

Report from the Ministerial Summit on Dementia Research

*Organised by the Department of Health (England)
and the Medical Research Council*



**Produced by the International Longevity Centre UK
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MINISTERIAL FOREWORD

The Research Summit was an important milestone in UK dementia research. I am pleased that it was attended by so many experts, including researchers, service providers and - importantly - people living with dementia and their carers. Their views have been distilled into this Report and will make a vital contribution to shaping the future of dementia research.

The discussions held at the Summit have helped to identify the priority areas for future research and some of the main challenges faced. Central amongst these is the need to improve public awareness of, and support for, dementia research in order to increase participation in research studies and encourage brain donation. Further ways of improving the dissemination of research and the 'translation' of its findings into improved treatment and care must also be sought.

It is necessary to increase awareness of the existence of resources available to dementia researchers, via funding and support for work in the field. We also need to find ways to increase collaboration, between disciplines and funders, and with the commercial sector. Continued work on 'busting bureaucracy' within governance and regulatory processes will help quicken the pace of high quality research activity.

To ensure that swift and tangible progress is made on the main issues identified by the Summit, we will establish a new Ministerial Group on Dementia Research, which I will chair. The Group will bring together those parties with a stake in dementia research to ensure momentum for action from the Dementia Summit is maintained. A central focus will be on ways to harness available resources more effectively to increase the volume, quality and impact of dementia research.

There are clearly many challenges facing the dementia research community, but also opportunities to grasp. This Report identifies ways in which we can work together to rise to the challenges and exploit the opportunities to help deliver a brighter future for people living with dementia, and their families.

A handwritten signature in black ink, reading "Phil Hope". The signature is written in a cursive style with a period at the end.

Phil Hope
Minister of State for Care Services

CONTENTS

	Page
Introduction	4
About the Report	5
Summary of Consensus Issues	6
Part 1: Morning session: Presentations	8
Part 2: Afternoon session: Roundtable Debates	22
Part 3: Afternoon session: Plenary Discussion	34
ANNEX A - Summit Programme, Facilitators and Planning Group	37
ANNEX B - List of Delegates	39
ANNEX C - Slides of Speakers' Presentations	44
ANNEX D – Links to Further Information	61

INTRODUCTION

This Report summarises the presentations, discussions and ideas which emerged from the Ministerial Dementia Research Summit held on 21st July 2009 at the Royal Society in London. The Department of Health and the Medical Research Council hosted the event, which was attended by 140 leading experts from charities, industry, public bodies, universities and voluntary organisations – including people with experience of living with dementia.

The purpose of the Summit was to identify gaps in existing knowledge and prioritise new areas for research in the dementia field. All areas of research were covered, from that designed to improve the quality of care services or appraise specific interventions, to more basic work on the causes of dementia or on the possibility of cure.

In addition to helping to develop a more clearly prioritised research agenda, the Summit also aimed to focus on ways to support the current science base and sharpen its impact. This could include better coordination of research effort, actions to increase the competitiveness of research bids and/or enhance the translation of research into effective practice.

The morning session was chaired by Baroness Greengross, House of Lords and Chief Executive of the International Centre for Longevity UK. It commenced with an overview from Barbara Woodward-Carlton on her experience of caring for her mother who had Alzheimer's disease. The Minister for State for Care Services, Phil Hope, then welcomed delegates on behalf of the Government. He set out the global challenge of dementia and explained how the National Dementia Strategy in England would deliver real change for the 700,000 people in the UK with some form of dementia and their families.

Professor Bruno Dubois from Salpêtrière University Hospital Paris followed with an update on the progress of the French National Action Plan. The main part of the morning however focussed on current research relating to the three main areas of *Cause*, including prevention, *Cure* and *Care*, with leading academics providing brief 'state of the science' overviews followed by audience discussion and questions.

The afternoon session was chaired by Professor Christopher Kennard, Chair of the MRC Neurosciences and Mental Health Board. Delegates were asked to take part in a series of 'round table' discussions on each of the three main topics: *Care*, *Cure* and *Cause*. Their task was to discuss the priorities, barriers and ways forward for dementia research and reach a consensus on the key issues. Following feedback from the roundtables, and further discussion, Baroness Greengross and Professor Kennard closed the conference and thanked all the delegates for their lively engagement throughout the day.

ABOUT THE REPORT

The structure of the Report reflects the format of the day. The first part provides an overview of the presentations in the morning and the second part summarises the ideas and issues that emerged from the roundtable debates in the afternoon. The third part of the Report is drawn from the closing plenary session, including key messages, discussion and concluding remarks from the event Chairs.

Speakers were invited to submit copies of their presentation slides (included in Annex A) and links to other relevant information and resources on dementia (Annex B). Annex C includes the full delegate list and the Programme from the day.

Speakers and facilitators were given an opportunity to comment on the draft of the Report, in order to ensure their comments and the group discussions were represented accurately.

The views and opinions contained in the Report are those expressed by the delegates and speakers attending the Summit in their personal capacity.

Acknowledgements

The Summit was funded by the Department of Health (England) with support from the Medical Research Council (MRC). The event was organised by Rosemary McMahon and colleagues from Professional Briefings. Essential advice and assistance was also provided by the dementia working group of UK Age Research Forum and by a small DH/MRC planning group (see Appendix B).

The proceedings of the Summit were recorded by Sally-Marie Bamford, Senior Researcher from the International Longevity Centre UK who also prepared the Report. The ILC-UK is an independent, non-partisan think tank concerned with issues of ageing and population change.

Many others offered their expertise and energies in the organisation of the Summit, including the Chairs, Speakers and Facilitators and we are extremely grateful to them. Special thanks must also go to the Delegates attending the event; it is their views and experiences that form the body of this Report.

Summary of Consensus Views from the Dementia Research Summit (as presented to the plenary session)

PRIORITIES FOR RESEARCH

Cause:

- Normal/abnormal function of proteins and pathways involved; biomarkers/biological models/therapeutic targets;
- Longitudinal studies – clinical and population based – emphasis on understanding risk factors and modifiable risk factors;
- Interactions of pathologies.

Cure:

- Early identification of patients for research to provide potential participants for trials;
- Specific treatment of behavioural symptoms;
- Look elsewhere for point of attack - i.e. away from amyloid hypothesis.

Care:

- How best to involve people with dementia in all aspects of research;
- Knowledge transfer – need to draw together existing research and integrate it into practice;
- Importance of the physical and social context; how the micro and macro environment influences quality of life;
- Service evaluation - what works best for whom, in what circumstances and where.

BARRIERS TO RESEARCH

Cause:

- Regulatory/bureaucratic hurdles – animal work, human tissue, clinical trials;
- Inadequate infrastructure support;
- Poor public and NHS support for autopsies/brain donation.

Cure:

- Poor education and recognition generally amongst non specialist healthcare workers
- Lack of awareness of the availability of research funding streams
- Regulatory delays, ethics committees and litigation avoidance.

Care:

- Complexity of the hurdles, for example research governance and ethics;
- Too much focus on randomised controlled trials;
- Limited dissemination of results.

PROPOSED SOLUTIONS

Cause:

- National register of patients attending memory clinics and standardised minimum assessments;
- Wider public, political and healthcare service engagement;
- Incentivising interdisciplinary networks.

Cure:

- Raising research capacity, especially young researchers;
- Targeted funding and facilitation of funding applications;
- New collaborations, especially with the pharmaceutical industry.

Care:

- Research culture from point of diagnosis onwards including care homes/general hospital;
- Cochrane reviews for qualitative studies on care;
- Embedding evaluation into service development.

PART 1: MORNING SESSION: OVERVIEW OF PRESENTATIONS

Baroness Greengross opened the event and welcomed delegates. She said that with 700,000 dementia sufferers in the UK and with one in three people who survive to 65 ending their life with a form of dementia, it was critical this Summit served as a catalyst for change and progress. Baroness Greengross noted that whilst our increased longevity is testament to our success as a society, it has conferred additional responsibilities, such as the challenge of dementia.

Baroness Greengross stressed the importance of the Summit and the need for more research. Investing in research would reap rewards not only for the individual with dementia, she said, but their families and society as a whole. The Summit was an opportunity for delegates to have their say and help shape the future direction of dementia research in the UK.

The aim of the day was to identify gaps in existing knowledge and prioritise new areas for research investment. Baroness Greengross added that if ever there was a priority, it should be the challenge of dementia, and she urged all the delegates to take up the challenge of the Summit with enthusiasm and make their contribution count.

A Carer Experience

Barbara Woodward-Carlton

Mrs Woodward-Carlton began by telling the delegates why she was present - it was for her mother and all others who had dementia. For most of her life she has been a teacher and even with the most recalcitrant of pupils there was always the hope that they could get better. Yet caring for her mother with Alzheimer's disease required a change in outlook, as she knew her mother was never going to get better, so there was no room for that hope. During the five years Mrs Woodward-Carlton cared for her mother, she said she acquired a wealth of knowledge about the disease, treatments available (or rather lack of treatments available), statutory service provision (ranging from hospitals to social services) and the attitudes of those who cared for people with dementia.

Most of the services she encountered were very good, though there were some horrendous experiences. Helpful advice and support came from the voluntary sector in her local area of North Yorkshire. She told the delegates that, while her mother was frequently forgetful and confused she would always say on the days she went to the day centre: *"I like going there, don't I?"* Her mother's response to the sitting service was similarly warm: *"What good friends we have!"*

Their mutual experience of the hospital was less positive: while the care on the ward for people with dementia was impressive, she lamented the poor standards in the general ward. Her mother, who by nature was not prone to complaining, in all her confusion would say: “*I don't like it here!*” Mrs Woodward-Carlton discussed her mother’s treatment after her death, with the Director of Nursing, highlighting the problems. The Director of Nursing said that it was known that: “*There was a culture of neglect on the ward!*”

After Mrs Woodward-Carlton’s mother died, she heard about the research arm of the Alzheimer’s Society: Quality Research in Dementia (QRD) a consumer network. She is now a lay member alongside 180 other volunteers, who work to help set the dementia research agenda, award grants, monitor projects and assess outcomes. Dementia, Mrs Woodward-Carlton argued, can only be defeated by research and this will only work if there is significant investment in research and if the results are effectively disseminated and implemented.

For example, with regard to anti-psychotic drugs, she argued, the evidence base is there and yet the practice is still far too widespread. Mandatory training on care and treatment in residential homes and hospitals is essential. Carers, Mrs Woodward-Carlton stressed, have a wealth of experience and this should be tapped into and utilised to educate professionals. Carers should also have more influence in helping to inform and set the research agenda.

Ms Woodward-Carlton concluded her speech by calling for a National Dementia Research Strategy. While there are strong moral and ethical imperatives for the Strategy, she said, there is also an overwhelming economic argument that if we spend now we save later. She acknowledged the current recession, but felt that this should not preclude investing today for tomorrow.

Dementia: The Challenge for the UK

Phil Hope

Phil Hope, Minister for Care Services, welcomed delegates and stressed the importance of the Summit for the future of dementia research in the UK. Their contributions would be felt for years to come. He said the public and politicians had finally woken up to the impact and importance of dementia. It is now in the position that cancer was 50 years ago and it is the sort of thing that drives people away with friends and family unsure of just what to say or how to respond. So unfortunately, at a time when you need people the most, they turn away.

The Minister stressed however the tide was turning, partly due to a number of people, such as Sir Terry Pratchett and Fiona Phillips, who have come forward in the public domain. This change in attitudes is mirrored by changes in the NHS and the research community and is reflected in the calibre of delegates at the Summit. The Minister noted that people with dementia and their families were also present and he highlighted just how important their contribution was to the debate.

Dementia is a global problem, with the spotlight not only falling on dementia in the UK but all around the world. Countries are waking up to the realities of this cruel disease and its implications. The United Kingdom, France and Germany are blazing a trail in Europe, and the European Commission is also leading the way by supporting a European initiative on dementia and neurodegenerative disease, which focuses among other things, on the need for better coordination of research across the European Union. And in the United States, at a time when health care costs and coverage are high on the political agenda, a high level report on dementia has gone to President Obama. A global problem necessitates global solutions and members of the global research community must pool their talent and resources, so they can learn as much as they can from each other.

The Minister moved on to discuss the scale of the challenge posed by dementia, quoting figures he knew that all participants would be familiar with. Around 700,000 people in the UK have some form of dementia, costing our society around £17 billion a year. Over the next thirty years, in the absence of any dramatic breakthrough in treatment, that number is likely to double and the cost will triple. When you replicate these numbers across the world, particularly in the ageing developed nations, a clear picture of the enormity of the challenge emerges.

In order to meet this challenge in February 2009, the National Dementia Strategy was launched. Writing the Strategy was the easy part. The hard part, and what people would judge the government on, would be its implementation. The Strategy contains a wide range of objectives designed to improve the quality of care for people with dementia and their carers. These are based around the three themes of: raising public and professional awareness; ensuring an early and accurate diagnosis with appropriate initial support and information and delivering high quality care for people with dementia throughout their life course.

Of critical importance was the raising of awareness and understanding of dementia among both professionals and the public. Sir Terry Pratchett has been particularly instrumental in raising the profile of dementia and has focussed strongly on the need for good quality research. This Summit is a recognition of the importance of research.

