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Projections for long-term care expenditure to 2050.

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MODELLING AN ENTITLEMENT TO LONG-TERM CARE IN EUROPE:

PROJECTIONS FOR LONG-TERM CARE EXPENDITURE TO 2050

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Abstract

Purpose
As the numbers of older people rise in Europe, the importance of long-term care services in terms of numbers of users and expenditures can be expected to grow. The purpose of this paper is to examine the implications for expenditure in four countries of introducing a national entitlement to long-term care services for all older people, based on assessed dependency.

Methods
The paper is based on a European Commission-funded cross-national study, which makes projections to 2050 of long-term care expenditure in Germany, Italy, Spain and the UK. The policy option investigated is based on the social insurance scheme for long-term care in Germany. Germany is the only country in the study to embody the principle of an entitlement on uniform national criteria to non-means-tested long-term care benefits, based on assessed dependency. The research models this key principle of the German system in the other three participating countries, with respect to home-care services. The modelling is also relevant to Germany, in that it assumes that formal services only are provided, rather than, as in the German system, a choice of cash benefits.

Results/Conclusions
If all moderately/severely dependent older people receive an entitlement to formal home care, the impact on expenditure could be considerable and would vary greatly between the countries. The impact on long-term care expenditure is least in Germany, which already has an entitlement to benefits, and greatest in Spain, where reliance on informal care is very great. The paper concludes by analysing the policy implications of these results.
Introduction

The citizens of the European Union (EU) are increasingly older citizens (cf Walker 1993). The numbers of people aged 65 and over in the EU are projected to rise by 70% over the next fifty years or so, from 61 million in 2000 to 103 million in 2050 (Eurostat 2000). By the year 2050, people aged 65 and over will comprise over one in four of the EU’s population. Just 60 years ago, those aged 65 and over would have made up just one in fourteen of the EU’s population. The growth in the numbers of older people is so dramatic that it has been described as a “silent revolution” (Walker 1993). It is a change that has major policy implications.

The ageing of the population has prompted concern in the EU about the future affordability of long-term care for older people. A recent study by the Economic Policy Committee (EPC) of the EU, entitled Budgetary Challenges Posed by Ageing Populations, looked at the impact of ageing on future public expenditure on pensions, health and long-term care and how it would affect the fiscal sustainability of public finances in the EU (EPC 2001). Even more recently, a study for the Directorate-General for Economic and Financial Affairs explored the Economic and Financial Market Consequences of Ageing Populations (McMorrow and Röger, 2003), focusing on the economic consequences of demographic trends in the EU to 2050 within a global context.

Concern about the future affordability of long-term care has arisen out of a number of specific aspects of the ageing of the European population. First, the numbers of ‘older old’ people (those aged 80 and over) are projected to rise even faster than the numbers
of older people, with the numbers of people aged 80 and over projected to almost triple in the EU over the next fifty years, from 14 million in 2000 to 38 million in 2050 (EPC 2001). This is important because it is among the older old that needs for long-term care are greatest. Second, there are concerns about rising dependency ratios. The EPC (2001) study, for example, found that, while the numbers of older people in the EU are projected to rise over the next fifty years, the working age population is projected to fall, resulting in a doubling in the old-age dependency ratio. By 2050, it is estimated that the EU will move from having 4 people of working age for every older person to only 2 (EPC 2001). Third, there are concerns about the future supply of informal care. It is anticipated that the increased participation of women in the labour market could lead to a decline in family support for frail older people, with resulting increases in demand for formal services and therefore in long-term care expenditure (EPC 2001).

In this context, there has been increasing debate over the funding of long-term care in a number of countries in the EU. Concerns about the adequacy of protection against the risks of long-term care prompted the European Commission to support research into social protection for dependency in old age (Pacolet et al 2000). The research concluded that there was in general inadequate insurance against the risks of long-term care in the European Union and that this, in turn, has fuelled a continuing debate over the issue of long-term care in many countries (Pacolet et al 2000).

A major issue in the debates over long-term care in the EU has been whether other countries will follow the German example and establish a system of Long Term Care Insurance (Pacolet et al 2000). Following a long debate on long-term care insurance,
Germany introduced a comprehensive Long Term Care Insurance (LTCI) system, which came into effect in two stages in 1995 and 1996. A key feature of the German system is its mandatory social insurance scheme for long-term care, which covers virtually the entire population (Rothgang 2003). Another key feature is that the social insurance scheme involves national eligibility criteria, which, if met, entitle the individual to choose between different types of services or cash benefits. Much attention has been given to the mechanisms for financing long-term care under the German LTCI system (Pacolet et al 2000). In this paper, however, the focus will be on the **entitlement to long-term care** that is conferred by the German system.

This paper looks at the implications for long-term care expenditure of introducing a national entitlement to long-term care for all older people in a number of European countries. The concerns with the impact of the ageing European population on fiscal sustainability suggests that changes in long-term care policies need to be evaluated in terms of their impact on expenditure in the long term. The impact on expenditure of an entitlement to care is, therefore, examined here within the context of **future demand** for long-term care. The research reported here is based on a European Commission-funded study, which makes projections to 2050 of long-term care expenditure. The study makes projections for four European countries: Germany, Spain, Italy and the United Kingdom (UK) (Comas Hererra and Wittenberg 2003). The study investigates the key factors that are likely to affect future expenditure on long-term care services, using comparable projection models. The focus of the present paper is on one aspect of the study, the impact on long-term care expenditure of changes in the structure of formal care services. Any such changes, however, are
also likely to affect the balance between formal and informal care and this is, therefore, also a major concern of the paper.

This paper is divided into 4 parts. It begins by looking at the long-term care funding systems in the four countries in the study and at recent debates in these countries over changes to their systems. The paper then describes the projection models used in the EU study. The third part outlines the results of the study, looking first at projections to 2050 under current policy arrangements and then at projections assuming the introduction of an entitlement to care, comparing these with projections assuming a decline in informal care. Finally the paper ends with some conclusions.
Background: long-term care funding systems in four European countries

The study reported here includes four European countries that illustrate a range of different welfare systems. The study includes two Northern European countries with highly developed welfare states, Germany and the UK. Each, however, derives from a different tradition of welfare provision, Germany being a ‘Bismarck-oriented’ country and the UK a ‘Beveridge-oriented’ country (cf Pacolet et al 2000). In addition, the study contains two Mediterranean countries, Italy and Spain, where publicly-funded social services play a relatively small role and where there has traditionally been greater reliance on family provision (Hugman 1994). These differences, particularly between the Northern and Southern European countries, are likely to be important in the context of the impact of an entitlement to care for older people on long-term care expenditure. The study contains no Nordic countries, partly because there has until recently been less debate on long-term care funding in these countries, reflecting perhaps their relatively high levels of long-term care provision (cf Pacolet et al 2000).

