding arrangements, around 1.45 per cent of GDP in 2051 under a policy of free personal care and around 1.51 per cent of GDP in 2051 under a policy of free personal care with an increase of 25 per cent in demand for domiciliary services (central base case).

- Public expenditure on long-term care is projected, under a policy of free personal care, to reach in 2051 1.07 per cent of GDP under the low base case or 2.70 per cent of GDP under the high base case, compared to 1.45 per cent under the central base case (before any allowance for increased demand).
- The share of long-term care costs met publicly is projected to be almost 80 per cent of total long-term expenditure under a policy of free personal care, as against around 66 per cent in 2051 under current funding arrangements (central base case).
- Under the current financing regime, public spending is concentrated on the poorest third of care home residents. If free personal care were to be introduced, the extra spending would be concentrated on the top third of residents.



# Future demand for long-term care in the UK

## Introduction

How best to finance long-term care has been the subject of considerable debate in the UK in recent years. The key issue in the financing debate has concerned how far people should fund their own care and how far they should be publicly funded. The expected substantial demand for long-term care in the coming decades has increased the importance of the issue.

The Government considered the issue sufficiently important and complex to warrant the establishment of the first Royal Commission for many years. The central recommendation of the Royal Commission was that 'Personal care should be available after assessment according to need and paid for from general taxation' (Royal Commission on Long Term Care, 1999, p. xvii). The UK Government accepted the majority of the recommendations of the Royal Commission on Long Term Care (Secretary of State for Health, 2000), but did not accept this central recommendation that personal care should be free, primarily because of the present and future costs of the proposal. Instead, it adopted the proposal to provide free nursing care for residents of care homes (Secretary of State for Health, 2000). In Scotland, however, the Scottish Executive implemented free personal care from July 2002.

It was in this context that the Institute for Public Policy Research (IPPR) conducted a review of long-term care policy, with a view to exploring alternative funding structures for long-term care (Brooks *et al.*, 2002). As part of this review, IPPR commissioned the Personal Social Services Research Unit (PSSRU) at the London School of Economics and the Nuffield Community Care Studies Unit (NCCSU) at the University of Leicester to make projections of long-term care expenditure. The aim was to investigate the possible future costs of different ways of funding long-term care.

This paper, commissioned by the Joseph Rowntree Foundation, presents an updated version of the projections prepared for IPPR of future expenditure on long-term care services for older people in the United Kingdom until 2051. Whereas the projections prepared for IPPR were based on the Government Actuary's Department's (GAD) 2000-based population projections and Office for National Statistics (ONS) pre-2001 Census population estimates for year 2000, the projections presented in this paper are based on the GAD 2002-based population projections and the latest ONS population estimates for 2000. The 2002-based population projections, by making more optimistic assumptions about future mortality rates, involve higher growth in the numbers of older people. There are no other changes from the earlier projections. The full earlier projections, with a description of the methodology, are available in Wittenberg *et al.* (2002). The projections are based on a range of assumptions about future trends in

pressures on demand for services and on a range of scenarios for possible future patterns of care and funding arrangements.

The PSSRU and the NCCSU had developed models designed to explore the expenditure implications of different policy options for future years. The PSSRU developed a macrosimulation model to make projections of demand for long-term care by older people, under clearly specified assumptions (Wittenberg *et al.*, 1998, 2001). The NCCSU developed a microsimulation model of long-term care charges. The model simulates the incomes and assets of future cohorts of older people and their ability to contribute towards care home fees, should they need to be cared for in such settings (Hancock, 2000). The projections carried out for IPPR were produced through an innovative linkage between the two models. A new programme of work, which will improve the linkage between the two models and extend its capabilities, so that a further range of funding scenarios can be investigated, is currently under way. This work is expected to finish in 2005.

### Central base case projections

The models make projections of future demand for long-term care services to 2051 on the basis of specific assumptions about future trends in key factors that affect demand for long-term care. They make projections and not forecasts.

The models use a set of central base case projections that act as a reference case against which the effect of changes in assumptions can be investigated. The central base case projections take account of expected changes in factors exogenous to long-term care policy, such as demographic trends and trends in housing tenure. The base case projections hold constant factors endogenous to long-term care policy, such as patterns of care and the funding system (Box 1). The base case is used as a point of comparison when the assumptions of the model are subsequently varied in alternative scenarios.

#### **Box 1 Patterns of care and the funding system**

The three key assumptions of the central base case are as follows.