The Strategy's second theme concerns giving people with dementia an early and accurate diagnosis and ensuring the individual and carer receive good quality information and guidance following diagnosis. Sometimes GPs and other professionals can be reluctant to diagnose dementia in its early stages. This is partly because they perceive that there is nothing they can do about it and so feel it is preferable that the individual is not informed of their diagnosis.

However this runs contrary to the experience of the vast majority of people with dementia and their carers who testify to the importance of early diagnosis. A memory clinic in Croydon is providing the sort of exemplary service which is needed, offering a comprehensive early assessment, diagnosis and management service, staffed by professionals from both mental health and social services. The Minister stressed that, while

the Croydon model would not work for every area, it shows what can be achieved with the right sort of planning, commitment and coordination of services.

The third theme of the Strategy refers to ensuring people with dementia and their carers receive the very best care and support. Recently the Government announced the selection of 40 demonstrator sites that will test the role of dementia advisers and peer support groups to provide the help that people need throughout the course of the illness.

The Department of Health, the Minister said, was playing its part in providing support and guidance on implementing the Strategy. But ultimately, whether it will make a real difference to people's lives or not will depend upon local decisions and local services. And on the extent to which people with dementia and their carers have been involved in the making of these decisions.

With regard to research, the Minister highlighted that one of the Strategy's key objectives was to develop a clearer picture of the current body of research; to identify where there are gaps and to recommend how these gaps should be filled. The Summit today will play a major contribution in achieving this objective.

In recent years, he said there had been a significant investment in dementia research. The Medical Research Council and the Wellcome Trust had allocated £30 million to fund interdisciplinary research programmes in neurodegeneration and the MRC and the National Institute of Health Research funded between them £32 million of dementia research in 2007/8. As part of this, the National Institute of Health Research has invested £20 million over the next five years in a national clinical research network for dementia and neurodegenerative diseases. This network is designed to improve the quality of research, to strengthen collaboration between the NHS and industry and, most importantly, to ensure the better integration of health research and patient care.

The Minister also announced that the Department of Health's Policy Research Programme would fund a national evaluation of demonstrator pilots on the peer support networks and the dementia adviser service set out in the National Dementia Strategy. This would mean that the lessons learnt from high quality research will be able to feed directly into better quality care.

To conclude, the Minister said he was proud of what had been achieved in publishing the first National Dementia Strategy and of the efforts made nationally and locally to improve services, which would make a huge difference to the quality of people's lives. But in the long term he said, the hope must be that the research discussed at the Summit, would make the biggest difference of all.

Professor of Neurology, Director of the Cognitive and Behavioural Neurology Department and Head of INSERM Unit and Dementia Research Centre. Salpêtrière University Hospital, Paris

Professor Dubois said it was an honour for him to attend the Summit and to present the French National Action Plan on Dementia recently initiated by President Sarkozy. He explained that there had been two previous Plans which included national diagnostic networks with 340 memory clinics and 26 regional expert centres, but without any specific funds at the time dedicated to research. The National Plan changed all that.

Conceived in August 2007 under the responsibility of Professor Menard, President Sarkozy presented the ambitious plan in February 2008. There are 44 specific aims, with €1.6 billion committed over five years, €1.2 billion dedicated to social support, €200 million dedicated to medical support and €200 million dedicated to research. He said that the strength of the National Action Plan was partly linked to the power invested in Florence Lustman who is directly accountable only to the President and stands aside from the Prime Minister and the government departments.

The €200 million dedicated to research will fund biological, care, clinical and public health research. The Foundation for Scientific Cooperation, headed by Professor Amouyel, is charged with coordinating the research, combining public and industrial sector capabilities on common national research objectives under the direct supervision of the President.

Professor Dubois urged delegates to look beyond their national frontiers and remember dementia is a European and global challenge. There are 6 million people with dementia in Europe and over 11 million Europeans will suffer from Alzheimer's disease and other forms of dementia by 2040. The total annual cost of dementia across Europe in 2005 was €55 billion.

At the European level, there had been some significant innovations and initiatives. The pilot Joint Programming Initiative on neurodegeneration, including Alzheimer's disease, announced by the European Commission in July would prove to be particularly significant. This approach involves Member States engaging voluntarily in the definition, development and implementation of a common research agenda. The merits of Joint Programming were numerous, including avoiding unnecessary duplication, pooling and coordinating the efforts of European researchers in the field and increasing the efficiency and effectiveness of national and EU research and development spending.

Professor Dubois highlighted the importance of developing European collaboration. Fighting neurodegenerative diseases was one of the major health challenges for our ageing European populations. It needs to mobilise the best researchers from all fields, to develop

the sharing of best practices and know-how. The goal for the future must be a shared vision which would form a strategic research agenda. This would emerge from the combination of public research instruments at the regional, national and European level.

Research on Cause (1)

Professor Carol Brayne

Carol is the Director of the Institute of Public Health at the University of Cambridge and holds the Chair of Public Health Medicine. She has worked since the mid eighties with population based studies of older people that have followed populations up to 24 years. These studies include biological markers as well as measures that aim to capture quality of life, and the context of the individual. The studies involve a wide range of expertise from statistics, medical specialties and policy analysis as well as lay members.

Professor Brayne stated that the definition of *Cause* had many potential interpretations relevant to living well with dementia, from upstream simple risk to downstream causes of behavioural change. In order to think about *Cause*, it was necessary to understand and know the thing caused. Some writers suggest some issues in health, such as obesity are 'wicked issues' meaning that they are difficult to define, have complex causes and solutions and consequently complex strategies for research.

Professor Brayne said dementia could also be labelled a 'wicked issue'. It remains a clinically defined syndrome without clear-cut biological markers that can tell you whether a person has or will develop dementia in future life and how that dementia will unfold. Because it is defined by changes in thinking and behaviour the diagnosis and investigation is sensitive to the cultural expectations of the people around the person, and to clinical fashion.

The risk of dementia rises very dramatically in the oldest old (90+), with the very oldest at 25 times the risk compared with the youngest (65-69). The identification of risk or *Cause* could lead to paradoxical consequences such as the uptake of healthier lifestyles, which may reduce risk at one age but increase lifespan so more people survive to ages of greatest risk. Dementia and severe cognitive impairment is very common in the oldest old at the end of life and some of this may not be preventable.

Changes in the brain that are thought to cause dementia in the younger old are found in many of the oldest old who do not have dementia. These observations on a 'wicked' disorder have implications when assessing what might, at the population level, do more good than harm when rolled out and at what cost. Research based on older populations is critical in testing current assumptions regarding what causes dementia particularly in the oldest old.

Professor Brayne summarised the findings from longitudinal studies of early, mid and later life (see Annex A). There are many influences throughout life influencing our cognition in later life, which themselves play a part in whether we develop dementia. The UK is a strong contributor in investigating this area. Longstanding studies continue to be funded as well as new disorder specific cohorts such as Parkinson's disease, diabetes and stroke (all of which are strongly related to development of dementia). She explained it was essential to have a diversity of studies from a large range of disciplines working together. This includes genetics and genomics in which there were major efforts and initiatives to identify and understand the genes that are already known.

Professor Brayne highlighted the limited research effort and expenditure defined as prevention mental health and neuroscience (see Annex A). This is despite large proportions of funding on 'aetiology' usually meaning identification of pathophysiological changes possibly amenable to interventions, usually pharmaceutical. It was important to acknowledge and balance the different needs for research in dementia - only some of which will yield a UK plc revenue.

She suggested that one output from the Summit could be to mandate a small working group specifically for dementia research to help funders see how applications fit into an integrated whole, and to create a framework for a strategy by adapting the Cooksey schema (bench to bedside translation). This could adapt the public health framework for prevention with primary (basic prevention), secondary (early detection to change natural history) and tertiary (amelioration of existing disorder).

Research on Cause (2)

Professor Ian McKeith

Ian is Professor of Old Age Psychiatry and Clinical Director of the Institute for Ageing and Health at Newcastle University. His research interests focus on the clinical diagnosis and treatment of dementia and understanding the disease processes which cause it.

Determining the *Cause* of dementia is important because it predicts course and outcome, determines the appropriate treatment and is directly linked to patient and carer experiences and to costs of care. (For an example of the latter see research by Bostrom *et al*, 2007, and slides in Annex A). Professor McKeith contended that if you asked a layperson the cause of dementia, the majority would respond that it is simply due to old age.

Another common misperception is that dementia is always caused by Alzheimer's disease whereas in fact there are many different causes, including vascular dementia, dementia with Lewy bodies, fronto-temporal dementia, Parkinson's disease dementia, Huntington's disease and many rarer causes. Mixed dementia (i.e. due to more than one disease process) is very often the true diagnosis.

Another way of conceptualising *Cause* is by examining disease mechanisms. Amyloid beta deposits in the brain are considered to be one of the main causes of Alzheimer's disease. This has led to heavy investment into developing 'anti-amyloid' drug treatments including the vaccine therapies. In terms of *Cause* from the translational science perspective, however, there needed to be more research and understanding of genetics, molecular/cellular biology, protein toxicity and aggregation. Priority should be attached to developing suitable animal models, clinical biomarkers and a greater understanding of normal and pathological ageing.

Professor McKeith stressed the UK's world class track record in translational research. We were among the first to describe Alzheimer's disease as the major cause of dementia in older people and to identify the cholinergic deficit that led to currently available treatments. We are leading the way in non-Alzheimer dementia research and there are unrivalled opportunities for clinical translation through the NHS. The Dementia Strategy should provide the opportunity to capitalise on this impressive track-record and tradition.

In respect of future potential roles for the NHS, it was not sufficient that people received a generic diagnosis of dementia. Specialist diagnostic services should be providing subtype i.e. disease based diagnosis, which would inform patient management and also facilitate entry into research studies. All people with a dementia diagnosis should be offered engagement with research, something that would be facilitated by a skilled research workforce embedded in NHS clinical care services.

The development of the Dementias and Neurodegenerative Diseases Research Network (DeNDRoN) could be instrumental in fulfilling this ambition. DeNDRoN was established as part of the UK Clinical Research Network to facilitate the sharing of resources and methodological expertise across a wide range of disabling long-term disorders which are recognised to share many common factors. It builds on the strengths already present in the UK as well as increasing general capacity in the field of dementia and neurodegeneration and covers major diseases including the dementias, motor neurone disease, Parkinson's disease and Huntington's disease.

Discussion

The need for increased investment in dementia research was raised and the view that dementia is significantly underfunded in comparison with the investment of other leading research countries, such as the USA and France. However with regard to research impact, it was argued, the UK 'does more with less', ahead of France and Germany.

The disparity between cancer research funding compared with dementia was also highlighted. Progress in cancer research, it was felt, had been achieved as a result of significant levels of investment and breakthroughs in our understanding of the disease

process, and early diagnosis now provides cancer sufferers with the hope of recovery. Yet, it was argued, dementia care costs the UK economy more than heart disease, cancer and strokes combined.

The involvement of people with dementia in research was also raised as an important issue, particularly involving those who retain their capability for a longer period of time.

Research on Cure (1)

Professor Anne Rosser

Anne is Professor of Clinical Neuroscience at Cardiff University and Honorary Consultant Neurologist at the University Hospital of Wales in Cardiff. She has a special interest in Huntington's disease (HD), leads the HD service in South Wales, is Chair of the UK HD network, and Associate Director of DeNDRoN with special reference to HD. Her main research interest is the development of new treatments for HD, in particular cell replacement strategies.

Professor Rosser focussed on how Huntington's disease (HD), an inherited condition in which dementia is a prominent feature, could be used to find treatments for other neurodegenerative conditions. HD is a relatively rare condition that is inherited in an autosomal dominant fashion, which means that only one copy of the gene needs to be defective for the condition to manifest. While widely thought to be a movement disorder, it was the associated cognitive impairment that was actually more closely associated with loss of function in this disorder.

One reason why HD is an effective paradigm of neurodegeneration is due to the identification of the disease-causing mutant gene. This has provided an accurate diagnostic test, which is important for clinical research, and is helping us to understand the pathways by which the gene and the protein it codes for (huntingtin) can cause the disease.

Understanding the way in which huntingtin exerts toxic effects on cells that result in dysfunction and death means that researchers can look for strategies to block these effects, for example by using interfering RNAs (RNAi) to reduce the level of the toxic protein. In parallel with other strategies, such as the administration of neuroprotective substances, cell repair strategies using a variety of donor cells (including stem cells) to replace the ones lost to the disease process were being actively explored. The preliminary evidence (see slides Annex A) was promising, but there were numerous problems associated with stem cell research, including ethical sourcing, the production of clinical grade cells and an increasing 'forest' of regulation.

Professor Rosser said a number of building blocks were essential for building treatment strategies, for example better definition of the clinical features and outcome measures, both

of which facilitate understanding of the pathogenic pathways and the exploration of other new and emerging treatments. She stressed that for uncommon diseases it was particularly important to work collaboratively, hence the formation of the European Huntington's Disease Network (EHDN). This is a network of clinicians and scientists: key features are web-based longitudinal databases, a biobank, and general information sharing and collaboration.

To conclude, Professor Rosser identified the needs and challenges pertaining to the theme of *Cure*. She said there needed to be more collaborative and cooperative working and increased data sharing. Basic research, she said, required more investment and support and there were a number of regulatory issues which in her view hampered progress.