The long-term care system in Germany versus the other three countries in the study

One of the central features of the German Long Term Care Insurance system, which distinguishes it from that in the other three countries considered here, relates to the key principle that it employs to allocate benefits to older people. The key principle is that the scheme provides a system of benefits to older people based on their needs for care. The scheme is based on clear, nationally-applicable rules of entitlement. In order to qualify for long-term care benefits, individuals must require help with at least
two activities of daily living, for more than 90 minutes a day, over a period of six months (Rothgang 2003). Three grades of dependency are distinguished. Benefits in kind cover home care, day and night care and nursing home care, but people living at home may choose between in-kind benefits for community care and cash benefits. There is no means test for benefits under the scheme, but there is means-tested social assistance to finance the costs of care over and above the benefits.

In the other countries in the study, there is no national entitlement to long-term care based on an assessment of dependency, comparable to that which exists in Germany. Indeed, in all three countries other than Germany in the study, there is evidence of wide local variations in service provision.

In Spain, where there is a marked under-provision of formal personal social services, long-term care provision is highly decentralised and has been characterised as a “system of regional long-term care services” (Costa Font and Patxot 2003). There are significant regional differences in access to long-term care and, in particular, there are substantial differences among regions in the provision of institutional care (Costa Font and Patxot 2003). Access to publicly-funded long-term care is based on an assessment of needs and resources, which vary by region, and services are tightly rationed due to low levels of supply (Costa Font and Patxot 2003).

Equally, in Italy, where publicly-funded personal social services are also poorly developed overall, there are substantial variations between, and even within, regions (Gori et al 2003). Integrated domiciliary care (Assistenza Domiciliare Integrata), under which services are provided at the local level by municipalities and Local
Health Authorities, was introduced during the early 1990s. However, the provision of services is uneven, and *Assistenza Domiciliare Integrata* may mean services that differ with respect to several traits in different localities (Gori et al 2003). The other main form of home-based care for dependent elderly people in Italy, *Servizi di Assistenza Domiciliare*, is provided by municipalities and is extremely uneven across the country and within macro-areas (Gori et al 2003). A framework national law for the provision of social care services was enacted in 2000, but its mechanisms are weak and it is not expected that it will decrease territorial differences in the provision of social services across the country (Gori et al 2003).

In the UK, access to long-term care is based on an assessment of care needs. There is entitlement to an assessment of needs and to services assessed as required. However, there is no national set of eligibility criteria that provide an entitlement to a given level of services for a given level of assessed dependency (as opposed to cash disability benefits). Most long-term care in the UK is arranged by Local Authority social services, which have an important degree of autonomy in purchasing and funding care (Comas Herrera et al 2003a). Local authorities receive a grant from central government, but it is not ‘ear-marked’ for long-term care and they can decide how to allocate the budget. Local Authorities are also allowed to formulate their own charging policies for non-residential care, though charges for residential care are determined by central government. The effect of this is that there can be considerable local variations in long-term care services provided, eligibility criteria for services and charging for services.
Apart from regional variations in the provision of services, in all three countries other than Germany in the study, access to personal social services is also limited by means-testing. Thus, in Italy, Spain and the UK, social care services are means-tested (Gori et al 2003, Costa-Font and Patxot 2003, Comas-Herrera et al 2003). Income and assets are therefore key regulators of access to social care services in all three countries. In England, for example, those with assets above £19,500 are ineligible for publicly funded residential or home care.

**Debate on long-term care in the four countries in the study**

The German long-term care insurance model has generated considerable international interest. This international interest has included the other countries participating in the EU study. Consideration of the German model has been an important aspect of the debate over long-term care funding that has taken place in a number of the countries in the study.

In Spain, for example, since the 1990s, there has been an extensive policy debate about reform proposals to increase public sector involvement in funding long-term care (Costa-Font and Patxot 2003). This policy debate has included interest in the development of a new type of social insurance, in line with recent examples like the German Long Term Care Insurance system. However, there is still no agreement either on the design of the system or on the role that the private sector might have.
In the UK, there has been considerable debate for some time on the issue of how best to finance long-term care (Joseph Rowntree Foundation 1996, House of Commons Health Committee 1996, Royal Commission on Long Term Care 1999, Care Development Group 2001, Brooks et al 2002). The essence of the debate has been about how far people should fund their own care and how far they should be publicly funded. A particular issue has been the role of means-testing in determining how much people pay towards their care. There has been considerable interest in the German Long Term Care Insurance system. The Joseph Rowntree Foundation, an influential social research and policy organisation, argued in 1996 in favour of an entitlement to continuing care, to be free at the point of delivery, without means-testing, and funded by a national compulsory care insurance scheme (JRF 1996). The Royal Commission on Long Term Care (1999a), which reviewed the financing of long-term care and made recommendations about future financing, paid particular attention to the German Social Insurance model (Royal Commission on Long Term Care 1999b). Although the Royal Commission’s recommendation for ‘free’ personal care did not constitute an entitlement to care, it did imply that people eligible for personal care services would not be means-tested and implied a considerable shift from private to public expenditure (Wittenberg et al 2002).

Debate on form of entitlement to care

There is considerable discussion in the international literature as to the advantages and disadvantages of different forms of entitlement to care (Ikegami and Campbell 2002). A key issue in the debate is whether the entitlement to care should take the form of in-
kind services or cash benefits. This may indeed be one of the most controversial issues in relation to entitlements to long-term care (Campbell and Ikegami 2003:26).