- The number of older people by age, gender and marital status is assumed to change in line with 2002-based official projections (GAD, 2003).
- Age/gender specific dependency rates, as reported in the 1998/99 General Household Survey (GHS), are assumed to remain unchanged over time.
- Real unit costs of social care are assumed to rise by 1 per cent a year, real unit costs of health care by 1.5 per cent a year and real average earnings and house prices by 2 per cent a year.

The projections anticipate all announced policy changes for pensions and benefits and for long-term care in England, except for the Pension Credit and associated new disregard in the residential care charging system. Moreover, they treat the changes as if fully implemented by the year 2000, which is taken as the base year for the projections.

The projected changes in long-term care expenditure will occur within the context of projected demographic changes. The numbers of people aged 65 and over in the UK are projected by the Government Actuary's Department (GAD) to grow from 9.3 million in 2000 to 16.8 million in 2051, an increase of 81 per cent. The numbers of very elderly people, who account for much of the need for long-term care among the older population, are projected to grow much faster. The numbers of people aged 85 and over are projected to grow by 255 per cent, from 1.1 million in 2000 to 4.0 million in 2051.

The GAD 2002-based population projections are based on assumptions that life expectancy at birth will rise for men from 75.9 years in 2002 to 81.0 years in 2031 and for women from 80.5 years in 2002 to 84.9 years in 2031. The figures for 2031 are around 1.5 years higher than those assumed in the 2000-based and interim 2001-based population projections (GAD, 2003).

The elderly support ratio (population of working age divided by population of pensionable age) is projected by GAD to fall from 3.35 in 2002 to 3.10 in 2011, 3.09 in 2021 and 2.53 in 2031, and then to fall to below 2.2 in the 2050s before levelling off. This ratio is affected by the rise in the state pension age for women from 60 to 65 years between 2010 and 2020 (GAD, 2003).

Long-term care services will need to expand to keep pace with demographic pressures. Residential places (in residential care homes, nursing homes and hospitals) would need to expand from approximately 450 thousand in 2000 to 1,130 thousand in 2051, an increase of around 151 per cent, to keep pace with demographic pressures. The number of home care hours would need to increase from around 2 million per week in 2000 to over 4.8 million per week in 2051, an increase of around 137 per cent.

Total long-term expenditure for older people is estimated at around £12.9 billion for the UK for 2000. This comprises £8.8 billion public expenditure (£3.5 billion NHS and £5.3 billion social services) and £4.2 billion private expenditure (£1.9 billion user charges for social care and £2.3 billion private purchase of care). Of the total, around £9.8 billion relates to care costs and around £3.2 billion to hotel costs (£1.1 billion publicly funded and £2.1 billion privately funded hotel costs).

Long-term care expenditure would need to rise by around 317 per cent in real terms between 2000 and 2051 to meet demographic pressures and allow for real rises in care costs of 1 per cent per year for social care and 1.5 per cent per year for health care. This would mean an overall increase in expenditure from around £12.9 billion in 2000 to approximately £53.9 billion in 2051. Although expenditure would increase over four times by 2051, the economy is also forecast to expand. Assuming that gross domestic product (GDP) grows by 2.25 per cent per year, long-term care expenditure would increase from about 1.37 per cent of GDP in 2000 to around 1.83 per cent of GDP in 2051 (Table 1). The share of total long-term care costs met publicly is projected to fall from 68 per cent in 2000 to 66 per cent in 2051, mainly because of projected increases in home ownership.

**Table 1 Projected expenditure on long-term care as a percentage of GDP, under the base case of the PSSRU model, UK, 2000–51**

	2000	2005	2010	2020	2031	2041	2051
Public expenditure as per cent of GDP	0.93	0.92	0.91	0.98	1.14	1.20	1.20
Private expenditure as per cent of GDP	0.44	0.44	0.47	0.51	0.59	0.62	0.63
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.73	1.82	1.83

*Source: PSSRU and NCCSU model estimates*

### Variations in future life expectancy, dependency rates and unit costs

The study examined the effects on the central base case projections of three different sets of factors that are exogenous to long-term care policy. The three sets of factors are life expectancy, dependency and unit costs. These three factors have been found to be the most important exogenous drivers of demand for expenditure on long-term care (Wittenberg *et al.*, 2001). They are considered before investigation of the effect of possible policy changes, since they will have an impact under existing or changed policy. It should be noted that changing expectations of older people are not considered.