Research on Cure (2)

Professor Simon Lovestone

Simon is Professor of Old Age Psychiatry, Institute of Psychiatry, King's College London and Director of the NIHR Biomedical Research Centre for Mental Health. He is a clinician scientist with research interests in the molecular biology and treatment of Alzheimer's disease.

The theme of Professor Lovestone's presentation was Alzheimer's disease and prospects for treatment. He said that at present there are several challenges in what he called the 'drug discovery pipeline'. At the pre-development stage, he said these challenges included an insufficiently full pipeline (i.e. more compounds are needed), many compounds fail because of toxicity and, most importantly in relation to Alzheimer's disease, efficacy is difficult to measure and demonstrate.

Currently, there has been promising progress with potential new treatments for Alzheimer's disease coming from research based on an understanding of the amyloid cascade hypothesis; work developed from genetics and from the contribution of post mortem studies and from animal models. This has resulted in many potential approaches to therapy. As of June 2008, there were 682 drugs in development, of which 51 were in phase II and 10 in phase III for Alzheimer's disease. In terms of time frames, Professor Lovestone said the time from target to phase III was approximately 10 years and time for phase III to clinic was typically five years.

In terms of drug development, the challenges ahead were in relation to choosing the right target, when to treat in terms of the design of trials and measuring the efficacy of disease modification treatments. With regard to choosing the right target, the pharmaceutical industry is focusing on upstream events, especially anti-amyloid approaches, perhaps to the exclusion of other targets. A Plan B is needed in case this does not work.

A particular concern is that there is no animal model of the amyloid cascade. Mice have been developed that produce plaques but these do not go on to produce tangles as occurs

in humans. The challenges in terms of the design of trials was trying to ascertain the best time frame; when to start treatment and how long to continue it for.

One of the problems with Alzheimer's disease was that people are diagnosed when they already have the disease. Treating earlier – in prodromal conditions or even earlier– may be necessary for drugs to work. How to measure change is a particular challenge in the dementias – even without treatment some patients appear to improve on cognitive tests; they have good and bad days. What is needed are methods for measuring disease in life and Professor Lovestone stressed there was a real need for biomarkers in this area.

To conclude, Professor Lovestone suggested that the prospects for therapy could either be viewed as a glass half-full or half empty. Currently there was a robust pipeline: multiple phase III trials are underway and biomarkers are developing rapidly. But from a negative stance, there are no animal models that match the disease, trials may not be early or large enough and there are, as yet, no established biomarkers for the disease process, all of which are a cause for concern.

Discussion

The point was made that 40 per cent of people with Down's syndrome will develop Alzheimer's disease in later life and perhaps, like Huntington's disease, current knowledge of Down's syndrome could be used in dementia research.

A number of ethical problems to involving people with Down's syndrome in research, such as autonomy, age and the difficulty of obtaining informed consent, were highlighted in response.

In terms of drug development, it was argued that the onus is on the pharmaceutical industry and yet, in the future, sustained levels of investment could prove difficult. There needed to be greater partnership between the public, private and charity sectors.

Steve is Professor of Primary Care for Older People and Co-Director, Centre for Ageing Population Studies, University College London

Professor Iliffe began by explaining that his primary interest is in applied research. In relation to dementia, this related to how an individual, agencies or the state may affect and influence the experience of people with dementia. His first slide (see Annex A) showed the profile of cognitive decline in dementia.

Over time our linguistic skills and general intelligence decline and at phase 1, multiple cognitive systems breakdown and multiple brain structures change. This may lead to mild cognitive impairment or subjective memory impairment, but the individual may not and will not be diagnosed with dementia at this juncture.

The time between onset of symptoms and a formal diagnosis of dementia is on average two years. The key question is to find out if it is possible to diagnose earlier and to intervene in ways that might delay the progression of the disease. At the moment, the period from actual diagnosis to death is three and a half years and from symptom onset an average of four and a half years.

In terms of prevention at phase one, modifiable risk factors could delay the first stage, for example identifying cardiovascular risk factors or possibly promoting 'brain stimulation' (the 'use it or lose it' approach). At phase two, at the point of diagnosis, interventions are linked to case management and quality indicators. These would include psychosocial interventions for Behavioural and Psychological Symptoms of Dementia (BPSD), continence management and end of life care.

With regard to timely diagnosis, Professor Iliffe referred to research carried out by Palmer *et al* (2003). They had developed a three stage diagnostic process, including a memory question followed by the MMSE (mini-mental state examinations) and then full psychometric testing. Just under one in five people who subsequently received a dementia diagnosis was identified through this process and more than 50% of people with dementia did not report memory problems before diagnosis.

To conclude, Professor Iliffe described the care research environment as one in which Health Services Research (HSR) is underdeveloped compared with pharmaceutical research. There is a lack of familiarity with HSR methods and pragmatic trials of complex interventions. For example, there is evidence to suggest some psychosocial interventions provided equal benefit to cholinesterase inhibitors (as in the PREVENT trial). He said the research community in this field is small but growing. Two significant research groups were DeNDRoN, (the Dementias and Neurodegenerative Disease Research Network) in the UK

and the European group INTERDEM, a pan-European research network studying early, timely and quality psychosocial interventions in dementia.

Research on Care (2)

Professor Martin Knapp

Martin is Professor of Social Policy and Director, Personal Social Services Research Unit, London School of Economics and NIHR School for Social Care Research

Professor Knapp began by asking just how good we believe our care system to be. He said in order for it to be considered 'good', it needed to be respectful, effective, efficient, fair, 'solidaristic' and sustainable. Care research needed to be country and context specific. How we define 'need' will also influence outcomes, including balancing the overall needs of society with the needs of individuals and carers.

How need is assessed and by whom and eligibility for public support are also critical. Other important tasks are to understand how to balance preferences, and how to blend user and carer preferences and needs. As the policy emphasis changes, we need to know how personal budgets can be designed and supported to be successful while achieving the right balance between empowerment and safeguarding.

Moving on to outcomes, Professor Knapp said these should span all the dimensions of need, but the key question is 'whose outcomes'; is it the individual, the family or society? From the research perspective, it is important to ascertain if we have good enough tools to measure outcomes and if we have the tools to engage in a wider strategic debate about priorities and allocations.

With regard to delivering high quality support, Professor Knapp drew contrasts between today's care system and that described in Peter Townsend's classic book 'The Last Refuge' (a study of residential care for older people in England and Wales in the late 1950s). In 1960 only five percent of people with dementia lived in care homes, compared with 30% today. In 1960 only five percent of new admissions to homes providing personal care had a severe cognitive impairment compared with 40% today. Today, care homes are front-line providers of care for people with dementia and yet too many care homes are unprepared for the task.

Looking more widely at service delivery, Professor Knapp said there needed to be more research on the different types of service delivery, be it hospital services, intermediate care, day activities, care homes, housing models, respite and community support for example. The key questions that need to be addressed here include: Are these the services that people want? Are they effective? Are they cost-effective? And if so, are they available? And are they fairly distributed?

Professor Knapp then moved on to discuss the critical role of unpaid carers. A significant proportion of caring responsibilities for people with dementia falls to family members, partners, friends or neighbours and yet (as a group) they face multiple challenges. He mentioned a recent conversation with Imelda Redmond, Chief Executive of Carers UK, who argued that research already tells us how many carers there are, what responsibilities they carry and how it affects them.

But there remains insufficient research on how carers can combine work and care, the types of support that works for them, and how to deliver it. Professor Knapp also mentioned the need to professionalise the social care workforce, particularly with regard to personal assistants. If more people move towards using personal budgets, who will monitor and regulate the growth in personal assistants?

To conclude, Professor Knapp discussed the ‘thorny problem’ of care funding. It is essential to consider the hidden costs of dementia and how this is distributed: at the moment over a third of the total cost (36%) fell to unpaid carers. It is also important to consider how the costs would change over the next 30 years: every projection suggests an enormous future expenditure impact. There must be a broad national debate about how to pay for this care, how much will fall to individuals and how much to the state, how to create the right incentives.

Discussion

The impact of personalisation, and in particular the planned roll out of personal budgets, for people with dementia was questioned. Uncertainty was expressed about how personal budgets would work for people with dementia in terms of autonomy, the choice agenda and delivery. There was concern that they would they lead to less people with dementia living in care and residential homes.

The distinction between health and social care was highlighted. If the health sector has to invest in preventative interventions, for example, but it is the social care sector that reaps the rewards in terms of reduced admissions to care homes, this could constitute a perverse incentive. Health and social care needed to work more closely together.

The need to recognise and role of unpaid carers, who provide the vast proportion of care for people with dementia was highlighted. There should be more research, it was felt, on the impact of caring in terms of the economic, health and social costs for carers.

This section of the Report provides an overview of the afternoon session, including opening remarks from the Chair for the afternoon, Professor Christopher Kennard, from the Medical Research Council. It also provides summaries of the outcomes of the roundtable debates on the themes of *Cause, Cure and Care* and concludes with the Chair's closing remarks.

Professor Christopher Kennard,
Chair of the MRC Neurosciences and Mental Health Board

Professor Kennard opened the afternoon session by mapping out research funding opportunities in the UK. He said the Medical Research Council and the National Institute for Health Research were working closely together to deliver innovative and exploratory research and on its application and delivery.

The MRC Strategic Review of Neurodegeneration published in Autumn 2008, made three central recommendations. These were to: strengthen biological research into disease origins and mechanisms, improve training and critical mass, and form strategic co-ordinated networks to address the main barriers to progress in the field. This had led to a joint MRC and Wellcome Trust call in autumn 2008 for research consortia in this area, with £30 million available.

Professor Kennard stressed the importance of DeNDRoN, the Dementia and Neurodegenerative Diseases Research Network. This was established in 2005 as part of the UK Clinical Research Network, to facilitate clinical trials and research through enhancing NHS research infrastructure, and to increase collaborative working between academics, clinicians, patients, carers and research funders.

Professor Kennard also traced developments in neurodegeneration research at the European Union level. He said President Sarkozy had been instrumental in making neurodegenerative diseases a strategic priority for EU Member States. In January 2009 the Medical Research Council hosted a workshop in Paris to help identify areas for potential cross-border collaboration. Areas identified were: standardisation of methods and harmonisation of data for comparative studies, sharing of resources/infrastructure, population studies/patient cohorts and animal models.

There is a growing move across the EU research community for a pan-European approach to dementia. In July of this year, the Commission presented a proposal for a pilot Joint Programming Initiative on combating neurodegenerative diseases, in particular Alzheimer's disease. This approach involves Member States engaging voluntarily in the definition,

development and implementation of a common research agenda. The UK representation on this initiative will be through the MRC.

Roundtable Debates

The main part of the afternoon involved the roundtable discussions. These were the central activity of the Summit and the means by which agreement on priorities for the future of dementia research was to be secured. Delegates were allocated to one of three themed rooms - *Care*, *Cause* (which also covered prevention) and *Cure* - each of which contained three tables. The task for each table was to draw on the information provided by the speakers' presentations, and the expertise and experience around the table, to address three central questions:

- **what are the top priorities for new research (in your themed area)?**
- **what are the barriers to effective (good quality/high impact) research?**
- **how can these barriers be overcome both in the short-term and longer-term?**

A facilitator on each table worked with the delegates in this task, encouraging a wide-ranging discussion on all three questions. The tables were then asked to agree an overall consensus response to each of the questions.

The consensus from each table was then shared with the other delegates in the room who came together as one group to identify and agree the top three issues/priorities for each question. One facilitator was then delegated to feed a summary of this 'cross-room' consensus back to the final plenary session.

This part of the Report provides an overview of the discussions and ideas which emerged from the participatory roundtable sessions. The overall top three issues/priorities identified under the themes of 'care', 'cause', and 'cure', are included in Section Three of the Report.

RESEARCH THEME 1:

CAUSE

Facilitators for Roundtable Discussions:

Professor John Hardy, Institute of Neurology, University College London

Professor Seth Love, Director South West Dementia Brain Bank and Director, Institute of Clinical Neurosciences, University of Bristol

Professor Peter St George-Hyslop, Professor of Experimental Neuroscience, University of Cambridge

General comments:

There was some debate on how to define 'Cause' and how far outcomes of the discussion would be dependent on a common definition. Several delegates suggested another meaning of *Cause* was linked to disease mechanisms.

Question 1: What are the top priorities for new research on **cause**?

- **modifiable interventions**
The prevention of dementia through modifiable interventions was highlighted. Some of the preventative factors identified included: a healthy diet, promoting physical and cognitive activity and controlling cardiovascular risk factors such as diabetes, high cholesterol and hypertension.
- **development of biomarkers/therapeutic targets and models**
Biomarkers were particularly stressed as being important for detecting and diagnosing dementia, as they could be used to provide more accurate predictions of who may develop mild cognitive impairment or Alzheimer's disease. Using mice to model aspects of the disease process were also highlighted as a priority for the development of novel therapeutic approaches.
- **stem cell research**
There should be more investment in stem cell research as this would open up new opportunities for novel treatments involving the repair and regeneration of damaged brain tissue.
- **longitudinal population studies**
The benefits of longitudinal studies were stressed. Studies like the English Longitudinal Study of Ageing (ELSA) are important for providing an evidence base for understanding the process of ageing, from both a health and a social care perspective. This type of understanding was considered critical and could help inform not only research, but policy, planning and service delivery.
- **better understanding of the interaction of the pathologies**
Several groups highlighted the need to develop a deeper understanding of the brain pathology of dementia. Current investigations into the therapeutic application and the potential disease-modifying effects of existing cholinesterase inhibitor drugs might offer opportunities to understand better the progressions of Alzheimer's disease.
- **more autopsies/brain donation**
There was also an emphasis on the need for more autopsies to be carried out in order to provide researchers with data to understand better the disease processes

underlying dementias. In turn this would require more people to donate their brains to medical research.