In Germany, people living at home may choose between in-kind benefits for community care and cash benefits. Cash benefits are paid to the older person who may pass it on to a family carer. The option of cash benefits was provided in part as a means of supporting family care-givers and the cash benefit option provides a major incentive for home-based family care (Glendinning et al 1997, Schunk 1998). Indeed, one of the main goals in introducing the long-term care insurance system was to support family care (Rothgang 2003). Cash benefits are less costly in that, in the German system, the cash benefit is roughly half the value of the in-kind benefit. Cash benefits have proved very popular in Germany. About three-quarters of the recipients of home care take cash benefits alone, with only one quarter choosing in-kind benefits, at least in part (Rothgang 2003).

However, there has been debate within Germany about the use of cash benefits. It has been argued that, because cash benefits provide an incentive for family care, they are likely to have adverse effects on the labour market participation of women (Schunk 1998). It has also been argued that the care insurance cash benefit fails adequately to protect older people from poor quality care provided informally (Schunk 1998). In addition, it has been suggested that the cash benefit, which is only half the value of the in-kind benefit, is too low to allow informal carers to purchase additional care services on an ad hoc basis to relieve them of the work of care-giving (Schunk 1998). In practice, the popularity of cash benefits in Germany is gradually declining. In 1995, 84% of home care beneficiaries chose transfers in cash whereas in 2000 this
had fallen to 73%, indicating the growing importance of professional care (Rothgang 2003).

Elsewhere, however, entitlement to long-term care has taken the form of in-kind benefits. In Japan, where long-term care insurance was introduced in 2000, benefits take the form of formal services, with a few small exceptions (Campbell and Ikegami 2003). This represents one of the key differences with Germany. One of the reasons why in-kind benefits were introduced in Japan was that cash allowances were vigorously opposed by women’s rights groups. Critics of cash allowances argued that cash benefits would inhibit the development of formal services; would maintain oppressive care-giving patterns within households; would sustain a poorer quality of care than formal services; and would ultimately cost more because of higher take-up rates (Campbell and Ikegami 2003:27). Some of the disadvantages of in-kind benefits, for example, lack of user choice and inflexibility, are avoided in the Japanese scheme by the use of a ‘voucher-like system’.

In the debate over long-term care in the UK, a strong case has been put forward in academic social policy circles for an entitlement to care for the older person (cf Baldwin 1995). It has been assumed that this would reduce dependence on informal care, particularly on intergenerational carers. As Baldwin has argued, “…while family care is an important resource that should be nurtured, the primary goal of policy must be to secure the dignity and quality of life of older citizens, and to ensure that they receive the support they need in the place, and manner, they prefer. …… (I)n most cases, this would mean reducing dependence on the next generation – not increasing it ….” (Baldwin 1995: 138). Baldwin observes that this type of view has
been expressed widely, citing Sinclair et al. (1990); Arber & Ginn (1991); Baldwin & Twigg (1991) and Baldwin (1994). However, as international experience suggests, whether an entitlement to care reduces dependence on informal care clearly depends on its form.

This paper explores the implications of an entitlement to formal long-term care services, rather than cash benefits. The focus on an entitlement to services was adopted for a number of reasons. First, an entitlement to in-kind benefits provides an opportunity to explore the implications of a new scenario in Germany, assuming that cash benefits are in effect replaced by in-kind benefits. The scenario examines the effects on expenditure if all beneficiaries were to opt for professional care. This is an important scenario in the German context, given the progressive trend towards professional rather than cash benefits. Second, the focus on an entitlement to services generates a new policy scenario in the other countries, some of which, in particular Italy, already provide cash payments for care for frail older people\(^1\), but none of which provide an entitlement to formal care. An entitlement to formal services could not only reduce any unmet need through providing an entitlement to care, but alleviate pressure on informal carers.

The main question that this paper seeks to answer, then, is as follows: What would be the impact on future long-term care expenditure of the introduction of an entitlement to long-term care services, based on assessed dependency, in the four countries in the study? The international debate on the form of long-term care entitlements suggests that any entitlement to long-term care services is likely to have an effect on the balance between formal and informal care. This in turn is likely to affect future
expenditure on long-term care. An important related question, then, is as follows: What would be the impact of an entitlement to long-term care services on the balance between formal and informal care in each country?

Methodology

In order to examine future expenditure on long-term care services in an international context, comparable projection models for each country in the study were developed. This part of the paper outlines the models and explains the assumptions on which projections to 2050 were made. A full account of the models can be found in Comas-Herrera and Wittenberg (2003).

The long-term care projection models

The long-term care projection models, on which this paper is based, are cell-based or macrosimulation models that have been developed to make projections of likely demand for long-term care for older people and future expenditure under a number of assumptions. Each model has three parts: the estimation of the future numbers of dependent older people, the estimation of the volume of services they will require, and the calculation of the expenditure that those services would represent.

The first part of each model classifies the projected numbers of older people into groups according to age, gender, dependency and, in some models, other characteristics. The second part of the models applies, to the future numbers of
dependent people, the probability of receiving different types of services. The services covered can be classified, broadly, into three groups: informal care, formal services provided to people who live in their own home, and institutional care. The third part of the models calculates the expenditure required to pay for those services, by applying unit costs to each of them.

All four models cover a range of long-term care services for people aged 65 or more. The models cover, as far as possible, both the public and the private sectors (in terms of provision and funding). They include informal care by family and friends, services provided to people who live in their own homes, and services provided to those living in institutions.

Cash allowances have only been included when there is a specific choice between cash and services, as in the German system. The rationale for this is that in Germany, since the value of services on offer is higher than the cash allowance, people are unlikely to use their cash allowances to purchase formal care. Disability benefits in the UK and Italy, however, are often used as payments for private care (and to meet public sector charges) and are not alternatives to care. Their inclusion in total expenditure would produce double counting.

It should also be stressed that it has not been possible to make the models entirely comparable. To some extent, the aims, coverage and structure of the four models differ. As well as representing different long-term care systems, the models have had different original purposes and origins. For example, the UK model was designed to represent the whole long-term care sector for older people, as a means of informing
the debate about how far people should fund their own care and how far they should be publicly funded (Wittenberg et al 2001, 2002). On the other hand, the German model was designed to represent the German social insurance system for long-term care, with the purpose of calculating the size of the contributions required in the future (Rothgang 2002). The Italian, and to some extent the Spanish, models were developed specifically for the study (Patxot and Costa-Font 2003, Comas-Herrera et al 2003b). However, in these two countries, the availability of the data required for the models was limited, partly as the result of the substantial decentralisation of their long-term care systems.