A first set of projections shows that future demand for long-term care services is sensitive to the projected numbers of older people and future dependency rates. They also show that future long-term care expenditure is highly sensitive to assumed real rises in the unit costs of care. These findings suggest that policy makers need to plan for uncertainty in future demand for long-term care. Any changes to the system

for funding long-term care need to take account of the extent of uncertainty about the future public expenditures that could arise.

As well as the central base case described above, two more base cases are presented in view of the sensitivity of the projections to the three exogenous variables. They are intended to span the range of the more plausible assumptions on these three variables. They are not intended to cover the most extreme assumptions possible. They assume that future numbers of older people will be within the range of the official GAD variant population projections, that dependency rates will either remain constant over time or fall gradually, and that the unit costs of care will rise in real terms either in line with average earnings or somewhat more slowly.

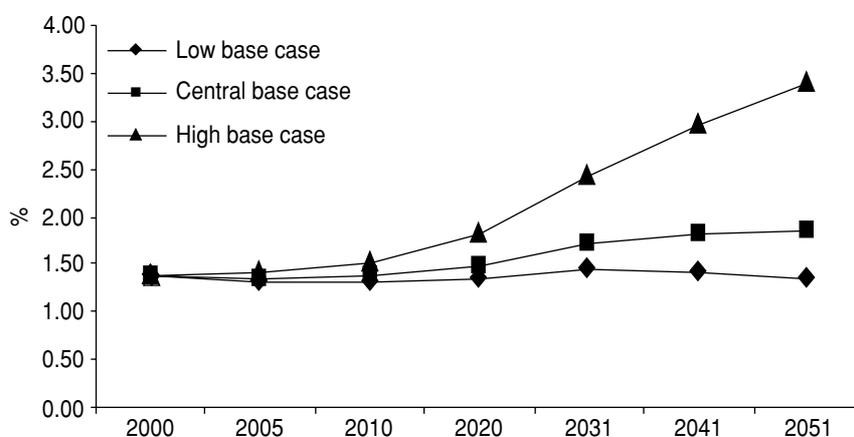
Dependency is defined in the model in terms of ability to perform activities of daily living (personal care tasks) and instrumental activities of daily living (domestic care tasks). The analysis is, therefore, based on prevalence of physical dependency rather than of specific diseases. Changes in the prevalence of specific diseases are likely to affect demand for long-term care primarily through their impact on the prevalence of dependency.

Under the low base case assumptions, the numbers of dependent older people would rise by only 61 per cent between 2000 and 2051, compared with 113 per cent under the central base case. Long-term care expenditure would represent 1.35 per cent of GDP in 2051 under the low base case assumptions, compared to 1.83 per cent under the central base case assumptions.

Under the high base case assumptions, the numbers of dependent older people would rise by 147 per cent between 2000 and 2051, compared to 113 per cent under the central base case. Long-term care expenditure would represent 3.39 per cent of GDP in 2051 under the high base case assumptions, compared to 1.83 per cent under the central base case assumptions.

The results of projections under these three base cases, as a proportion of GDP, are shown in Table 2 and Figure 1. The figure illustrates the extent to which there is uncertainty about future long-term care expenditure. It shows that, even under current patterns of care and funding arrangements, there is uncertainty about whether and how far the proportion of GDP devoted to long-term care will need to rise over the next decades to meet demographic pressures and rises in the real unit costs of care.

**Figure 1 Expenditure on long-term care as a percentage of GDP under the low, central and high base case assumptions, UK, 2000–51**



Source: PSSRU/NCCSU model estimates

**Table 2 Projected expenditure on long-term care as a percentage of GDP under the low, central and high base case assumptions, UK, 2000–51**

	2000	2005	2010	2020	2031	2041	2051
<i>Low base case assumptions</i>							
Public expenditure as per cent of GDP	0.93	0.90	0.87	0.90	0.95	0.94	0.89
Private expenditure as per cent of GDP	0.44	0.43	0.44	0.45	0.48	0.48	0.45
All long-term care expenditure as per cent of GDP	1.37	1.33	1.31	1.35	1.43	1.42	1.35
<i>Central base case assumptions</i>							
Public expenditure as per cent of GDP	0.93	0.92	0.91	0.98	1.14	1.20	1.20
Private expenditure as per cent of GDP	0.44	0.44	0.47	0.51	0.59	0.62	0.63
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.73	1.82	1.83
<i>High base case assumptions</i>							
Public expenditure as per cent of GDP	0.93	0.97	1.02	1.24	1.64	1.97	2.25
Private expenditure as per cent of GDP	0.44	0.45	0.50	0.59	0.79	0.98	1.14
All long-term care expenditure as per cent of GDP	1.37	1.42	1.51	1.83	2.43	2.95	3.39

Source: PSSRU and NCCSU model estimates

## Changes in patterns of care

A second set of projections explores the potential effect of possible changes in the patterns of care. The projections allow for three scenarios: a decline in informal care, an increase in support for informal carers, and a change in the balance between residential and home care.