- **increased European collaboration**
Greater collaboration and pooling of expertise and resources is needed. Several individuals mentioned the European database of Huntington's disease and the beneficial impact of this. If there was a comparable database for dementia, it may facilitate the involvement of more individuals with dementia in clinical trials.

Question 2: What are the barriers to effective research on **cause?**

- **shortage of neuropathologists**
This was expressed very strongly; without an increase it was felt there would be a lack of capacity for brain imaging.
- **inadequate definitions of dementia**
With regard to the causes of dementia it was imperative the public debate moved beyond assuming dementia is only caused by Alzheimer's disease. Also at the clinical level, it was felt certain professionals were reluctant to diagnose the type of dementia which was felt to have serious consequences not only with regard to treatment, but also research. Similarly it was felt even if the subtype was diagnosed, a lot of people over 80 have mixed dementia disorder.
- **inadequate research training of doctors**
All tables mentioned that there was not enough emphasis within the NHS on research and at the present time doctors were not being encouraged to carry out research as an integral part of their employment. It was felt strongly that the importance of research needed to be embedded within the culture and practises of the NHS.
- **regulatory hurdles**
While it was acknowledged there needs to be a balance between regulation and safety, the burden of regulation surrounding animal research and human tissue research was seen to be particularly difficult to negotiate and lengthy. There was a view that this was contributory to drug companies moving abroad. Some also felt that the regulation surrounding clinical trials was also excessive and a stumbling block in terms of encouraging participation.
- **limited infrastructure support**
This was considered to be critical to progressing the research agenda. Increased funding for high tech equipment was also mentioned and countries like the US were considered to have a competitive advantage in this respect. Increased investment was considered essential for the UK.

- **limited funding**
More funding was felt to be needed across all research disciplines.
- **limited public support**
There is a need to increase public and NHS support for dementia research and for brain donation in particular.

Question 3: How can these barriers to **cause** research be overcome?

- **a register of people with dementia**
There should be a memory clinic attendance register, as is already the case in Germany. This would facilitate standard assessment when individuals first arrive at the memory clinic. This could help with recruitment for clinical trials and research.
- **awareness raising**
This was seen to be a key issue, though there were differences in emphasis. One table felt it was important to stress the altruistic giving of people with dementia who are involved in clinical trials. Educational programmes would help to demonstrate this and encourage more people with dementia to come forward to take part. Encouraging wider public awareness of dementia more generally should encompass the health and social care workforce, carers, the public and decision-makers and opinion formers.
- **better understanding of care giver interventions**
More research into what interventions by carers cause good and bad days for people with dementia. At present, it was felt, there is limited understanding of how to effectively treat dementia-related psychosis or challenging behaviour.
- **increased dissemination of good practice**
There needs to be a more effective way of disseminating good practice. There was seen to be a schism between research and implementation.

Facilitators for Roundtable Discussions:

Professor Clive Holmes, Professor of Biological Psychiatry, University of Southampton
Professor Robert Howard, Professor of Old Age Psychiatry, Institute of Psychiatrists and Dean, Royal College of Psychiatrists
Professor Gordon Wilcock, Professor of Clinical Geratology, University of Oxford

General comments

This multidisciplinary group included some delegates who had difficulty in separating out *Cure* from *Care*. In the absence of curative drugs, a major part of remission activity is confined to improved care systems and the discussion reflected this situation. By defining *Cure* very widely however the group had difficulty in prioritising relevant research streams and the barriers to their development.

Discussion in particular focussed on scope; screening (inc. pre-symptomatic); prevention (i.e. drug based on using small molecules), biological, non-medical (cognitive therapy); treatment (vascular, risk factors, lifestyle), and increased life span leads to greater exposure at over 85 years, diagnosis poor and different risk factors in oldest 'old'.

Question 1: What are the top priorities for new research on **cure?**

- **clinical studies**
There is a need for more clinical studies of people with mild cognitive impairment and for a reduction in the limitations imposed by regulatory bodies in this context.
- **prevention strategies**
The prevention of dementia through modifiable interventions was widely considered to be a priority. Some of these preventative factors include a healthy diet, promoting physical and cognitive activity and controlling cardiovascular risk factors such as diabetes, high cholesterol and hypertension.
- **limits of the amyloid cascade hypothesis**
There was a feeling that there was an over emphasis on this hypothesis, at the expense of researching other possible causative routes for the condition upon which new drugs entities may be effective.

- **focus on behavioural and psychological symptoms**

There needs to be more research into effective management of symptoms for people with dementia, particularly with regard to managing challenging behaviour and improving their quality of life.

Question 2: What are the barriers to effective research on **cure**?

- **lack of brain tissue**

The lack of available brain tissue means that researchers are limited in their ability to study human brain material that is important for understanding the disease process. More people need to donate their brains to medical research. The importance of the permission for brain removal from the post-mortem needs to be both explained and achieved.

- **public and professional attitudes**

A significant barrier was considered to be the attitudes and stigma attached to dementia, not only in relation to the wider public, but critically among many individuals in the health and social care environment.

- **regulatory delays**

The research environment in the UK was seen to be 'regulatory heavy', potentially stifling research development and innovation.

- **limited animal models**

There needs to be greater investment into research on animal models of dementia. Their use in preclinical drug trials needs to be expanded and more investment is required. More accurate animal models of dementia would improve understanding of the disease and facilitate the testing of new treatments.

- **awareness of funding opportunities**

The funding criteria for research could often be complicated and onerous. Some calls for specific bids were not seen to be publicised sufficiently and researchers were not aware of all the opportunities available. For these and other reasons, some calls for dementia research had received only a limited response from the research community.

- **better diagnosis**

The pharmaceutical industry is currently involved with developing drugs that stabilise symptoms rather than curative ones, and these drugs are targeted at diagnosed sufferers in later/late old age. What is needed is better diagnosis, it is estimated that only 30% of actual sufferers are diagnosed, and better epidemiology in terms of separating out the various dementia sub-types.

Question 3: How can the barriers to **cure** research be overcome?

- **developing capacity**
There is a need to invest to enhance the UK's clinical capacity.
- **engaging young researchers**
With regard to the research environment and culture, there is a need to foster, nurture and promote young researchers.
- **prioritising dementia**
Dementia research needs to be a political and public priority and funding should be ring-fenced so that it cannot be diverted into other research areas.
- **educating professionals**
Ethics committees considering a trial do not always consider the wider picture. There should be an independent adviser sitting on these committees who could take a broader view of the rationale for the trial and the wider socially 'ethical' context.
- **increasing collaboration**
For research to be successful there should be more partnership with industry.
- **simplifying regulation**
Research, particularly biomedical research, in the UK could be facilitative by simpler regulatory procedures.

RESEARCH THEME 3:

CARE

Facilitators for Roundtable Discussions:

Professor Alistair Burns, Professor of Old Age Psychiatry, University of Manchester
Professor Anthea Tinker, Professor of Social Gerontology, Kings College London
Professor Bob Woods, Professor of Clinical Psychology of Older People, Bangor University

General comments

The *Care* debate was lively, reflected by the range of rich points that emerged. The length of this section demonstrates the enthusiasm and widespread participation of the delegates in this group. In particular, there were significant contributions from carers and people with dementia who provided firsthand experience of the care system.

Question 1: What are the top priorities for new research on **care**?

- **recognising the importance of the built environment**

It was noted that where you live has a significant impact on your dementia. However, in terms of both the built and natural environment, there was a need for further research on its impact on people with dementia (and how any negative impact could be mitigated). There was a strong view expressed that issues such as the role of technology and extra care would need to be considered as part of this priority.

Work on the built environment should help generate new design concepts and practice which could be included within future standards. Designing for people with dementia could lead to toolkits to influence practitioners working on the ground.

- **improving the quality of life/end of life**

There is a need to understand and appreciate the aims of care research, one of which should be to improve the quality of life of people with dementia. There are significant gaps in terms of research on end of life and palliative care for people with dementia. Such research could help develop dementia sensitive interventions at the end of life. There is a need for more research into care received by people with dementia in general hospitals.

- **better implementation of what we know**

There is a need for support, funding and knowledge transfer to ensure that what we already know is disseminated and that research is not unnecessarily repeated. An example of successful schemes in this respect is the FITS (Focussed Intervention in Training and Support) project. It is vital to get evidence into practice and improving dissemination has to be a priority.

- **more research on carers**

A case was made for more research on/with carers. This included the need to understand more about the prevention of carer breakdown; the needs of those providing the care and the cost (health, economic) of inaction in this area if (for example) the Government decided to not provide any further support for carers.

- **evaluating early intervention**

The methodology around cognitive tests for early intervention was not considered particularly strong. There was a feeling that a better understanding of what works in the early stages of dementia would be very helpful.

- **impact of other health problems and disabilities**

A significant proportion of dementia sufferers are also likely to have other health conditions/long term conditions, for example heart problems. People with dementia

are also likely to be losing sight and/or hearing and there remains little research into this area.

- **understanding stigma and social exclusion**
There is need for better understanding of the stigma, prejudice and discrimination associated with dementia. Research is also needed on how to prevent social exclusion and encourage active citizenship.
- **psychological and social interventions/therapies**
Better evaluation is needed of the range of non-medical interventions.
- **dementia in different settings**
The impact of living with dementia in different environments, for example rural versus urban, care home versus own homes should be examined further.
- **unhelpful demarcations**
Separating care, treatment and prevention can be unhelpful as invariably they impact on each other, for example some drug treatments could be viewed as interventions to support high quality care.

Question 2: What are the barriers to effective **care** research?

- **unequal distribution of funding**
Significant barriers are seen to be both the quantity of funding and the application process. There is a lack of ring-fenced funding for care research and as a result, this area of research is frequently squeezed by biomedical research. There was concern that there is a lack of support for interdisciplinary proposals. In addition when undertaking research in care home settings, no service replacement costs can be covered, making it difficult to undertake research in this setting.
- **limited understanding of how to enhance quality of life**
Although there was some agreement that there are ways of measuring quality of life, this area is a difficult area to research. There is more research needed on how to best work with people with dementia to ensure they have the best care and support and how to help the individual who has received the diagnosis deal with their dementia.
- **difficulty engaging participants in research**
Recruitment of participants is a major challenge for researchers. Individuals need early diagnosis in order to participate in research but often they do not receive this. At diagnosis, the patient should have the opportunity to be asked to participate in research.

- **challenges of collaboration**
It is occasionally necessary to collaborate with people who may need to implement changes as a result of research - this can be difficult. At the same time, there is a lack of implementation framework to support collaboration.
- **governance/ethics**
Managing research governance and ethics processes is seen to be a stumbling block for progressing good research.
- **lack of a long-term strategy**
Filling some of the gaps in existing research will require longitudinal studies. This type of research often covers many years and requires a long-term research commitment.
- **recognising the contribution of 'grey literature'**
In the field of care research, there is a vast amount of data available in terms of 'grey' research which has an important contribution to make to the knowledge base.
- **better training of clinicians**
The training and awareness of GPs in particular is seen to be a significant issue, not only in respect of providing a diagnosis, but as a gateway for treatment and care. GPs need more support and training in dementia.
- **balancing of rights**
There can be tension when balancing the rights of the individual with dementia and the carer, particularly in terms of when it is considered the right time for the individual with dementia to go into a care or residential home. Research on how to manage this potential conflict was considered a worthy area of further exploration.

Question 3: How can the barriers to **care** research be overcome?

- **Research Agency/ Review College**
A research agency or 'review college' which is interdisciplinary and cuts across the existing Research Councils could foster learning from across the disciplines.
- **develop care home research/ networks**
Workforce development issues in care homes are a significant problem. By encouraging care homes to share expertise and information this would improve standards. The development of research networks in this sector would assist access to research populations.

- **produce a dementia research strategy**
A one day Summit should only be the start of a process and a strategy needs to be developed, to set out how dementia research will be funded and supported to improve the treatment and care of people with dementia.
- **including people with dementia in research**
People with dementia should be encouraged and given the opportunity to be involved in dementia research. At the moment most generic ageing research excludes people with dementia from the sample. It is therefore important to find ways to ensure that people with dementia are included as participants in all ageing research.
- **better public communication**
The importance of research also needs to be communicated more widely to the general public, so people understand its role and the benefits it yields. Identifying and implementing methods to deliver better stakeholder and patient/public/service user involvement merits further investigation.
- **developing better data systems**
More systematic recording and tracking of an individual's pathway would facilitate research across the disciplines and encourage a more longitudinal approach.
- **routine evaluation**
Evaluation should routinely be embedded into service development.
- **more funding for care research**
There is a need for specific funding to bring people together to develop small projects. Targeted funding for cross-disciplinary projects should also be seen as a priority.