These differences need to be recognised in relation to three aspects of the models that are important in the present context: the definitions of dependency, informal care and formal care services.

*Definition of dependency*

The projections presented in this paper relate to older people with moderate to severe dependency problems. In the models, ‘dependency’ is used as a short hand for ‘functional dependency’ and is defined with reference to the ability to perform Activities of Daily Living (or ADLs) and/or Instrumental Activities of Daily Living (IADLs). There are, however, variations in the definition of dependency in the four models. These have implications for receipt of informal and formal care, since older people with greater dependency are less likely to depend on informal care and more likely to use formal services.
In general, older people with lower levels of dependency are included in the Spanish, Italian and UK models than in the German model. In the cases of Germany and the UK, older people with moderate/severe dependency are those who experience problems with two or more ADLs. However, the German definition is more stringent than the UK definition, including, for example, only people who need help for at least 90 minutes a day on average. In the cases of Spain and Italy, older people with moderate/severe dependency are those who cannot perform one ADL or more without help. The definition of one or more ADLs in the Spanish and Italian models seems to represent a comparable threshold to the definition of two or more ADLs in the UK model, which defines dependency in terms of difficulty in performing ADLs rather than an inability to do without help.

Definition of informal care

The definition of informal care, used in the entitlement to care and other scenarios examined here, refers only to dependent older people who rely exclusively on informal care. Dependent older people who rely on formal services or who use both formal services and informal care are excluded from the definition. This definition was adopted to maximise the comparability between the models and to compensate for the fact that, in some countries, data were not available with which to produce a direct measure of informal care.

Although this overall definition of informal care is shared, the way in which the numbers of people with informal care have been estimated differs. There are three main approaches. First, in the German model, recipients of informal care are defined as older people living at home who receive cash benefits under the Long Term Care
Insurance system. Second, in the UK and Spanish models, informal care is measured directly using national survey data. Third, in the Italian model, receipt of informal care is estimated by calculating the number of dependent older people receiving formal care services, both home-based and institutional, and deducting these from the total number of dependent older people

Definition of formal care

There are differences in the definition of formal care between the model for Germany and that for the other three countries, which in part reflect real differences in the long-term care systems. Thus, in the German model, recipients of formal care are defined as older people who receive professional home care and nursing home care under the Long Term Care Insurance system. Residential homes are not included in the model per se, although recipients of residential care are eligible for professional home care benefits and are treated accordingly in the model. In the other three countries, on the other hand, formal care covers recipients of key non-residential services and recipients of different types of institutional care.

With respect to institutional care, this means that the German model includes nursing home care, but not hospitals, hospices or residential homes. The models in the other three countries, on the other hand, include not just recipients of nursing home care but also recipients of long-stay hospital care, residential care, and in the case of Italy, residential rehabilitation. With respect to home-based care, the German model differs from the other three models in its treatment of privately-purchased home care. The other three models include the private purchase of privately provided home care. In some of the models, for example in Italy, this form of care can assume great
importance. This category of provision is not, however, by definition part of the German social insurance scheme and is therefore not included in the German model. Again then, with respect to both home-based and institutional care, then, the German model may exclude forms of care that are included in the other models.

**Assumptions used in making projections to 2050**

The four models used in this study do not make forecasts about the future. Rather, they make projections on the basis of specific assumptions about future trends. The assumptions that have been used in the central base case of the models are summarised in Box 1. The central base case attempts to approximate what may happen if no changes are made to long-term care policy. The base case projections take account of expected changes in factors exogenous to policy, such as demographic trends. The base case projections hold constant factors endogenous to long-term care policy, such as patterns of care and the funding system. The base case is used as a point of comparison when the assumptions of the model, for example, relating to a change in long-term care policy, are subsequently varied.

Four key assumptions of the central base case should be stressed. First, a key assumption is that the older population by age and gender changes in line with the Eurostat 1999-based population projections. A second key assumption is that the prevalence rates of dependency by age and gender remain unchanged over time. Third, an important assumption in the present context is that the proportions of older people by age and gender receiving informal care and formal services remains constant over time in the base case. Finally, in the central base case, it is assumed that
the unit costs of care rise in line with the EU Economic Policy Committee (EPC) assumptions for the growth in productivity in each country, while GDP also rises in line with the EPC’s assumptions (EPC 2001).³

Results

Results for the base year (2000): current patterns of provision of formal and informal care

The models provide an overview of the current patterns of informal and formal care for moderately/severely dependent older people in each of the countries in the study. This information is summarised in Table 1 below.

The models suggest that, at present, the balance between informal and formal care for moderately/severely dependent older people varies greatly between the different countries in the study. In Spain, the overwhelming majority of moderately/severely dependent older people rely exclusively on informal care and only a minority rely on formal care. Nearly 70% of dependent older people in Spain rely on informal care, whereas only 14% use home-based care and 17%, institutional care (Table 1).
In contrast, in Germany and the UK, the majority of moderately/severely dependent older people use formal care and only a minority rely exclusively on informal care (Table 1). Dependent older people in the UK rely on informal care less than in any of the other countries, with approximately a third relying on informal care, a third using home-based care and a third using institutional care. In Germany, just under half of dependent older people rely on informal care, around one in five use home-based care and a third use institutional care. Reliance on informal care is therefore greater, and use of home-based care less, in Germany than the UK.

The results from the model for Italy are somewhat surprising. The results suggest that the proportion of dependent older people receiving home-based care is higher in Italy than in any of the other countries. Moreover, the results also suggest that, in Italy, there are fewer dependent older people relying exclusively on informal care than in Germany. The figure for the number of people relying exclusively on informal care for Italy was obtained by calculating the numbers of older people receiving formal care services and deducting these from the total numbers of dependent older people. The figure for informal care therefore derives in part from that for formal home care. The high number of people receiving home-based care in Italy is associated with the very large numbers of older people in the Italian model who are estimated to receive private home help. However, the numbers receiving private domestic help in the Italian model should be treated with some caution as they may not be related to care needs. For this reason, the figure for informal care in Italy should also be treated with caution, since it almost certainly underestimates the numbers with informal care.
In other respects, the models confirm the expectation, based on the literature, that informal care is likely to be more important, and formal care less important, in the Southern European countries than the Northern European countries (Hugman 1994, OECD 1996, Jacobzone 1999). The models also confirm the expectation, based on the literature, that formal home-based care is more important in the UK than in Germany (cf Esping-Andersen 2001).