The first scenario, allowing for less informal care, assumes a sharp decline in co-residence of older people with their children and a corresponding increase in residential care. The results of the projections suggest that such a decline in co-resident care by children would have little impact on long-term care expenditure in future years. This is probably because the numbers of older people living with their children are already very small.

The second scenario allows for an increase in support for informal carers by assuming that services become more 'carer-blind'. It gives the most dependent older people who live with others the same packages of non-residential services as those living alone. This would increase overall demand for services and increase expenditure. Long-term care expenditure would represent around 2.0 per cent of GDP in 2051 under this scenario, compared to 1.83 per cent under the central base case.

A shift from residential care to home care, on the basis of assumptions made by the National Beds Inquiry, would lead to a slight reduction in expenditure. This is, however, a consequence of the specific assumptions used, which involve a modest package of home care and community nursing.

## Changes in the funding system

A final set of projections relates to potential changes in the funding system. Free nursing care in nursing homes has been introduced throughout the UK, with some variations between countries. Within the range explored, variations in the average weekly sum met by health services for nursing care in nursing homes would have only a marginal effect on the balance between public and private expenditure on long-term care. There is assumed to be no effect on overall expenditure.

The costs of free personal as well as nursing care would be expected to depend on the definition and coverage of free personal care and on its impact on overall demand for care. The study follows the approach of the Royal Commission in terms

of the coverage of free personal care. Older people in care homes would remain responsible for their housing and living costs. These are assumed to be £135 per week (in 2000 prices) on the basis of social security benefit rates. Older people in their own homes would remain responsible for the costs of meals and domestic help but not for the costs of help with personal care tasks.

The introduction of free personal and nursing care would have an immediate effect on long-term care expenditure in the base year, increasing public expenditure in 2000 from approximately £8.8 billion to approximately £10.3 billion. Private expenditure would fall from around 32 per cent to around 20 per cent of all expenditure on long-term care in 2000. Private expenditure under a policy of free personal and nursing care would relate to hotel costs in care homes and costs of domestic care in the community.

The projections suggest that, under a free personal and nursing care scenario, public expenditure on long-term care would increase to around £42.6 billion in 2051, compared to £35.4 billion under the current funding system (the central base case). Public expenditure on long-term care under a free personal and nursing care scenario would amount to 1.45 per cent of GDP in 2051, compared to 1.20 per cent under the base case. These projections do not allow for an increase in demand as a consequence of personal care becoming free. The impact of an increase in demand is considered later.

The implications for public expenditure of a policy of free personal care under the low and high base case assumptions can be compared to the implications of the current funding system for public expenditure on long-term care (Table 3). If the numbers of people with dependency do not rise as fast as the base case assumes, then the percentage of GDP spent by the state on long-term care under a policy of free personal care in 2051 might not be much higher than it is today. Thus, currently, public expenditure on long-term care is 0.93 per cent of GDP. With a policy of free personal care, public expenditure on long-term care is projected to be 1.07 per cent of GDP in 2051 under the low base case assumptions. If, however, the numbers of people with dependency and unit costs of care are higher than in the central base case, then a policy of free personal care might mean that the percentage of GDP spent by the state on long-term care in 2051 would be almost three times what it is today. Thus, with a policy of free personal care, public expenditure on long-term care is projected to be 2.70 per cent of GDP in 2051 under the high base case assumptions.

**Table 3 Projected expenditure on long-term care as a percentage of GDP under the free personal and nursing care scenario (Royal Commission’s approach), using low, central and high base case assumptions, UK, 2000–51**