Delegates reconvened in the main hall following the roundtable debates. The final session was chaired by Christopher Kennard, Chair of the MRC Neurosciences and Mental Health Board, who invited the lead facilitators from each of the three groups of *Cause*, *Cure* and *Care* to present the final key messages distilled from the earlier afternoon discussions.

Cause

presented by Professor John Hardy

Priorities:

- Normal/abnormal function of proteins and pathways involved - biomarkers/biological models/therapeutic targets;
- Longitudinal studies – clinical and population-based – emphasis on understanding risk factors and modifiable risk factors;
- Interactions of pathologies.

Barriers:

- Regulatory/bureaucratic hurdles – animal work, human tissue, clinical trials;
- Inadequate infrastructure and infrastructure support;
- Poor public and NHS support for autopsies.

Solutions:

- National register of patients attending memory clinics & minimum standardised assessments;
- Greater public, political and healthcare service engagement ;
- Incentivisation of interdisciplinary networks.

Cure

presented by Professor Clive Holmes

Priorities:

- Early identification of patients for research to provide potential participants for trials;
- Specific treatment of behavioural symptoms;
- Look elsewhere for point of attack - i.e. away from amyloid hypothesis

Barriers:

- Poor education and recognition generally amongst non specialist healthcare workers;
- Lack of awareness of the availability of research funding streams;
- Regulatory delays, ethics committees and litigation avoidance.

Solutions:

- Raising research capacity, especially young researchers;
- Targeted funding and facilitation of funding applications;
- New collaborations, especially with the pharmaceutical industry.

Care

presented by Professor Alistair Burns

Priorities:

- How best to involve the person with dementia in all aspects of research;
- Knowledge transfer - draw together existing research and integrate it into practice;
- Setting of research – physical and social context; how the micro and macro environment influences QOL;
- Service evaluation: what works best for whom, in what circumstances and where.

Barriers:

- Complexity of the hurdles, for example from research governance and ethics;
- Too much focus on randomised controlled trials;
- Lack of dissemination of results.

Solutions:

- Develop a research culture from point of diagnosis onwards including care homes/general hospital;
- Cochrane reviews for qualitative studies on care;
- Embedding evaluation routinely into service development.

Discussion

There was further debate on these key messages from delegates. One problem, it was suggested, was the over emphasis on Alzheimer's disease research at the expense of other forms of dementia.

Another area often overlooked, it was argued, was the number of people with dementia from ethnic minority backgrounds, particularly as this number is set to rise over the coming years. Such groups tend to be poorly represented in mainstream research. This needs greater attention, particularly as there appears to be an increased prevalence of some dementia subtypes in certain ethnic groups.

There was a call for increased investment in dementia research and for the Summit to be a springboard for future action, discussion and collaboration on dementia research.

Concluding Remarks

Professor Kennard and Baroness Greengross

Professor Kennard concluded the afternoon session with some overarching comments. He suggested there was a strong argument for establishing a large cohort of patients with dementia and that this could be simply achieved by asking individuals to register on a database when they attend a memory clinic. This database could then be used to trace the pathway of the disease, and would be particularly useful with respect to gaining permission for more brain-based studies in the longer term.

There is a pressing need to develop biomarkers, particularly in terms of detection and diagnosis. Disease modelling in animals needs to be given greater priority, as more accurate animal models would increase our understanding of the disease. At present, however, the UK regulatory environment was considered by many to hamper progress in this area. Animal research is understandably unpopular, but there needs to be greater public awareness of the processes involved and the benefits of this sort of research.

Finally, Professor Kennard stressed that the Summit should be viewed as a first step to improving both the quality and quantity of research into dementia in the UK. The work of the next few months is to see how best to achieve this by engaging a variety of agencies and organisations.

Baroness Greengross formally closed the Summit. She noted the emphasis by the Minister, Phil Hope, on the importance of increasing the proportion of funding secured by dementia research from current budgets and said it was now time to make that happen. The Summit and its Report would provide a platform for action.

That action would need to be truly collaborative - bringing together Government, academic bodies, research bodies and foundations, the charity sector and pharmaceutical companies. Like the French Action Plan, there was a need for high level political leadership to drive forward a dementia research strategy over the next five years.

Baroness Greengross thanked all the delegates for attending, the speakers and facilitators for their input, Chris Kennard for his role as joint Chair and the DH and MRC for organising the event.

ANNEX A: Summit Programme

09.30 Welcome and Introduction by the Chair The Baroness Sally Greengross OBE

Overviews

09.40 Dementia: the Challenge for the UK Phil Hope MP, *Minister of State for Care Services*

09.55 A Carer Experience Barbara Woodward-Carlton

10.10 A View from Europe Professor Bruno Dubois *Head of INSERM Unit and Dementia Research Center, Salpêtrière University Hospital, Paris*

Research Issues 1: Cause

10.25 Professor Carol Brayne, *Professor of Public Health Medicine and Director, Institute of Public Health, University of Cambridge*

10.35 Professor Ian McKeith, *Professor of Old Age Psychiatry and Clinical Director of Institute for Ageing and Health, University of Newcastle*

10.45 Discussion

Research Issues 2: Cure

11.25 Professor Ann Rosser *Clinical Professor of Neurology, Cardiff School of Biosciences*

11.35 Professor Simon Lovestone, *Professor of Old Age Psychiatry, Institute of Psychiatry, King's College London and Director, NIHR Biomedical Research Centre for Mental Health*

Research Issues 3: Care

11.45 Professor Steve Iliffe, *Professor of Primary Care for Older People and Co-Director, Centre for Ageing Population Studies, University College London*

11.55 Professor Martin Knapp, *Professor of Social Policy and Director, Personal Social Services Research Unit, LSE and NIHR School for Social Care Research*

12.05 Discussion

12.30 LUNCH

Shaping the Agenda

13.15 Introduction by the Chair for the afternoon Professor Christopher Kennard Chair of the MRC Neurosciences and Mental Health Board

13.30 Round table discussion: Cause, Cure and Care Rooms

14.45 Plenary Session: Feedback and Discussion

16.15 Concluding Remarks from the Chair

16.30 Close

Facilitators for Round Table Discussions

Cause:

Table 1: Professor John Hardy *Institute of Neurology, University College London*

Table 2: Professor Seth Love *Director, South West Dementia Brain Bank and Director, Institute of Clinical Neurosciences, University of Bristol*

Table 3: Professor Peter St George-Hyslop *Professor of Experimental Neuroscience, University of Cambridge*

Cure:

Table 1: Professor Clive Holmes *Professor of Biological Psychiatry, University of Southampton*

Table 2: Professor Robert Howard *Professor of Old Age Psychiatry, Institute of Psychiatry and Dean, Royal College of Psychiatrists*

Table 3: Professor Gordon Wilcock *Professor of Clinical Geratology, University of Oxford*

Care:

Table 1: Professor Alistair Burns *Professor of Old Age Psychiatry, University of Manchester*

Table 2: Professor Anthea Tinker *Professor of Social Gerontology, Kings College London*

Table 3: Professor Bob Woods *Professor of Clinical Psychology of Older People, Bangor University*

Members of the DH/MRC Summit Planning Group

Professor Sube Banerjee, Kings College, London

Jerry Bird, Department of Health

Dr Robin Buckle, Medical Research Council

Professor Cornelius Catona, University College, London

Clare Croft-White, Department of Health

Dr Joanna Latimer, Medical Research Council

Professor Martin Rossor, University College, London

Professor Simon Lovestone, Kings College London

Dr Carol Lupton, Department of Health

ANNEX B – List of Delegates

Mrs Shamail Ahmad	Audit Principal, National Audit Office
Ms Wendy Alleway	Commissioner for Dementia Care, NHS Medway
Miss Jenny Appleby	Commissioning Manager, Derby City Council
Mr Peter Ashley	Ambassador, UK Alzheimer's Society
Ms Gillian Ayling	Deputy Director - Older People & Dementia, Health
Department of	
Mr Ian Bainbridge	Deputy Director for Social Care & Local
Partnerships,	Department of Health (South East)
Professor Clive Ballard	Professor for Old Age Psychiatry, Wolfson CARD,
King's	College London
Professor Sube Bannerjee	Professor of Mental Health and Ageing, Institute
of Psychiatry	
Mr Peter Barnett	Policy Advisor
Ms Ruth Bartlett	Thomas Pocklington Trust
Professor Phillip Bath	Stroke Association. Professor of Stroke Medicine, Nottingham
University of	
Mr Jerry Bird	Project Manager, Department of Health
Dr Helen Bodmer	Head, MRC and Health Research Team, Research
Base	
Professor John Bond	Department for Innovation Universities and Skills
Research,	Professor of Social Gerontology & Health Services
Ms Julia Botsford	Newcastle University
/ BEH Mental	Admiral Nurse Research Practitioner for dementia
Dr Geraldine Boyle	Health NHS Trust
Bradford	Lecturer in Dementia Studies, University of
Professor Carol Brayne	
Cambridge	Professor of Public Health Medicine, University of
Dr Kieran Breen	
Parkinson's Disease Society	Director of Research and Development,
Miss Jane Bremner	
Forest Council	Policy and Commissioning Officer, Bracknell
Professor Dawn Brooker	
University of Worcester	Director, Association for Dementia Studies,
Professor David Brooks	
Imperial College	Head of Department of Clinical Neuroscience, London
Professor Karen Bryan	Head of Division of Health and Social Care,
University of Surrey	
Dr Rob Buckle	Programme Manager, Medical Research Council
Dr Roger Bullock	Dementia Clinical Lead South West SHA, NHS
South West	
Professor Alistair Burns	Professor of Old Age Psychiatry, University of
Manchester	

Professor Elizabeth Burton
Brookes University
Dr Serena Carville
Mr Ben Cavanagh
Professor David Challis
Research
Mr Craig Chalmers
Council
Dr Dennis Chan
Sussex Medical School
Dr Shewly Choudhury

Professor Linda Clare
Neuropsychology, Bangor

Mrs Sheila Clark
Mrs Janice Clasper
Society and

Mr Ken Clasper
Society and

Mrs Angela Clayton-Turner
Society
Professor John Collinge
Disease, UCL
Dr Peter Connelly
Psychiatrists
Mr Gordon Conochie

Royal Trust for Carers

Professor Ian Cree
Dr Caltriona Creely
Board
Ms Clare Croft-White
Department of
Mr Simon Denegri
Dr Gayle Doherty
Andrews University
Mr Jeff Doodson
Social Care
Professor Murna Downs
Dementia Group
Professor Bruno Dubois
Center, Salpêtrière
Ms Ruth Eley
Dementia, Department

Professor of Architecture and Wellbeing, Oxford
Programme Manager, UK Age Research Forum
Alzheimer's Society
Director PSSRU and Professor of Community Care,
University of Manchester
Workforce Development Manager, Surrey County

Senior Lecturer in Neurology, Brighton and
Science Portfolio Adviser
Wellcome Trust, Neuroscience & Mental Health
Professor of Clinical Psychology and

University
Trustee, Alzheimer's Research Trust
Volunteer and Living with Dementia, Alzheimer's

DeNDRoN
Volunteer and Living with Dementia, Alzheimer's

DeNDRoN
Member of QRD Consumer Network, Alzheimer's

Director MRC Prion Unit, HOD Neurodegenerative
MRC & UCL
Vice-Chair, Old Age Faculty, Royal College of

Policy & Parliamentary Officer, The Princess
& Crossroads
Consultant, EME Programme, NETSCC
International Liaison Officer, Health Research

Scientific Advisor, Policy Research Programme,
Health
Association of Medical Research Charities
Independent Research Fellow and Lecturer, St

Commissioning Officer, Southwark Health and

Chair in Dementia Studies and Head, Bradford
Bradford University
Head of INSERM Unit and Dementia Research
University Hospital, Paris
National Programme Lead - Older People &

of Health

Ms Jane Fossey Oxfordshire and Professor Paul Francis London	Clinical Head of Psychological Services, Buckinghamshire Mental Health Foundation Trust Professor of Neurochemistry, King's College
Mr Herbert Freer Society	National Advisory Council Member, Alzheimer's
Dr Steve Gentleman College London	Reader in Experimental Neuropathology, Imperial
Professor Jane Gilliard Department of	National Dementia Strategy Programme Manager, Health
Dr Alan Glanz	Principal Research Manager, Department of Health
Ms Claire Goodchild (Implementation)	National Programme Manager, Dementia Department of Health
Professor Claire Goodman Hertfordshire	Professor of Health Care Research, University of
Dr Michael Graveney Warwickshire	Consultant Public Health Physician, NHS
The Baroness Sally Greengross OBE	
Dr Russell Hamilton Department of Health	Director of Research and Development,
Professor John Hardy	Institute of Neurology, University College London
Ms Philippa Hare Joseph Rowntree	Programme Manager - Practice and Research, The Foundation
Mr Peter Harrison & Wigan	Senior Commissioning Manager, NHS Ashton Leigh
Mr Stephen Hatch	QRD Member, Quality Research in Dementia, AS
Mrs Susie Hwer Trust	Fund-raiser and Supporter, Alzheimer's Research
Dr Nicholas Hicks	Director NETSCC, HTA, NETSCC
Professor Clive Holmes Southampton	Professor of Biological Psychiatry, University of
Mr Phil Hope MP	Minister of State for Care Services
Professor Robert Howard Psychiatry	Professor of Old Age Psychiatry, Institute of
Professor Steve Iliffe	Professor of Primary Care for Older People University College London
Professor Paul Ince Sheffield	Professor of Neuropathology, University of
Professor James Ironside of Edinburgh	Professor of Clinical Neuropathology, University
Mr Jim Jackson Alzheimer's Research Trust	Lay Member, Scientific Advisory Board,
Dr Emma Jones	Research Associate, King's College London
Professor Roy Jones Care of Older People	Director, RICE - The Research Institute for the
Professor John Keady Nursing, The University	Professor of Older People's Mental Health

Dr Patrick Kehoe
University of Bristol
Professor Christopher Kennard
Medical Research
Dr Anthony Klugman
Professor Martin Knapp
Economics and Political
Dr Hilary Lapsley
Government Health
Dr Joanna Latimer
Health Board
Mrs Brenda Lindsay
Council
Professor Seth Love
University of Bristol
Professor Simon Lovestone
Psychiatry
Dr Carol Lupton
Health
Professor Ian McKeith
Newcastle
Professor Robin Means
Exchange), University of
Dr Karen Miller
S.A
Dr Alisoun Milne
of Kent
Professor Esme Moniz-Cook
York Medical School
Miss Louise Morgan
Leeds Adult Social

Mrs Victoria Morgan
Ms Jo Moriarty
Unit, King's

Ms Joanna Murray
Dr Wendy Noble
Neurodegeneration

Professor Michael O'Donnell
Professor Martin Orrell
Dr Jan Oyeboode
Clin.PsyD.

