Cognitive impairment in older people: future demand for services and costs
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Introduction
This study, funded by the Alzheimer's Research Trust, aimed to make projections, for the next 30 years, of future numbers of older people with cognitive impairment, their demand for long-term care services and the future costs of their care under a range of specified assumptions.

Methodology
A macrosimulation (or cell-based) model was developed in order to investigate the impact of cognitive impairment among older people on future long-term care demand and expenditure, and to explore systematically key factors that are likely to affect future long-term care costs of cognitive impairment.

The model developed builds on an earlier long-term care projections model constructed at PSSRU and described in Wittenberg et al. (1998; 2001). The earlier model included all dependent older people and did not distinguish between those with cognitive impairment and those with other types of dependency. The new model concentrates on cognitive impairment using a range of data, including, in particular, data from the Medical Research Council’s Cognitive Function and Ageing Study (MRC CFAS). A full description of the model is available in Comas-Herrera et al. (2003).

Base case projections
The model produces projections under a set of assumptions about some of the key factors that will impact on future long-term care expenditure. This base case should be treated as a starting point for examination of the assumptions used in the model, not as a prediction of the future. The base case assumptions are summarised in the box below.

The model projects that between 1998 and 2031 the numbers of older people with cognitive impairment in England will rise by 66%, from 461,000 to 765,000. The numbers of people with cognitive impairment in institutions would rise by 63%, from 224,000 in 1998 to 365,000 in 2031, to keep pace with demographic pressures.

Expenditure on long-term care services for older people with cognitive impairment in England is projected to rise from around £4.6 billion in 1998 to

<table>
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<th>Box 1 Main base case assumptions</th>
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<td>Government Actuary’s Department (GAD) 2000-based population projections.</td>
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<td>Unchanged prevalence rates of cognitive impairment, by age and gender.</td>
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<td>Marital status changes in line with GAD 1996-based projections</td>
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<td>Unchanged service receipt patterns by age, dependency, household type and other needs-related circumstances.</td>
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<td>Social care unit costs rise by 1% per year and health care costs by 1.5% in real terms.</td>
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<td>Gross Domestic Product (GDP) grows by 2.25% per year.</td>
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around £10.9 billion in 2031 (in 2000/1 prices, that is with expected real increases but not nominal changes in care costs), as shown in figure 1. This amounts to a rise from around 0.61% of Gross Domestic Product (GDP) to around 0.70% of GDP in 2031, assuming real GDP grows by 2.25% per year.

These figures do not comprise the total costs of cognitive impairment to society. That would require the inclusion of the costs of a wider range of services to a wider range of public agencies and service users and the opportunity costs of informal care.

Factors affecting long-term care expenditure for people with cognitive impairment

Sensitivity analysis carried out using the model produced some important results (see Comas-Herrera et al., 2003, for details). It showed that projected future demand for long-term care services for older people with cognitive impairment is sensitive to assumptions about future numbers of older people and about future prevalence rates of cognitive impairment and functional dependency. Projected future expenditure on long term-care for older people with cognitive impairment 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.

The model was also used to explore changes in the assumptions about informal care and patterns of formal care. Scenarios were explored in which decreases in the availability of informal care resulted in increased use of formal services. Scenarios in which residential care substitutes for informal care would involve significant extra expenditure.

Conclusions

The results of the analyses show that, unless more effective treatments for cognitive impairment are developed and made widely available, the numbers of older people with cognitive impairment will rise significantly over the next 30 years. This means that substantial increases in formal services will be required. The implication is that there is a need to develop, and make widely available, better treatments to slow down the progressive decline associated with dementia.

It should be stressed that the model does not make forecasts about the future. It makes projections on the basis of specific assumptions about future trends. The approach involves simulating the impact on demand of specified changes in demand drivers, such as demographic pressures, changes in household composition, or specified changes in patterns of care, such as more support for informal carers. It does not involve forecasting future policies or patterns of care.
References


Further references — mental health economics and older people


Unit Costs of Health and Social Care 2002
Edited by Ann Netten and Lesley Curtis and published by the PSSRU

The tenth annual Unit Costs report is the largest (at 201 pages) and, we believe, the most accurate yet. The aim of the series is to improve unit cost estimates over time, drawing on material as it becomes available, including ongoing and specially commissioned research. It brings together information from a variety of sources to estimate national unit costs for a wide range of health and social care services.

The report consists of sets of ‘schemata’ or tables, which as well as providing the most detailed and comprehensive information possible, also quote sources and assumptions so users can adapt the information for their own purposes. Also included are: an editorial discussing current and new developments; brief articles providing background to user services, descriptions of cost methodology or use of cost estimates; price indices; a reference list of key studies; a glossary; and indexes.

New in this edition
In this volume a new section on services for disabled people includes rehabilitation and independent living services as well as high dependency residential services. A new schema is included for nurse-led rehabilitation wards. Other new costs information covers the patient costs of visiting GPs, and social services child care drawing on the Children in Need data collection.

There are five brief articles: a description of a study which is examining the cost implications of a nurse practitioner service for care home residents; details of service levels and costs of inpatient care as a source of support for young people with psychiatric disorders and their families; information about a new annual return on personal social services expenditure and unit costs; information about a new source of data on mental health services in England; and an article on the development of Health Accounts, a way of organising health information to permit improved analyses of the efficiency and effectiveness of health services, and enable international comparisons.

Online and in print
The 2002 edition is available in full at the PSSRU website — www.pssru.ac.uk — as an Acrobat file. Printed copies are available from the librarian at the PSSRU in Canterbury (PSSRU_library@ukc.ac.uk), price £21. Unit Costs volumes for previous years to 1995 (with articles on different aspects of costing research and methodology) are still available, and are priced at £12 for the 2001 volume and £1 each for previous years (when ordered with the 2002 volume). All prices include post and packing.