COSTS
The annual cost of dementia in the UK today exceeds £26 billion (Prince et al 2014). Costs to the NHS are substantial, equivalent to almost 4% of total health spend in the country, but costs to the social care sector are 2.5 times higher. More than half the social care cost falls directly to the people who use services (as self-funders or through user charges). But the largest cost is the time spent providing care and support by unpaid family members and other carers.

Some of these costs are welcome, others not. The ‘good costs’ represent the appropriate, evidence-based treatment and care responses to assessed people with dementia in the UK today, and that number will double in 25 years. Even though the age-specific prevalence rate might be slowing (Matthews et al 2013), the total number with dementia will still grow rapidly as the population ages. Consequently, unless we can do something to change those trajectories, there will need to be even greater reliance on unpaid carers and big increases in health and social care service costs.

RESPONDING TO THE CHALLENGE
The figures summarised above are just aggregates. They are not cost-effectiveness findings. They do not tell key decision-makers what they might do to improve attainment. Norton et al (2014) estimate that ‘around a third of Alzheimer’s Disease cases worldwide might be attributable to potentially modifiable risk factors’. Another strategy would involve more timely identification of dementia and better screening (ie faster responses to early signs of dementia, and better screening tools to improve diagnostic accuracy). This would undoubtedly help individuals to plan their lives and should also enable them to get better health and social care support, although access remains variable across the country. Timely diagnosis might therefore also head off some crisis-related costs.

Post-diagnostic support is where most of the costs of dementia arise: this support encompasses all community and other health and social care services that people with the condition might use, plus unpaid support from carers. It also includes costs of care home residence and hospital inpatient admissions. Those latter costs can be huge, but the benefits for quality of life and health can also be substantial.

We now have a small body of robust evidence on what works in post-diagnostic support. Research has focused on areas such as carer support, staff skills, symptomatic medications, psychosocial treatments, better home-based care (including...
There were no effects (negative or positive) on people with dementia (illness severity, neuropsychiatric symptoms or quality of life). And START was clearly cost-effective. Although service costs went up over time for people in both the intervention and control groups - which is not surprising given how dementia usually progresses – overall, the START intervention was no more costly than standard support arrangements.

NEW SCENARIOS
My colleagues and I recently examined the economic consequences of different scenarios for future dementia care (Knapp et al 2014). Some scenarios looked at the wider availability and use of evidence-based interventions, while others looked at the consequences of introducing a disease-modifying treatment (as yet undiscovered) with the potential either to slow disease progression or to delay its onset.

When we looked at the wider availability of interventions such as anticholinesterase inhibitors, cognitive stimulation therapy, case management and carer support, we found that the overall impact nationally was actually rather modest in cost terms, although with important improvements in health and quality of life. In other words, more widely implementing what we know today to be effective and cost-effective would definitely improve the situation for people with dementia and/or their carers, but it would not bring down the total cost ‘bill’ of dementia by any noticeable amount.

On the other hand, a disease-modifying treatment – or, indeed, a risk-reduction strategy – that delayed onset by a year or longer would bring down costs substantially. Slowing the progression of the disease would also potentially reduce costs, because it would delay the need for people to go into care homes or hospital. There would also be gains in health and quality of life for the individuals at risk of developing dementia and their families. However, disease-modifying treatments do not yet exist, and it is difficult to conjecture when they might become available. It is also difficult to know what they might cost per patient. A high price for a new disease-modifying medication, for example, would considerably reduce (indeed perhaps completely wipe out) the savings on care costs that would be suggested by slowed progression or delayed onset.

MODEM
With colleagues at LSE and other universities, I have recently started a study which will be projecting numbers of people with dementia from now to 2040, the costs of supporting them and the quality of life outcomes under present care, support and treatment arrangements. We will then explore what would happen in cost and outcome terms if better interventions were more widely available. We will run through the scenario exercise described, but now projecting over a 25-year period, exploring a wider range of potential interventions (including risk-reduction), and carrying out more exciting analyses.

This is the MODEM study. It is funded by the Economic and Social Research Council and the National Institute for Health Research. It will start to generate findings in the next couple of years, and provide a platform of evidence to inform decisions about how the country can develop affordable, effective and cost-effective systems of care and support.

POLICY RESPONSES
In England we have been fortunate over recent years to have had two well-structured policy frameworks: the National Dementia Strategy (Department of Health 2009) and the Prime Minister’s Challenge on Dementia (Department of Health 2012). A new dementia policy (‘Vision’) is currently being discussed for England, offering suggestions for how society can best respond to dementia over the coming years.

In parallel, on the international stage, the G8 countries – along with the OECD and WHO – have committed to collaborative action to address the dementia challenge. This includes setting up the World Dementia Council. The Council (of which I am a member) is looking for ways to improve finance for investments in new treatments, better care, research collaboration (across governments, academics and industry), harmonised regulatory pathways to accelerate drug development, sharing data,
Identification and dissemination of best practice, and awareness-raising with respect to the economic and social challenges of dementia.

**A THREE-PRONGED FUTURE**

I have mostly concentrated on economic issues, although set in their wider context. We know that dementia is a major, worldwide challenge for health and care systems, and for societies more generally. Unless someone suddenly discovers an affordable cure, those challenges will get considerably bigger over the next 40 years. The costs of dementia will also increase considerably. That will necessarily include the (often hidden) burden falling on unpaid family and other carers.

Efforts to understand the aetiology of the various dementias need as much support as we can muster, as do efforts to find biomarkers and treatments. We urgently need to understand what risk-reduction strategies might be effective, and how best to implement them. We also need to know what care and support arrangements work best. Then we need to assess whether they represent cost-effective uses of society’s always scarce resources.

... **START intervention was no more costly** ...

The policy imperatives are clear, if slightly daunting. If the overarching objectives are to achieve better health and quality of life for people with dementia – indeed for everyone – and to make the best use of resources, then we need a three-pronged strategy to reduce risk, improve care and find a cure.

**References**


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**HOUSE OF LORDS SCIENCE AND TECHNOLOGY SELECT COMMITTEE**

**Resilience of Electricity Infrastructure**

In July 2014, the Committee launched an inquiry into the resilience of electricity infrastructure. The inquiry is focusing on the resilience of the UK’s electricity infrastructure to peaks in demand and sudden shocks. It is interested both in the short term (to 2020) and in the medium term (to 2030) as electricity generation is decarbonised. Oral evidence was taken until late January 2015 and the Committee will report by the end of the Session.

**2025: Priorities for Scientific Research**

In July 2014, the Committee conducted a short inquiry looking at the key challenges that the Government’s forthcoming *Science and Innovation Strategy* should tackle and the UK’s main priorities for scientific research. No report was produced but evidence was taken in public and transcripts were published and brought to the Government’s attention.

**Behaviour Change**

In May and June 2014, the Committee took oral evidence from a small number of witnesses to follow up on its 2011 report into behaviour change and assess what progress has been made in this area. This focused on the two behaviour change case studies that the Committee had investigated in its original inquiry: modal shift in transport and obesity. The Committee wrote to the Minister for Government Policy, Rt Hon Oliver Letwin MP, in July, making a number of observations and posing a series of questions, and received a reply.