Birmingham

of Manchester
Joint Head of Dementia Research Group,
Chair, Neurosciences and Mental Health Board,
Council
SpR, Institute of Psychiatry
Professor of Social Policy, London School of
Science
Manager, Chief Scientist Office, Scottish
Directorates
Programme Manager, Neurosciences and Mental
Medical Research Council
Service Development Manager, Cumbria County

Director, Institute of Clinical Neurosciences,

Professor of Old Age Psychiatry, Institute of

Policy Research Programme, Department of

Professor of Old Age Psychiatry, University of

Associate Dean (Research and Knowledge
the West of England
Senior Director, Head CNS Biology, UCB Pharma

Senior Lecturer in Social Gerontology, University

Professor of Clinical Psychology & Ageing, Hull

Project Officer Older Peoples Mental Health,

Care
Past Carer Alzheimer's Society
Research Fellow, Social Care Workforce Research

College
London
Senior Lecturer, King's College London
Senior Research Fellow, MRC Centre for

Research
Honorary Visiting Professor, University of Salford
Professor of Ageing and Mental Health, UCL
Consultant Clinical Psychologist/Director

Birmingham and Solihull MHT/University of

Dr Hitendra Parmar Pfizer Limited	Alzheimer's Disease Therapy Area Physician,
Professor Chris Peers Leeds	Professor of Cellular Physiology, University of
Professor Elaine Perry University	Professor of Neurochemical Pathology, Newcastle
Professor Alison Petch	Director, Research in Practice for Adults
Mrs Alice Phillips	Carer Alzheimers Research Trust
Dr Stuart Pickering-Brown University	MRC Senior Research Fellow, Manchester
Dr Rob Pinnock Merck Sharp &	Director Licensing & External Scientific Affairs, Dohme
Professor Martin Prince of Psychiatry,	Professor of Epidemiological Psychiatry, Institute King's College London
Professor Hazel Qureshi	Scientific Adviser, Department of Health
Mrs Lynne Ramsay	Adviser, Picks Disease Support Group
Dr Simon Ridley Trust	Research Manager, The Alzheimer's Research
Dr Louise Robinson University, Chair	Senior Lecturer in Primary Care, Newcastle DeNDRoN Primary Care Studies Group
Professor Anne Rosser University	Professor of Clinical Neuroscience, Cardiff
Professor Martin Rossor	Institute of Neurology, University College London
Professor David Sattelle Genomics Unit	Head of Neural Signalling Lab, MRC Functional
Mr Andrew Scheuber Research Trust	Press & Public Affairs Officer, Alzheimer's
Professor Ajit Shah University of	Professor of Ageing, Ethnicity and Mental Health, Central Lancashire
Mrs Deborah Shepherd Lincolnshire County	Commissioning and Development Officer, Council
Dr Susanne Sorensen Alzheimer's	Head of Research, Director of External Research, Society
Professor Maria Grazia Spillantini Cambridge	Professor of Molecular Neurology, University of
Professor Peter St George-Hyslop University of Cambridge	Professor of Experimental Neuroscience,
Professor John Starr Network	Director, Scottish Dementia Clinical Research
Ms Jean Stead	Retired Journalist, The Guardian
Ms Barbara Stephens	Chief Executive, For Dementia
Dr Rob Stewart	Clinical Reader and Consultant Old Age
Psychiatrist, Institute of	Psychiatry (King's College London)
Dr Calum Sutherland Dundee	Reader in Neuroendocrinology, University of
Professor Anthea Tinker London	Professor of Social Gerontology, King's College

Mrs Joy Todd
Economic and Social
Dr Janet Valentine
Council
Dr Daphne Wallace

Professor Tom Walley
Professor Gordon Wilcock
Oxford

Dr Heather Wilkinson
Professor Julie Williams
University

Ms Sue Williams
Professor Anders Wimo
Mrs Rebecca Wood
Dr Steven Wooding
Professor Bob Woods

Mrs Barbara Woodward-Carlton

Team Head: Health and Human Behaviour,
Research Council
Head of Partnership Initiatives, Medical Research

Retired Psychiatrist for Older People, Alzheimer's
Society, Living with Dementia Group
Director NIHR HTA programme, NIHR
Professor of Clinical Geratology, University of


Research Director, University of Edinburgh
Professor of Neuropsychological Genetics, Cardiff

Research Manager, Kent County Council
Karolinska Institutet, Sweden
Chief Executive, Alzheimer's Research Trust
Research Leader, RAND Europe
Professor of Clinical Psychology of Older People,
Bangor University

ANNEX C: Slides of Speakers' Presentations


Professor Bruno Dubois

1



A Plan against Alzheimer's Disease
The Health Challenge
of an Ageing European Population

Pr Bruno Dubois
On behalf of the Fondation de Coopération Scientifique (P. Amouyel)



2


Previous Plans

- ALD 15 (100% reimbursement)
- National diagnostic network with 340 labelled Memory Clinics and 26 regional Expert Centers (CMRR)
- 7000 places of One-day H° and of Temporary H°
- ...
- Nothing for research

3

National Plan on Alzheimer's and related diseases 2008-2012

➤ Prepared by a commission at the request of Nicolas Sarkozy, In August 2007,



8 working groups

- B. Dubois, D. Campion
- L. Baulieu, F. Chedier
- O. Rascol, Ph. Amouyel
- B. Vellas, A. Colvet
- F. Forette, A. Fagot-Lazareski
- G. Berrut, C. Jeandel
- M.-S. Desautelle, C. Blum Bogard
- J.-F. Dartigues, M.-E. Joré

ALZHEIMER'S MISSION
(August 1st - November 8th 2007)

4

National Plan on Alzheimer's and related diseases 2008-2012

➤ Prepared by a commission at the request of Nicolas Sarkozy, In August 2007,

➤ Presented on February 1st 2008

➤ Inspired by the report of the commission

➤ 44 specific aims, 1.6 billion euros over 5 years

- Social support €1.2 billion
- Medical support €200 million
- Research segment €200 million

5

Develop our understanding of the disease

Biological Research	Clinical Research	Research in Public Health	Research on care
<ul style="list-style-type: none"> ■ GWA: for identification of informative polymorphisms ■ Specific grant applications on biological models ■ Allocations for 20 PhD in the field ■ Allocations for 10 Post-Doc ■ Grant applications for 3 new teams for 3 years (DMC) ■ Grant applications for research projects (SMC/year) by ANR 	<ul style="list-style-type: none"> ■ Grants for projects (SMC/year) by the Ministry of Health ■ Creation of a National Center for Neuro-imaging research and analysis ■ Call for 5-31 MBAs dedicated to AD or 2-7 MBAs ■ Creation of National cohorts of patients ■ Allocations for 10 CCA/AD 2 year ■ 1 Center <Early Onset Alzheimer patients> 	<ul style="list-style-type: none"> ■ Support for the next 10 years on the ongoing Cohorts MC of Papirol ■ Support for an intervention trial for preventing AD ■ National register with a computerized shared history ■ Creation of 1 National methodology Team ■ Training 1000 GPs on Clinical Epidemiology 	<ul style="list-style-type: none"> ■ Creation of a National Ethic Centre ■ Creation of special in-hospital units ■ Creation of 1 National research team in Social Sciences and Economy ■ Grants

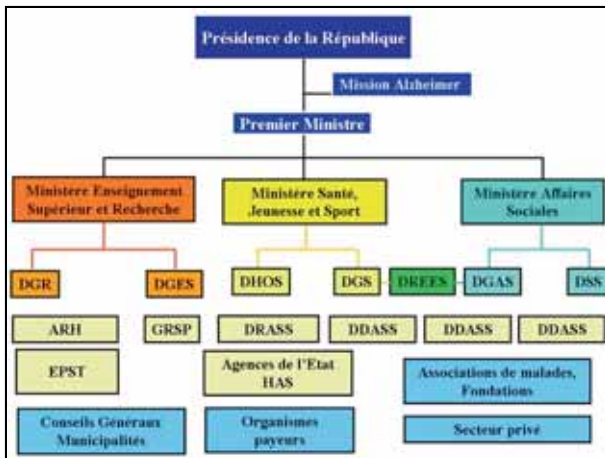
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Foundation for Scientific Cooperation

- Established under the Law on Research Programmes of January 2006
- Simplify research operations
- Ensure transparency for the use of funds
- Combine public and industrial-sector capabilities on a common national research objective

Professor Bruno Dubois (continued)

7



8

Statistics and Projections

- 6 million Europeans suffer from Alzheimer's disease and other forms of dementia
- The total annual cost of dementia = € 55 billion in Europe in 2005
- Over 11 million Europeans will suffer from Alzheimer's disease and other forms of dementia by 2040

9

Towards Joint Programming in Research

The pilot Joint Programming Initiative on Neurodegeneration, including Alzheimer's Disease

Inserm

ALZHEIMER PLAN EUROPE 2007

10

European Mobilisation

- Informal meeting on competitiveness for Ministers of Research
- Versailles, 17th July 2008
- Workshop 4 : the health of an ageing population - challenge: the fight against neurodegenerative disease
- Chaired by the French Minister of Higher Education and Research, Mme Valérie Pécresse
- Two major contributors
 - Pr. André Syrota, Inserm, France
 - Sir Leszek Borysiewicz, MRC, UK

11

Joint programming perspectives and motivation

- Synergistic use of shrinking research budgets in a difficult economic climate**
- Grouping calls for grants at the level of several member states will reinforce the potential for scientific collaboration in Europe**
- Accountability to stakeholders in pooling research efforts addressing common social issues in Europe
- Simplifying European procedures governing scientific collaboration (and its administration)
- Following the FPEU, France has hosted meetings on this issue until a new management structure is agreed

12

1. A shared vision

Professor Bruno Dubois (continued)

13

Improve European Collaboration

- Fighting neurodegenerative diseases is the major health challenge of our ageing european populations
- To mobilize the best researchers from all fields, to develop the sharing of best practices and know how
- An enhanced coordination of our efforts would accelerate progress

14

2. Towards a common strategic research agenda

15

Challenges

Scientific	<ul style="list-style-type: none">➤ Research on genetic susceptibility and GWAS➤ Developing competitive animal models➤ Basic pathophysiological research➤ Development of new imaging technologies and new biomarkers➤ Studying early onset forms of Alzheimer's disease and related dementias➤ Development of new treatment strategies➤ Coordinate biobanks for blood samples, CSF and brain tissue➤ Launching or integrating large population cohorts and registries
Medical	<ul style="list-style-type: none">➤ Early diagnosis using multidisciplinary approaches➤ Prevention to reduce the burden of the dementias➤ Publicly-funded clinical trials➤ Standardization of diagnostic criteria and diagnostic instruments
Social	<ul style="list-style-type: none">➤ Comparison of different systems and identification of best practice➤ Home automation, smart homes and domiciles➤ Ethics and health economics

16

3. Designing a management structure

17

Goal

- Complete the shared vision and agree on the strategic Research Agenda
- Activate the most suited combination of public research instruments - regional, national and European
- Monitor and evaluate the completion of objective
- Report at the political level to member states and the EU

18

A unique opportunity in France and in Europe

- Powerful political will
- A major public health objective
- Mobilisation of all players
- A model for renewing French research
- Short chains of command
- Transparency of fund use
- A new public/private-sector partnership
- A strong European will

Professor Bruno Dubois (continued)


19

<http://www.plan-alzheimer.gouv.fr>



Carol Brayne

1



BP Portrait Winner

Dementia Research Summit

Carol Brayne
(public health)
Cambridge University
MRC CFAS I & II

Cause (prevention)
OED 2007, that which produces effect or consequence antecedents followed by a certain phenomenon

2

Introduction & outline

- Asked to cover exciting areas of current enquiry in my field (ph/epi/cause)
- Pressing research issues for future
- Factors inhibiting quality, relevance and impact
- Start with what we're studying
- Place of causation and prevention & dementia in funding & thinking
- Causation and prevention framework
- Prevention, strengths and barriers

3


Dementia as a 'wicked' issue*

- Syndrome still poorly understood – dementia is a 'wicked' issue*
- Continua (cognition, function, behaviour, affect, other health states)
- Different at different ages (clinical and neuropath obs)
- Ambiguous relationship to underlying pathology (imaging/neuropath) – not always linked closely to clinical state/independence/quality of life
- Relationship to end of life (survival studies)
- Paradoxical impacts when addressing causation/prevention
- What do people themselves actually want at different lifestages and on basis of what information?
- Who decides and whose perspectives? UK plc needing drug discovery and prescribing revenues or pot trying to save money ('disinvest')?
- Population findings and those responsible for providing services from within finite envelopes of funding do not have same perspective as those of special interest groups or specialists (but these can be integrated)

*Wicked issues are difficult to define clearly, defy easy single bullet solutions, have complex causes, complex solutions, many interdependencies... Hunter, JPH 2009

4

Exciting issues in epi/ph/causal research but also ones which need to take their place in the wider context



Henry Moore, Tate collection

...At first, the infant,
Mewling and puking in the nurses's arms.