**Central base case projections, 2000-2050**

The central base case projections show the projected changes in numbers of older people, service recipients and expenditure between 2000 and 2050. These figures are summarised in Table 2 below.

![Insert Table 2](image)

The Eurostat projections used in the study suggest that, although the numbers of older people aged 65 and over are projected to increase markedly between 2000 and 2050 in the four countries, the numbers of very old people, that is, those aged 85 and over, are projected to increase even faster. The numbers of people aged 85 and over are projected to increase by between two and a half and three times in all the countries in the study over the next fifty years. The fastest increase in the numbers of very old people is projected to occur in Spain. The numbers of older people with moderate/severe dependency are projected to roughly double between 2000 and 2050.
in all the countries in the study, with somewhat lower increases in the UK and somewhat higher increases in Germany and Spain.  

Long-term care services in all the countries in the study will need to expand considerably to keep pace with demographic pressures (Table 2). The numbers of people receiving home-based care would need to more than double between 2000 and 2050 in all the countries, except the UK where numbers would need to rise by over 90%. The numbers of people receiving institutional care would also need to more than double between 2000 and 2050 in all the countries, except Italy where numbers would need to rise by over 80%.  

In all the countries in the study, long-term care expenditure would need to rise by between 375% and 500% in real terms between 2000 and 2052 to meet demographic pressures and allow for real rises in care costs. Of the four countries, the one that would see the largest rise in long-term care expenditure in absolute terms over the next fifty years would be Spain, followed by Germany, the UK and Italy. Although expenditure would increase markedly over the next fifty years, the economies of the four countries in the study are also forecast to expand. The increase in expenditure, expressed as a percentage of Gross Domestic Product (GDP), is much lower in all the countries than the increase in absolute expenditure. Nevertheless, expenditure as a percent of GDP is projected to more than double in all the countries in the study over the next fifty years, with the greatest increase in Germany, followed by Spain, Italy and the UK (Figure 1).
One of the main aims of the study was to examine how sensitive the central base case projections are to assumptions about future trends in different factors. This ‘sensitivity’ analysis shows that projected future demand for long-term care services for older people is sensitive to assumptions about future numbers of older people and about future prevalence rates of dependency. Projected future expenditure on long-term care for older people is also sensitive to assumptions about future rises in the real unit costs of services, such as the cost of an hour’s home care (Comas Herrera and Wittenberg 2003). The sensitivity analysis shows that, even under current long-term care policies, 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 met demographic pressures and rises in real care costs. What happens, then, if long-term care policy changes? This is examined in the section below.

Projections under the assumption of an entitlement to care

Operationalisation of the concept of an entitlement to care

Before looking at the results of the projections under the assumption of an entitlement to care, it is important to clarify how the concept of an entitlement to care was operationalised in the study. A number of assumptions were used, which are summarised in Box 2.

Insert Box 2
The entitlement to care is assumed to take the form of an entitlement to \textit{home-based care}, the value of which would vary in the different countries. Allowing the value of the entitlement to vary between the countries avoided the assumption that any entitlement would be more generous than current average packages of home care in any of the countries. In Germany, where there are three grades of dependency and the value of the benefit increases with the grade of dependency, the assumption is made that the value of the entitlement to care would be the value of the in-kind benefit for each grade of dependency. In the other participating countries, the value of the entitlement is equivalent to the average number of hours of home care received by formal care recipients with moderate/severe dependency. The average number of hours of home care received by formal care recipients varies in the three countries. The average hours of home care for people with moderate to severe dependency amount to 5.00 hours per week in Spain and 5.75 hours per week in the UK. In Italy, it is assumed that the entitlement to care would mean that all older people with moderate to severe dependency would be allocated social and home care services, the \textit{Servizi di Assistenza Domiciliare}, amounting to 3.06 hours per week, the average for all recipients.

The majority of the assumptions in Box 2 relate to the participating countries other than Germany. An assumption that may require some explanation is the assumption that the entitlement to care would be ‘agnostic’ on the question of means-testing. Means-testing would affect the balance between private and public expenditure. However, what is being modelled in the study is \textit{total} expenditure on long-term care, not public expenditure, and therefore the balance between private and public
expenditure did not need to be addressed. The question of whether the entitlement to care would be means-tested or not is, therefore, left open. It should be added, however, that the assumption is made that means-testing would not reduce the take-up of the entitlement and therefore implicitly it is assumed that any means test would be relatively generous.

Projections under the assumption of an entitlement to care

The results of the projections suggest that, if all moderately/severely dependent older people received an entitlement to formal home care, then the numbers receiving home-based care would be considerably higher in 2050 than under the base cases in all the countries. However, the impact of an entitlement to care on numbers receiving home-based care varies considerably between the countries. As Table 3 indicates, if there was an entitlement to care, there would be around 80% more people receiving home-based care in 2050 compared to the base case in the UK, but there would be over 200% more in Germany and nearly 500% more in Spain.

The reason why the scenario varies so much between the countries relates to its impact on existing patterns of care. A key effect of an entitlement to services, under the assumptions used here, is that all severely/moderately dependent older people who do not receive formal care under the base case, receive home-based care. In other words, people relying exclusively on informal care under the base case are, under the assumption of an entitlement to care, allocated home care. The effect is that, if there
was an entitlement to care under the assumptions used here, no moderately/severely dependent older people would rely exclusively on informal care in 2050 (Table 3). This would not imply that informal care would be completely replaced, however, since older people might still receive informal care as well as the entitlement to formal care services. Recipients of institutional care would remain the same as under the base case in 2050. The effect of an entitlement to care on the numbers of recipients of different kinds of care in the different countries depends, therefore, on the balance between informal care and home-based care under the base case. The effect of an entitlement to care would be very great in a country like Spain, where there are very large numbers of people relying exclusively on informal care under the base case, compared to the numbers receiving home-based care. On the other hand, the effect is much less in countries like the UK, where there are more people receiving home-based care (though not necessarily just home care) than informal care under the base case (Table 3).