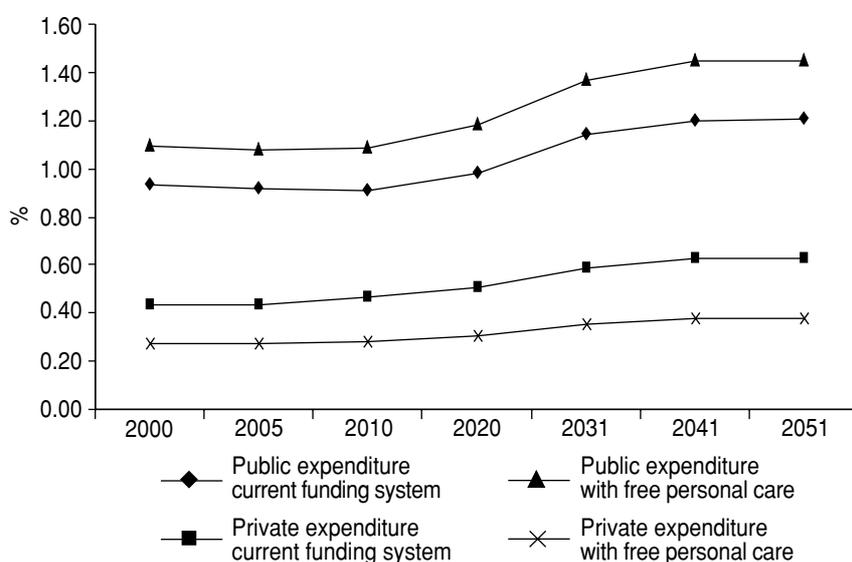
	2000	2005	2010	2020	2031	2041	2051
<i>Free personal care (low base case assumptions)</i>							
Public expenditure as per cent of GDP	1.09	1.06	1.04	1.07	1.14	1.13	1.07
Private expenditure as per cent of GDP	0.28	0.27	0.27	0.28	0.29	0.29	0.28
All long-term care expenditure as per cent of GDP	1.37	1.33	1.31	1.35	1.43	1.42	1.34
<i>Free personal care (central base case assumptions)</i>							
Public expenditure as per cent of GDP	1.09	1.08	1.09	1.18	1.37	1.44	1.45
Private expenditure as per cent of GDP	0.28	0.28	0.29	0.31	0.36	0.38	0.38
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.72	1.82	1.83
<i>Free personal care (high base case assumptions)</i>							
Public expenditure as per cent of GDP	1.09	1.13	1.21	1.47	1.95	2.36	2.70
Private expenditure as per cent of GDP	0.28	0.28	0.31	0.35	0.48	0.58	0.68
All long-term care expenditure as per cent of GDP	1.37	1.42	1.51	1.83	2.43	2.94	3.38
<i>Current funding system (central base case assumptions)</i>							
Public expenditure as per cent of GDP	0.93	0.92	0.91	0.98	1.14	1.20	1.20
Private expenditure as per cent of GDP	0.44	0.44	0.47	0.51	0.59	0.62	0.63
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.73	1.82	1.83

*Source: PSSRU/NCCSU model estimates*

The projected impact of free personal care on public and private expenditure on long-term care is illustrated in Figure 2. The figure highlights the changing balance between private and public expenditure under the current funding system and under free personal care. Public expenditure would constitute some 79 per cent of all long-term care expenditure in 2051 compared with 66 per cent under the base case.

Introduction of free personal care would probably also affect overall demand for care. The size of the effect is explored in a number of scenarios concerning the impact of free personal care on the supply of informal care and demand for formal services. Projections under these scenarios show a slight increase in the projected proportion of GDP spent on long-term care now and in 2051.

**Figure 2 Public and private expenditure on long-term care as a percentage of GDP under the current funding system and under free personal care, UK, 2000–51**



Source: PSSRU/NCCSU model estimates

The effect of allowing for an increase in demand following the introduction of free personal and nursing care is, as expected, that public expenditure on long-term care is higher than if increased demand is not taken into account (Table 4). Increases in public expenditure as a result of increased demand for domiciliary services would have an immediate effect on long-term care expenditure in the base year, adding £0.2 billion to expenditure in 2000 in the case of a 12 per cent increase in demand and £0.5 billion in the case of a 25 per cent increase in demand. The projections suggest that, under a scenario in which there is a 12 per cent increase in demand for domiciliary services following the introduction of free personal and nursing care, public expenditure on long-term care would increase to £43.5 billion (1.48 per cent of GDP) in 2051, compared to £42.6 billion (1.45 per cent of GDP) when demand is not taken into account. In a scenario in which there is a 25 per cent increase in demand for domiciliary services, public expenditure on long-term care would increase to £44.4 billion (1.51 per cent of GDP) in 2051. The effects of increases in demand for domiciliary services, as a result of a policy of free personal and nursing care, would therefore be relatively modest, within the range of assumptions explored here.