Genes, intrauterine environment, birth trauma breast feeding and early nutrition, parental social class

Head size and body weight

5



Henry Moore, Tate collection

...Then a soldier,
Full of strong oaths and bearded like a pard,
Jealous in honour, sudden and quick in quarrel.

Alcohol, smoking, occupational status and exposure, personality features, social interaction, marital status

Physical activity, Obesity, diabetes continuum (metabolic syndrome), hypertension

Early vascular disease

6



Henry Moore, Tate collection

The sixth age shifts,
Into the lean and slipper'd pantaloons
With spectacles on nose and pouch on side.

Social interaction, intellectual activity, physical activity, statins.

Traditional causal findings from variety of epidemiological, clinical, animal studies, short to long term

Ian McKeith

1

Cause

Ian McKeith MD F. Med. Sci., Professor of Old Age Psychiatry and Clinical Director of Newcastle Institute for Ageing and Health
Co-Director of NIHR Dementias and Neurodegenerative Disease (DeNDRoN) Clinical Research Network.

2

Frau Auguste Deter. ("Auguste D")
Married to a railway clerk (Karl)
In 1901 aged 51 started accusing husband of having an affair with a female neighbour
Rapidly increasing memory impairments
"Home life became disordered" for 8 months before Karl asked for help from the family doctor and Auguste was admitted to the Municipal Asylum for the insane and epileptic in Frankfurt am Main.

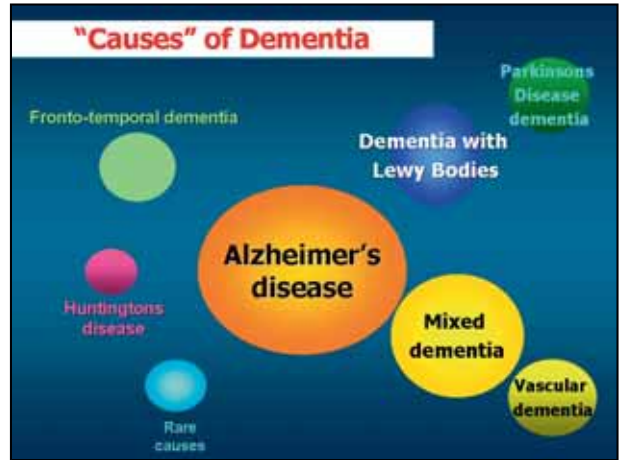
Asked to write her name she was unable and said "I have, so to speak, lost myself."
Frequently agitated she spent long periods in the bath and in an isolation room at night

Died April 1906 mute and bedfast with pneumonia and bedsores
Alzheimer reported on a "peculiar substance in the cerebral cortex"

3

"The gains in the brain have been mainly in the stains"

4



5

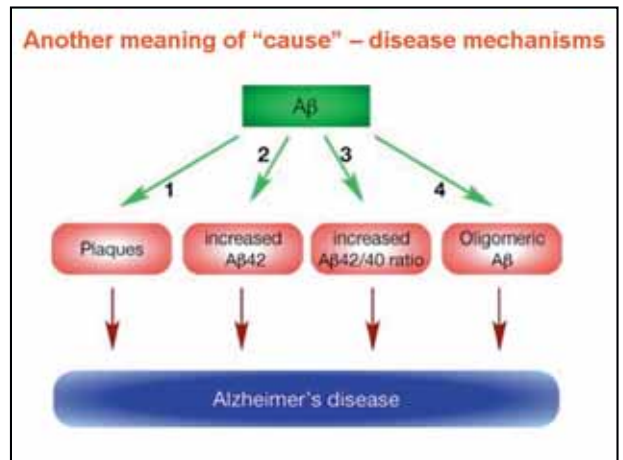
Cause (diagnosis) is informative about care and cost.
Boutrom et al. 2007 Alz Dis Ass Dis 21: 150-154

Patient and caregiver reports of QoL for 34 DLB and 34 AD subjects
MMSE 17 (0-30)
EQ-5D rates mobility, hygiene, usual activities, pain, mood
A "utility weight" is assigned to these scores where 1=perfect health and 0=death

Caregiver reported EQ-5D
6% of AD and 24% DLB had scores below zero.

Average annual Care Costs:	AD	18,200€
	DLB	37,500 €

6



Ian McKeith (continued)

7

Cause – the translational science perspective

- Genetics
 - Molecular/cellular biology
 - Protein toxicity / aggregation
-
- Suitable animal models
 - Clinical biomarkers
 - Normal and pathological ageing

8

Track Record

- We have a track record of world class translational research in dementia
 - First description of Alzheimer's as the major cause of dementia in older people
 - Identification of the cholinergic deficit that led to currently available treatments
 - Leading in non-Alzheimer dementia research
 - Unrivalled opportunities for clinical translation through NHS
 - Opportunity to capitalise through Dementia Strategy



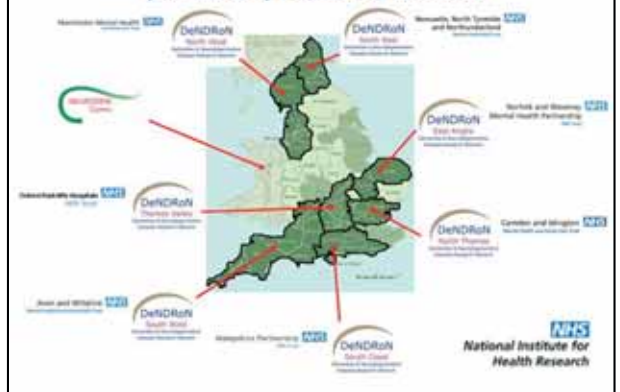
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Cause research: An NHS opportunity

- All people with a diagnosis of dementia need a subtype diagnosis
 - Access to specialist diagnostic services
- All people with a dementia diagnosis need to be offered engagement with "cause" research
 - May be invasive and include tissue retention
 - Facilitated by a skilled research workforce embedded in NHS clinical services

10

NIHR Dementias and Neurodegenerative Diseases (DeNDRoN) Research Network



1

Dementia Summit July 21st 2009

Cure

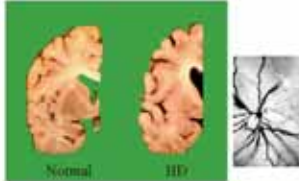
Using Huntington's disease to find treatments

Anne Rosser
Cardiff University Brain Repair Group
Schools of Medicine and Biosciences



2

Huntington's disease

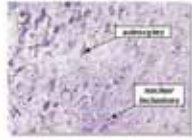


- Relatively rare inherited neurodegenerative disorder
- Dementia
- Movement disorder
- Psychiatric symptoms

Dementia characteristics

- Attention deficits
- Executive dysfunction
- Impaired insight
- Impaired judgment
- Diminished motivation
- Forgetfulness
- Language

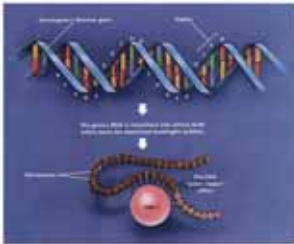
Loss of medium spiny neurons in the striatum



3

HD as a paradigm for neurodegeneration

- Gene test - autosomal dominant, 100% penetrance, reliable diagnosis in life
- Focal disease
- Animal models: in monkeys, rats & mice



Transgenic mice and rats

Lesion models: excitotoxins/NP3

Other models: lentiviral transfer exon1 mutation

4

Finding new treatments

Mutant gene - CAG expansion

RNA → RNAi

Mutant Huntingtin protein → aggregation → protein aggregates

Affects gene regulation Mitochondrial dysfunction

Intracellular inclusions: Harmful or helpful?

Potential disease-modifying treatments

Optimising existing function: Physiotherapy/speech therapy etc

Cell rescue: CoenzymeQ, Resacaemide, Riluzole, Minocycline, Ethyl-EPA

Cell replacement therapy

Cell dysfunction and Death

5

What are the building blocks?

- Better define the clinical features
- Better define outcome measures
- Understanding the pathogenic pathways
- Exploration of new and emerging treatments

These issues are not unique to Huntington's disease - HD as a model for other neurodegenerative conditions

6

European Huntington's disease network (EHDN)



- Working groups
- Behavioural phenotype
- Biomarkers
- Cognitive phenotype
- Environmental modifiers
- Genetic testing counselling
- Genetic modifiers
- Health economics
- Imaging
- Juvenile HD
- Motor phenotype
- Neuroprotective therapy
- Physiotherapy
- Quality of life
- Standard of care
- Surgical therapy
- Symptomatic therapy

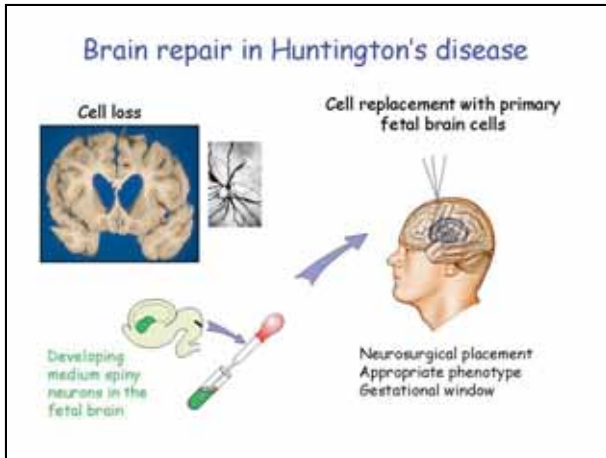
Network of clinicians and scientists

Web based longitudinal database and biobank

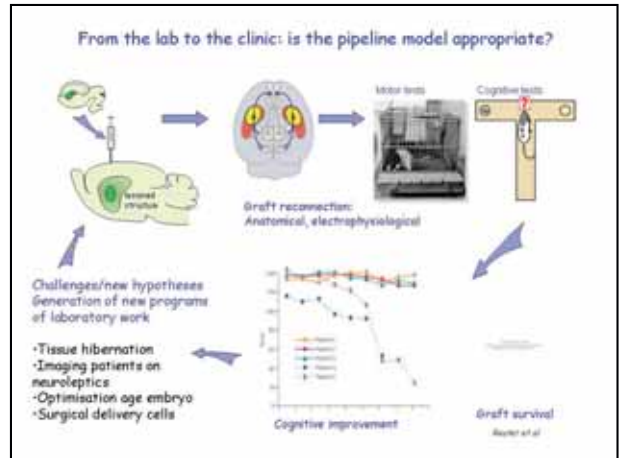
Information sharing and collaboration

Anne Rosser (continued)

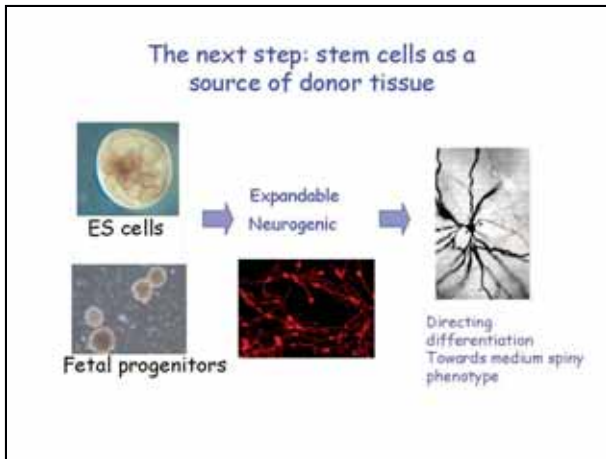
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8



9



10

Stem cell issues

- Ethical sourcing
- Production clinical grade cells
- Service level agreements

Good manufacturing practice (GMP)

Central Office for Research Ethics Committees
CONEC

NHS

EUROPEAN UNION

MRC

UK National Stem Cell Bank

DH Department of Health
Gene Therapy Advisory Committee

HTA Human Tissue Authority

MHRA

NHS National Patient Safety Agency
National Research Ethics Service

11

Needs and Challenges?