The effects of an entitlement to care on long-term care expenditure are considerable in all the countries in the study. Expenditure expressed as a percentage of GDP in 2050, under the assumption of an entitlement to care, would be 14% higher than under the base case in Germany, over 40% higher in Spain, around 30% higher in Italy, and nearly 20% higher in the UK (Table 4).

However, the effects of an entitlement to care on long-term care expenditure are greater in some countries than in others. The scenario has the least effect on
expenditure in Germany. The reason for this is that, in Germany, all severely
dependent older people already receive, at minimum, a cash benefit under the base
case. The effect of the entitlement to care in Germany is to provide older people with
an in-kind benefit instead of the cash benefit. The net increase in expenditure is the
difference between the cash benefit and the cost of the in-kind benefit. In the other
countries, the effect is greater than in Germany because the entitlement is giving
home care to people who, under the base case, either receive no formal care at all or
receive only other types of home-based care. Looking at the effect of an entitlement
to care in the other three countries, its impact is greatest in Spain and least in the UK.
The reason is that the proportion of dependent older people relying solely on informal
care is higher in Spain than in the UK.

The expenditure implications of the entitlement to care are, therefore, high compared
to the base case, particularly in countries, like Spain, which rely heavily on family
care and do not already provide some form of entitlement to care. The impact of the
scenario is high because its effect is, at least in part, to substitute formal home-based
care for informal care. Some of the implications of this will be explored in the
conclusions.

Comparison of entitlement to care with scenarios for decline in informal care

Before drawing conclusions from the results regarding an entitlement to care, it is
useful to compare these results with some others obtained by the study. In particular,
given the effects of an entitlement to care on informal care, it is useful to compare the
results with the effects of a decline in informal care.
The study examined a number of scenarios in which a decline in informal care in future years was assumed (Pickard 2003). Three scenarios were tested. The first two scenarios assumed a decline of 0.5% a year in the proportion of dependent older people receiving informal care. The first assumed that the people no longer receiving informal care would move into institutions. The second assumed that they would receive an average package of home care. The third scenario allowed for a decline of 1% in the proportion of dependent older people receiving informal care, with half moving into institutions and half receiving home care.

The models project that, in all the countries in the study, the effects on long-term care expenditure of an entitlement to home care would, by 2050, be greater than a decline of 0.5% a year in the numbers of older people receiving informal care, assuming that the decline in informal care was accompanied by an increase in home-based formal care (Figure 3).

Insert Figure 3

The informal care scenarios also show that, for all the countries in the study, the impact of a decline in informal care would depend very much on the type of formal care provided to those no longer relying exclusively on informal care. The results in Table 5 suggest that a decline in informal care accompanied by wider admissions to institutional care would have much greater financial consequences than a similar decline accompanied by wider receipt of home-based care. It is important to bear in mind that the entitlement to care scenario, carried out as part of this study, assumed a fairly modest entitlement to packages of home care services.
Conclusions

This paper has explored the consequences for long-term care expenditure if a national entitlement to formal care was extended from Germany to moderately/severely dependent older people in three other European countries. The entitlement to care policy that was investigated also provided an opportunity to explore a potential change in older people’s preferences in Germany, by assuming that all severely dependent older people received professional care.

The paper has suggested that, if all those with moderate to severe dependency were given an entitlement to an average package of home care, then this would have a considerable impact on projected long-term care expenditure. The impact on expenditure would vary between the countries depending on whether some form of entitlement to care already exists and the extent to which older people currently rely on informal care. The impact on long-term care expenditure would be least in Germany, which already has an entitlement to care, and greatest in Spain, where reliance on informal care is very great and there is no existing entitlement to formal care. Of the three countries other than Germany in which an entitlement to care was modelled, its impact on long-term care expenditure would be least in the UK, where reliance on informal care is lower than in any of the other countries studied here.
The variations in the economic effects of an entitlement to care in the different countries arise partly because an entitlement to care services would, in effect, substitute formal for informal care, at least in part. This paper has compared the effects of an entitlement to care with scenarios allowing for a decline in informal care. This comparison shows that the effect on expenditure of an entitlement to home-based care would, by 2050, be greater than the effect of a decline of 0.5% a year in numbers relying exclusively on informal care. The expenditure effect of such a decline in informal care is predicated on the assumption that those no longer relying on informal care receive home-based care instead. However, exactly the same decline in numbers receiving informal care, accompanied by an increase in institutional care, would be much more costly. This suggests that, were a policy of an entitlement to care to include institutional care, then it could be much more costly than the scenario examined here, depending on how many people opted for residential care.

A future reduction in informal care has here been modelled as a consequence of a policy change allowing for the introduction of an entitlement to care services. However, the international literature suggests that a reduction in informal care in the coming decades may arise for other reasons, associated with long-term social trends affecting many European countries. These include rising female employment rates, a declining female care-giving potential, downward trends in co-residence of older people with their children and upward trends in older people living alone (Jani Le-Bris 1993, Salvage 1995, OECD 1996, FAMSUP 2001, Pickard 2003). An entitlement to care services would be a policy that would be consistent with these long-term trends affecting the provision of informal care.
A policy of an entitlement to care would also be consistent with policies that have been suggested as ways of combating the negative economic effects of ageing in Europe. Thus, a recent report on the economic consequences of ageing in Europe has argued that, if rising dependency ratios are to be neutralised in the coming decades, then higher labour force participation rates will be required (McMorrow and Röger 2003). Indeed, the EU already has in place policies envisaging an increase in the labour force participation of women and of older workers, both of which groups have particularly high rates of provision of informal care to older people (Salvage 1995). It is currently the policy of the European Council for women’s employment in the EU to rise to 57% by 2005 and for employment among people aged 55 to 64 to rise to 50% by the year 2010 (Kyi and Charlier 2001). Of the four countries involved in this paper, only the UK and Germany have so far achieved the target rates for women’s employment and only the UK has met the target rate for employment among people aged 55 to 64.