An increase in demand for institutional care, following the introduction of free personal and nursing care, is also examined. A key argument of the note of dissent to the report of the Royal Commission was that a policy of free personal care might encourage older people and their children to use residential care instead of family care. To model this possibility, the scenario allowing for a decline in co-residence of older people with their children and a corresponding rise in institutional care

**Table 4 Projected expenditure on long-term care as a percentage of GDP, under different scenarios for free personal and nursing care, UK, 2000–51 (central base case assumptions)**

	2000	2005	2010	2020	2031	2041	2051
<i>Base case</i>							
Public expenditure as per cent of GDP	0.93	0.92	0.91	0.98	1.14	1.20	1.20
Private expenditure as per cent of GDP	0.44	0.44	0.47	0.51	0.59	0.62	0.63
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.73	1.82	1.83
<i>Free personal care (without increase in demand)</i>							
Public expenditure as per cent of GDP	1.09	1.08	1.09	1.18	1.37	1.44	1.45
Private expenditure as per cent of GDP	0.28	0.28	0.29	0.31	0.36	0.38	0.38
All long-term care expenditure as per cent of GDP	1.37	1.35	1.37	1.49	1.72	1.82	1.83
<i>Free personal care, with 12 per cent increase in demand for domiciliary services</i>							
Public expenditure as per cent of GDP	1.11	1.10	1.11	1.21	1.40	1.47	1.48
Private expenditure as per cent of GDP	0.28	0.27	0.28	0.30	0.35	0.37	0.38
All long-term care expenditure as per cent of GDP	1.39	1.37	1.39	1.51	1.75	1.85	1.86
<i>Free personal care, with 25 per cent increase in demand for domiciliary services</i>							
Public expenditure as per cent of GDP	1.14	1.13	1.13	1.23	1.43	1.50	1.51
Private expenditure as per cent of GDP	0.27	0.27	0.28	0.30	0.35	0.37	0.38
All long-term care expenditure as per cent of GDP	1.41	1.40	1.42	1.54	1.78	1.88	1.89
<i>Free personal care, with increase in demand for residential care</i>							
Public expenditure as per cent of GDP	1.09	1.08	1.09	1.20	1.40	1.47	1.48
Private expenditure as per cent of GDP	0.28	0.28	0.29	0.32	0.37	0.39	0.40
All long-term care expenditure as per cent of GDP	1.37	1.36	1.38	1.51	1.77	1.87	1.87

Source: PSSRU/NCCSU model estimates

(described in the 'Changes in patterns of care' section above) was combined with the free personal care scenario. The effect of an increase in demand for residential care under these assumptions is, however, modest. Public expenditure on long-term care would increase to 1.48 per cent of GDP in 2051 under this scenario, compared to 1.45 per cent when an increase in demand is not taken into account.

### **The distributional impact of changes in the funding system**

As well as the impact on overall expenditure shown above, the models can be used to investigate the distributional impact of changes in the funding system. Of particular interest is the variation by income group in the proportion of care home fees met by care users under the different charging regimes (Hancock *et al.*, 2003).

Table 5 shows the percentage of independent residential and nursing home fees met by care recipients or their families, by their level of income, defined to include the annuitised value of their capital, including housing wealth. The results shown are for the years 2000 and 2020, and for people aged 85 or more (see Hancock *et al.*, 2003 for more details). The income distribution of these care home residents has then been divided into thirds: low, middle and high income. The thresholds between the three income bands are £4,540 and £12,870 for older people in residential care homes, and £4,490 and £12,040 for older people in nursing homes in 2000. The figures shown in the table assume that care home fees remain constant over time.

The introduction of free personal care would have no effect for the lowest income group since the current funding arrangement already meets virtually all the costs of those on the lowest income, who contribute only to their hotel costs. In the middle income group, there would be small rises in the share of fees met from public sources but the largest increases would be for the highest income group. As a result of the introduction of free personal care, in the base year, the share of fees met by residents and their families in the highest income group would reduce from 89 per cent to 48 per cent. For nursing home care, the reduction would be from 69 per cent to 34 per cent.

**Table 5 Projected share of independent residential and nursing home expenditure met by care home residents or their families, people aged 85 or more, by income group (in percentages)**

Income group	Current funding system		Free personal care	
	2000	2020	2000	2020
<i>Residential homes</i>				
Lowest	21	26	21	26
Middle	37	48	35	40
Highest	89	96	48	48
<i>Nursing homes</i>				
Lowest	16	21	16	21
Middle	26	34	25	29
Highest	69	76	34	34

*Source: PSSRU/NCCSU model estimates*

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