- Cooperative working, data sharing
- Support for basic research
- Funding
- Regulatory issues
- Working in a clinical setting

Simon Lovestone (continued)

7

Choosing the correct target

- Pharma focus on upstream events
- Mixed dementia and spectrum disorders – challenge or opportunity?
- No animal model of the amyloid cascade

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8

When to treat ; Design of trials

Symptomatic treatments
Short lived improvement in cognition, behaviour or function

Disease modification therapy
Interventions to slow or halt pathological processes

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9

When to treat ; Design of trials

Symptomatic treatments
Short lived improvement in cognition, behaviour or function

Disease modification therapy
Interventions to slow or halt pathological processes

How to prove Disease modification ?
Delayed start or slope divergence
Large, long and expensive trials
Funding gap, patent issues, regulatory challenges

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10

Measuring efficacy

Earlier is harder
Change in any measure is less pronounced in early stages

Cognitive measures show variability > effect size of therapy
Some patients improve, many do not deteriorate [1]
Placebo decline negligible in recent trials [2,3]

Biomarkers urgently needed
Most progress in imaging and CSF markers

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11

Prospects for therapy

Robust pipeline

Multiple phase III trials underway

Biomarkers developing rapidly

Animal models do not match disease

Trials may not be early or large enough

No established biomarker for disease process

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1

Dementia research summit : Care

Steve Iliffe
Associate Director, DENDRON
Professor of Primary Care for Older People, University College London

2

Cognitive decline & dementia

2

3

Research issues in cognitive decline & dementia

Primary prevention studies; cardiovascular risk factors, brain stimulation

3

4

Timely diagnosis

Palmer et al BMJ 2003

- Population screening
- 3 stage diagnostic process: memory question > MMSE > psychometric battery
- Identified 18% of subsequent cases
- >50% of PWD did not have memory problems before diagnosis

4

5

R&D projects & programmes

5

6

Care research: a summary

- Underdevelopment of HSR compared with pharmaceutical research
- Lack of familiarity with HSR methods and pragmatic trials of complex interventions
- Path dependency
- Complex interventions give benefits > cholinesterase inhibitors (PREVENT trial)
- Relatively small research community, but growing
- DENDRON research network
- A European resource: INTERDEM

6

1

LSE Ministerial Dementia Research Summit
London 21 July 2009

Care

Martin Knapp

- o PSSRU, London School of Economics
- o Institute of Psychiatry, King's College London
- o NIHR School for Social Care Research

2

A highly simplified Care research generally needs to be country- and context-specific

How good is it?

- Respectful?
- Effective?
- Efficient?
- Fair?
- Solidaristic?
- Sustainable?

[Research criteria]

Buildings and other capital
Medications
Consumables

Intermediate outputs
Service volume
Quality of care
Casemix

Non-resource inputs
Social environment
User histories
Resilience
Staff attitudes, etc.

Societal consequences

3



4

Needs and preferences: questions

Needs:

- Individual, family: Which needs?
- Assessment: How? By whom?
- Eligibility for public support?

Preferences:

- How to blend user and carer preferences?
- How to blend preferences and needs?
- How can personal budgets be designed and supported to be successful?
- Choice: How to trade-off empowerment and safeguarding?

5



6

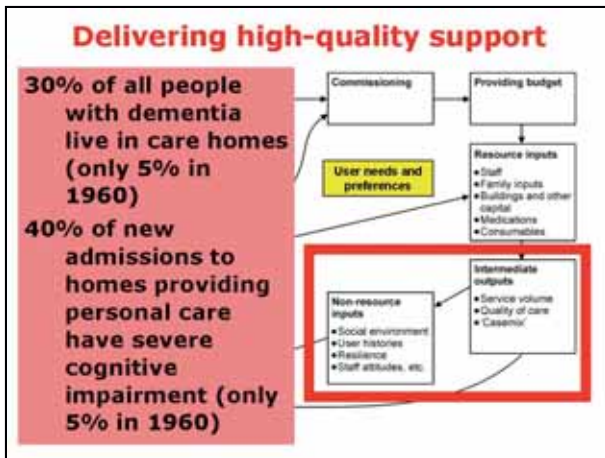
Outcomes: questions

Outcomes should span the needs dimensions. But:

- Whose outcomes? Individual, family, society?
- Do we have good enough tools to measure them?
- Do we have the tools to engage in wider strategic debate about priorities and allocations? (cf QALYs)

Martin Knapp (continued)

7



8

Delivery: questions

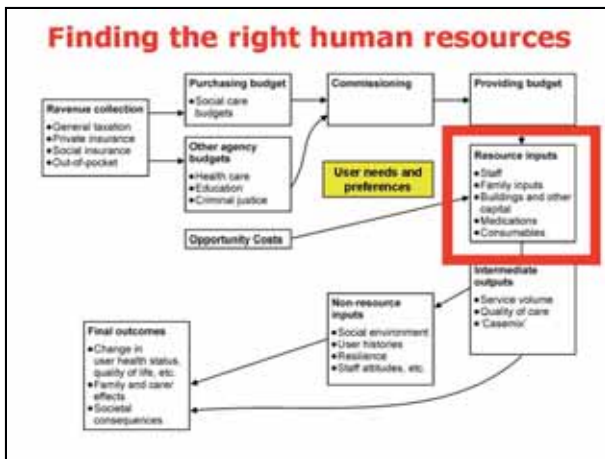
Hospital services **Care homes**
Intermediate care **Housing models**
Day activities **Respite**
Community support

- Are they what people want?
- Are they effective?
- Are they cost-effective ('worth it')?

If so:

- Are they available?
- Are they fairly distributed?

9



10

Human resources: questions

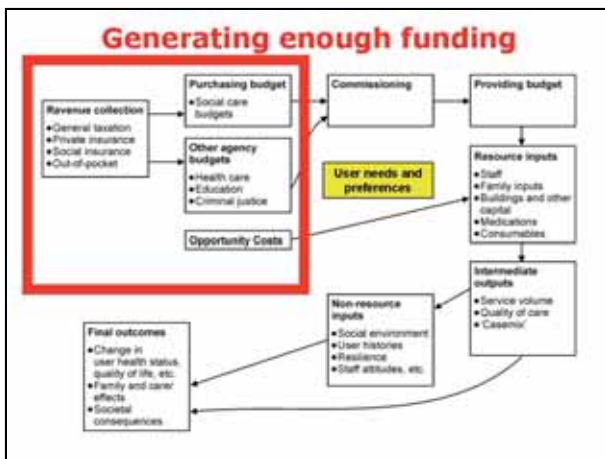
Unpaid (informal) carers:

- How many? What are their needs?
- How to combine care with a career?
- What support works for them? And how do we get it to them?

Paid care staff:

- Are we recruiting the right people?
- Are they trained for the task?
- Personal assistants (if needed): Supply? Regulation? Monitoring?

11



12

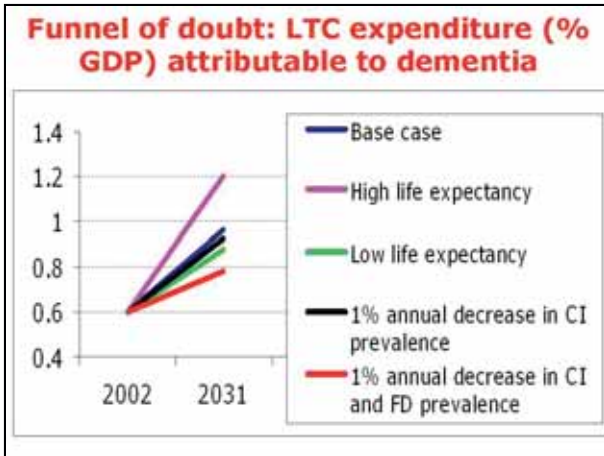
Funding: questions

Cost of care:

- What is the overall cost of dementia?
- How is it distributed? (36% to carers)
- How will it change? (x3 over 30 yrs)

Martin Knapp (continued)

13



14

Funding: questions

Cost of care:

- What is the overall cost of dementia?
- How is it distributed? (36% to carers)
- How will it change? (x3 over 30 yrs)
- How do we make an economic case for investment?

Financing: how do we pay for it?

- Which financing system is best?
- What public-private funding balance?
- What incentives do these financing arrangements create?

ANNEX D - Links to Further Information (Speakers' Recommendations)

Research articles:

- Carlsson CM. Lessons from failed and discontinued clinical trials for the treatment of Alzheimer's disease: future directions. *J Alzheimer's Dis* 2008; 15 (2): 327-338
- Cummings JL, Doody R, Clark C. Disease-modifying therapies for Alzheimer disease: challenge to early intervention. *Neurology* 2007; 69 (16): 1622-1634.
- Dubois B et al. Research criteria for the Diagnosis of Alzheimer's disease: revising of the NINCDS-ADRDA criteria. A position paper. *Lancet Neurol.* 2007 Aug;6(8):734-46.
- Harper P, Jones, L, and Bates. *G.Huntington's disease* 3rd Ed. OUP
- Handley OJ, Naji JJ, Dunnett SB, Rosser AE. Pharmaceutical, cellular and genetic therapies for Huntington's disease. *Clin Sci (Lond).* 2006 Jan;110(1):73-88.
- Lambert JC, et al. Genome-wide association study identifies variants at CLU and CR1 associated with Alzheimer's disease. *Nat Genet.* 2009 Sep 6.

Policy documents:

- Department of Health: *Living well with dementia: a National Dementia Strategy*, Feb 2009
<http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH094058>
- Department of Health: *Living well with dementia: a National Dementia Strategy Implementation Plan*, July 2009
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_103136.pdf
- European Commission: *Proposal for a Council Recommendation on measures to combat neurodegenerative diseases, in particular Alzheimer's, through joint programming of research activities*, July 2009
http://ec.europa.eu/health/ph_information/dissemination/documents/rec2009_379_en.pdf
- French Alzheimer's Plan References: *Alzheimer Plan 2008-2012*
<http://www.plan-alzheimer.gouv.fr>
- HM Treasury: Cooksey Review, *A review of UK health research funding*
http://www.hm-treasury.gov.uk/cooksey_review_index.htm

Reports:

- All Party Parliamentary Group on Dementia: *Prepared to Care. Challenging the dementia skills gap*, June 2009
http://www.alzheimers.org.uk/downloads/APPG_Report_Prepared_to_care.pdf
- Alzheimer Europe: *Dementia in Europe Yearbook*, 2008
http://ec.europa.eu/health/ph_information/reporting/docs/2008_dementiayearbook_en.pdf
- Alzheimer Europe: *Who cares? The state of dementia care in Europe*, 2006
<http://www.alzheimer-europe.org/upload/SPTUNFUYYGOM/downloads/C9AE88C5E59C.pdf>
- Commission for Social Care Inspection: *See me, not just Dementia*, 2002
http://www.cqc.org.uk/_db/_documents/Dementia%20Report-web.pdf
- LSE, King's College London, Alzheimer Society: *Dementia UK. The Full report*, 2007
http://alzheimers.org.uk/downloads/Dementia_UK_Full_Report.pdf
- National Centre for Social Research, Institute of Fiscal Studies, University College London, University of Cambridge, *English Longitudinal Study of Ageing*
<http://www.ifs.org.uk/elsa/team.php>
- National Institute for Health and Clinical Excellence, Social Care Institute for Excellence: Dementia - NICE and SCIE guidelines on *Dementia: Supporting people with dementia and their carers in health and social care*
<http://www.nice.org.uk/guidance/cg42>
- National Audit Office: *Improving services and support for people with dementia*, July 2007
http://www.nao.org.uk/publications/0607/dementia_services_and_support.aspx
- National Audit Office: *Forget me not. Mental health services for older people*, 2002
<http://www.audit-commission.gov.uk/nationalstudies/health/mentalhealth/pages/forgetmenot2002.aspx>
- Open University and the University of Bristol: *The Last Refuge 'Revisited'*, 2005-2007
<http://www.open.ac.uk/hsc/research/research-projects/the-last-refuge-revisited/the-last-refuge-revisited.php>

- The King's Fund: *Paying the Price. The Cost of Mental Health Care in England to 2026*, 2008
http://www.kingsfund.org.uk/research/publications/paying_the_price.html

Organisations:

- Alzheimer's Research Trust: <http://www.alzheimers-research.org.uk/>
- Alzheimer Society: <http://www.alzheimers.org.uk/site/>
- European Huntington's Disease Network
<http://www.euro-hd.net/html/network?eurohdsid=b5dcf8481fd3552ffb8afbbb23ae8a58>
- Mental Health Foundation: <http://www.mentalhealth.org.uk>
- Quality Research in Dementia (QRD):
<http://www.alzheimers.org.uk/site/scripts/documents.php?categoryID=200296>
- The Dementias & Neurodegenerative Diseases Research Network:
<http://www.dendron.org.uk/about/index.html>
- UK Clinical Research Collaboration
<http://www.ukcrc.org/>
- Wellcome Trust: www.wellcome.ac.uk