Internationally, some countries have already opted to introduce an entitlement to care, partly in recognition of the declining provision of informal care. Thus, one of the objectives of the Japanese long-term care insurance program was the ‘socialisation of care’, with the state assuming a substantial portion of the responsibility for the care of frail older people (Campbell and Ikegami 2003). This was in part a response to the perceived decline in traditional sources of care in Japan, with fewer older people living with their children and female labour force participation rates rising rapidly, as well as perceived value changes which have made family care less acceptable, and professional care more acceptable, in Japan.
Many European countries face similar pressures as those experienced by Japan. Whether they will resolve them by introducing an entitlement to long-term care services will depend on how they attempt to resolve the fundamental dilemma of financing long-term care. This, as Esping-Andersen has argued, consists of the pressure, on the one hand, to contain costs and, on the other hand, to provide improved services to older people (Esping-Andersen 2001).
End Notes

1 In Italy, the most important form of payment for care is the *indennità di accompagnamento*, a national, needs-related payment introduced in the early 1980s (Gori et al 2003).

2 The long-term care expenditure models do not, however, include the opportunity costs of providing informal care.

3 The *central base case* uses the EPC macroeconomic assumptions for each country for 2000-2050 (EPC 2001). These are as follows. The annual rate of growth of productivity is assumed to be 1.8% for Germany; 2.1% for Spain; 1.8% for Italy and 1.8% for the UK. Real GDP is assumed to grow at 1.4% for Germany; 1.8% for Spain; 1.4% for Italy and 1.7% for the UK.

4 Reliance on informal care in Italy has been changing in recent years (Gori et al 2003). During the 1990s, there was increasing recourse to paid work by households that include older people. This has primarily taken the form of the private purchase of home care for older people, financed in part by payments for care, such as the *indennità di accompagnamento*. The effect of this has been to weaken reliance on family care.

5 Projected increases in the future numbers of older people do not translate directly into similar projected increases in the numbers of dependent older people. This difference in the rates of growth of older people and the rates of growth of the numbers of dependent older people is due partly to differences in the age-specific dependency rates for each country and partly to differences in the definitions of dependency used in each of the models.

6 The difference in the rates of growth of dependent older people and the rates of growth of demand for services is due mainly to the way in which the probability of receiving services, for a given level of dependency, rises with age.

7 The difference in the ranking of countries by changes in absolute expenditure and changes in expenditure relative to GDP is determined by the size of the difference between the projected rate of growth of the real unit costs of care and the growth in GDP (0.4% for Germany and Italy, 0.3% for Spain and 0.1% for the UK). The differences between these two figures are based on assumptions used in the EPC (2001) report about the rates of decline in the working population in those countries.

8 The economic assumptions used in the analysis that follows are not the same as those used in the central base case (see footnote 3 above). The assumptions used here derive from the *comparative base case*, which assumes that unit costs of care and GDP rise at the same rate in all the countries over time. These assumptions are made in order to control for variations in the difference between productivity and GDP growth in the four countries and, therefore, allow for the sensitivity of the models to variables, such as changes in long-term care policy, to be compared.
References


**BOX 1**

**BASE CASE ASSUMPTIONS**

**Numbers of older people and their characteristics**

- Older population by age and gender changes in line with Eurostat 1999-based population projections. These are country-specific, but based on a common methodology.
- Prevalence rates of dependency by age and gender remain unchanged.
- The proportion of older people by age and gender living in each household type remains constant.¹

**Demand for services**

- The proportion of older people receiving informal care, formal community care services and residential and nursing home care remains constant for each sub-group by age, gender and dependency.

**Supply of services**

- The supply of formal care will adjust to match demand.²
- Demand will be no more constrained by supply in the future than in the base year.

**Expenditure and economic context**

- The unit costs of care rise in line with the EPC’s assumption for the growth in productivity in each country, while GDP also rises in line with the EPC’s assumptions (EPC 2001). These assumptions are country-specific, but based on a common methodology.³

Notes (1) This assumption only operates explicitly in the UK model, but is implicit in the other three models. (2) The models assume that real rise in wages and other payments for care will ensure that supply is sufficient. (3) See End Notes (3) and (8).
The entitlement to long-term care benefits is assumed to take the form of entitlement to in-kind benefits, that is to formal care services, rather than cash benefits.

The entitlement is assumed to apply only to people living in their own homes.

The actual amount of the home-based care entitlement is assumed to vary between the different countries. In Germany, the value of the entitlement is the in-kind benefit for each grade of dependency. In the other participating countries, the value of the entitlement is equivalent to the average number of hours of home care received by formal care recipients with moderate/severe dependency.

It is assumed that there is one hundred percent take-up of the entitlement to care.

It is assumed that people receiving other home-based services, such as day care and meals, would continue to do so, and that people receiving health care services, such as community nursing, would also continue to do so.

It is assumed that the entitlement to home care would in effect replace private purchase of care.

The entitlement to care scenario is agnostic on the question of means-testing.

It is assumed that the entitlement to care does not affect receipt of disability benefits; it only displaces cash benefits where these are offered as an alternative to in-kind benefits (as in the German system).
Table 1
Estimated numbers with informal and formal care in the four models in the study in 2000 (the base year) (thousands)

<table>
<thead>
<tr>
<th>Model Description</th>
<th>Numbers receiving</th>
<th>Percentage receiving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informal care only</td>
<td>Home-based care</td>
</tr>
<tr>
<td>Germany (two or more ADLs)</td>
<td>653</td>
<td>293</td>
</tr>
<tr>
<td>Spain (one or more ADLs)</td>
<td>624</td>
<td>130</td>
</tr>
<tr>
<td>Italy (one or more ADLs)</td>
<td>564</td>
<td>620</td>
</tr>
<tr>
<td>UK (two or more ADLs)*</td>
<td>439</td>
<td>505</td>
</tr>
</tbody>
</table>

Source: model estimates
*UK figure excludes a relatively small number of people (26 thousand) who receive neither formal nor informal care
Table 2
Projected increases in numbers of dependent older people, service recipients and expenditure between 2000 and 2050 under the central base case

<table>
<thead>
<tr>
<th></th>
<th>Germany</th>
<th>Spain</th>
<th>Italy</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>% increase between 2000 and 2050</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbers aged 65 and over</td>
<td>64%</td>
<td>76%</td>
<td>56%</td>
<td>67%</td>
</tr>
<tr>
<td>Numbers aged 85 and over</td>
<td>168%</td>
<td>194%</td>
<td>168%</td>
<td>152%</td>
</tr>
<tr>
<td>Numbers with moderate/severe dependency*</td>
<td>121%</td>
<td>125%</td>
<td>107%</td>
<td>90%</td>
</tr>
<tr>
<td>Recipients of informal care only</td>
<td>119%</td>
<td>126%</td>
<td>109%</td>
<td>65%</td>
</tr>
<tr>
<td>Recipients of home-based care</td>
<td>119%</td>
<td>123%</td>
<td>119%</td>
<td>92%</td>
</tr>
<tr>
<td>Recipients of institutional care</td>
<td>127%</td>
<td>120%</td>
<td>81%</td>
<td>111%</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>437%</td>
<td>509%</td>
<td>378%</td>
<td>392%</td>
</tr>
<tr>
<td>Total expenditure as % of GDP</td>
<td>168%</td>
<td>149%</td>
<td>138%</td>
<td>112%</td>
</tr>
<tr>
<td>Total exp. as % of GDP in 2050</td>
<td>3.32</td>
<td>1.62</td>
<td>2.36</td>
<td>2.89</td>
</tr>
</tbody>
</table>

Source: projections using the models.
* The figures for dependency should be treated with some caution as they are based on somewhat different measures of dependency (see text for further explanation).
Table 3

Estimated numbers (in thousands) with formal care in the four countries in the study under the base case and under the assumption of an entitlement to formal care in 2050

<table>
<thead>
<tr>
<th></th>
<th>Numbers receiving different types of care under base case</th>
<th>Numbers receiving different types of care under entitlement to care</th>
<th>Home-based care under entitlement to care compared to base case</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Informal care only</td>
<td>Home-based care</td>
<td>Institutional care</td>
</tr>
<tr>
<td>Germany (two or more ADLs)</td>
<td>1,427</td>
<td>641</td>
<td>1053</td>
</tr>
<tr>
<td>Spain (one or more ADLs)</td>
<td>1,410</td>
<td>290</td>
<td>341</td>
</tr>
<tr>
<td>Italy (one or more ADLs)</td>
<td>1,180</td>
<td>1,359</td>
<td>645</td>
</tr>
<tr>
<td>UK (two or more ADLs)*</td>
<td>724</td>
<td>968</td>
<td>949</td>
</tr>
</tbody>
</table>

Source: model estimates

*Under the base case, the UK figure excludes a relatively small number of people (42 thousand) who receive neither formal nor informal care. Under the assumption of an entitlement to care, these people are allocated home-based care.
Table 4

Projected expenditure on long-term care in the four countries in the study under base case and under the assumption of an entitlement to care, 2000-2050

<table>
<thead>
<tr>
<th></th>
<th>A Long-term care as % GDP, 2000</th>
<th>B Long-term care as % GDP, 2050 under base case</th>
<th>C Long-term care as % GDP, 2050 under entitlement to care</th>
<th>Difference between % increase in absolute expenditure between 2000 and 2050 under base case and 2050 under entitlement to care</th>
<th>% increase in absolute expenditure between 2000 and 2050 under base case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>1.24</td>
<td>2.72</td>
<td>3.10</td>
<td>+14.0</td>
<td>120.2</td>
</tr>
<tr>
<td>Spain</td>
<td>0.65</td>
<td>1.39</td>
<td>1.96</td>
<td>+41.0</td>
<td>115.3</td>
</tr>
<tr>
<td>Italy</td>
<td>0.99</td>
<td>1.94</td>
<td>2.53</td>
<td>+30.4</td>
<td>95.8</td>
</tr>
<tr>
<td>UK</td>
<td>1.36</td>
<td>2.75</td>
<td>3.28</td>
<td>+19.3</td>
<td>101.7</td>
</tr>
</tbody>
</table>

Source: model estimates

Notes: For comparative purposes, the projections assume that unit costs and GDP both rise at the same rate.
Table 5

Projected expenditure on long-term care in the four countries in the study, in 2050 under the base case, under the assumption of an entitlement to care and under three different scenarios allowing for a decline in informal care

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Germany</th>
<th>Spain</th>
<th>Italy</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative base case</td>
<td>2.72</td>
<td>1.39</td>
<td>1.94</td>
<td>2.75</td>
</tr>
<tr>
<td>Entitlement to formal home-based care services</td>
<td>3.10</td>
<td>1.96</td>
<td>2.53</td>
<td>3.28</td>
</tr>
<tr>
<td>0.5% decrease in numbers receiving informal care only, with increased home-based formal care</td>
<td>2.81</td>
<td>1.52</td>
<td>2.07</td>
<td>2.82</td>
</tr>
<tr>
<td>0.5% decrease in numbers receiving informal care, with increased institutionalisation</td>
<td>3.07</td>
<td>2.18</td>
<td>2.55</td>
<td>2.99</td>
</tr>
<tr>
<td>1% decrease in numbers receiving informal care, with increased home-based care and institutionalisation</td>
<td>3.24</td>
<td>2.20</td>
<td>2.60</td>
<td>3.03</td>
</tr>
</tbody>
</table>

Source: model estimates
Notes: For comparative purposes, the projections assume that unit costs and GDP both rise at the same rate.
Figure 1
Projected long-term care expenditure as a proportion of GDP in Germany, Spain, Italy and the United Kingdom, under central base case assumptions, 2000-2050

Source: projections using the models.
Notes: The central base case assumptions assume that unit costs of care and GDP grow in line with the EU EPC (2001) assumptions.
Figure 2

Projected long-term care expenditure as a proportion of GDP in Germany, Spain, Italy and the United Kingdom, under comparative base case and under assumption of an entitlement to care, 2000-2050

Source: projections using the models.
Notes: For comparative purposes, the projections assume that unit costs and GDP both rise at the same rate.
Figure 3

Projected long-term care expenditure as a proportion of GDP in Germany, Spain, Italy and the United Kingdom, under comparative base case, under assumption of an entitlement to care and under an informal care scenario 2000-2050

Source: projections using the models.
Notes: (1) For comparative purposes, the projections assume that unit costs and GDP both rise at the same rate (2) The chart shows a decline of 0.5% per year in numbers of dependent older people receiving informal care, accompanied by an increase in home-based care.