

Ageing Research in the UK

A review following the SPARK Workshop: The Future of Ageing Research in the UK: A vision for action, held on, 21 to 23 May 2006, at Hotel Des Indes, The Hague

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Hosted by:



Organising Committee:

- Mr Michael Lake CBE (Chairman of the Funders' Forum for Research on Ageing and Older People and Director General of Help the Aged)
- Professor Tom Kirkwood (Professor of Medicine, University of Newcastle and Secretary to the House of Lords sub-Committee on the Science of Ageing)
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Meeting Programme and the participant list can be found in **Annex 1**

Foreword:

I am very pleased in my role as Chair of the Funders' Forum for Research on Ageing and Older People, to be able to introduce this discussion paper. It is intended to summarise the views expressed at the SPARK workshop: "**The Future of Ageing Research in the UK: A Vision for Action**" held in May 2006.

The workshop involved an impressive list of participants with a focussed programme and was generously hosted and managed by the Unilever team. It was probably unique to have brought together such a knowledgeable team of experts and their diverse views provide an important guide to the research needs of a modern and ageing society.

The workshop was a major advance in focussing on existing knowledge and in positioning to the future. It gave the opportunity to reflect on the organisation and coordination of research in the UK and on alternative models in other countries. This perspective is important as we consider ways in which the Funders Forum might develop to meet the needs of a complicated, sophisticated and globally-connected country.

With the good will and expert knowledge of the expanding membership of the Funders Forum we have begun the process of developing the organisation and I see this being a continuous process as we anticipate changing circumstances. My long term vision of the Forum is as 'grit in the oyster'. We must position the organisation to provide a basis for ageing research that enables the members to remain at the forefront of innovation and collaboration.

I would like to thank everyone who took part in the workshop and the members of the Funders' Forum who have provided comments to help shape the final document. I hope that you will enjoy reading this paper and find it a stimulating platform for future discussions.

Mike Lake CBE

Chair

Funders Forum for Research on Ageing and Older People

Ageing Research in the UK

A century or so ago, when the grandparents of today's grandparents were born, orphans were common and old people rare. Today the reverse is true. In 1911, 63% of people died before the age of 60. Now, only 12% do so¹. By the time the grandchildren of today's grandparents are grandparents themselves, they will be living in a world in which octogenarians are ten'a'penny; nonagenarians commonplace and there will be centenarians on every proverbial street corner.

It will be a world in which three and even four or five generations will share the same space and time as a matter of course. Those of us alive today, our children and our children's children are living through the transition to this Ageing Society. By 2050, at least a quarter of the UK population is expected to be over 65, up from the 16% of 2004².

Human beings have little experience of an Ageing Society. In the middle decades of the fourteenth century, the Black Death that swept through Europe and destroyed a third of the population, selectively killed younger people. The result was societies in which the absence of young men and women meant that fields were neither ploughed, planted nor harvested; buildings, villages and towns decayed and surviving older people often formed themselves into self-help communes to survive as best they could in the harsh environment. It took Europe over four hundred years to recover from the devastation and rebuild its population and social life. There is a frightening parallel in the countries in sub-Saharan Africa afflicted by HIV/AIDS.

The modern transition in the age structure of society in the developed world is not only different in kind and so will have different outcomes, it is also permanent. It is the result not of sudden plague, but of the long fall in fertility rates compounded by the more recent rise in longevity. Neither is likely to reverse. And with immigration likely to remain limited, the chances of ever having a 'young' population again are tiny at best. Our society is now as young as it will ever be.

This Ageing Society is a cause for celebration, but the transition brings with it enormous challenges. We may live longer because the infectious diseases that decimated childhood have been largely conquered and clean water and sanitation, warmer homes and more if not necessarily better nutrition mean that most of us now get through the formerly dangerous early years, but in Britain, there is some evidence that suggests that morbidity and disability in later years is increasing with the result that healthy and disability free life expectancy is falling behind life expectancy itself.³ This raises the question of who will care for those who cannot care for themselves. And if the quality of life in later years is less than optimal, will we in older age, let alone those who come after, feel that adding years to life is really a blessing. Perhaps we would prefer adding life to years – or both if the research can show that they are not mutually exclusive.

¹ Hicks J and Allen G (1999) A Century of Change: Trends in UK Statistics since 1900, House of Commons research paper 99/111

² Changing structure of the UK population ONS 2005

³ The Parliamentary Office of Science and Technology, Postnote **February 2006** Number 257

Despite the experience of the Middle Ages, the current transition to an Ageing Society is novel. We are moving into a world described by Peter Laslett, the social historian, as one in which being old will not be exceptional, but ordinary⁴. There are other challenges in the modern world – climate change; terrorism; global inequality; anomie and alienation; energy and water shortage – but right up there with them is the Ageing Society. Which is why ageing is identified as one of the fistful of so-called ‘Grand Challenges’ set by the Chancellor Gordon Brown no less in the UK Government’s forthcoming comprehensive spending review.

The Challenge of Ageing

“Dying Young as Late as Possible” and “if you don’t use it, you lose it,” are two favoured phrases of David Snowdon, a professor of neurology at the University of Kentucky, who is better known as the director of the Nun study. Snowdon and his colleagues have spent much of the last twenty years studying nuns born before 1916, who in 1991 when the main study started would have been 75 or older. This population was unique in that the life experiences enabled many co-existing factors or variables to be more easily controlled, (such as socio-economic factors, meals, activity levels, living arrangements, unmarried status, celibacy to name a few) than with a mix of socio-economic, life-choice disparate groups.

Snowdon and his team were particularly interested in Alzheimer’s disease, the catastrophic illness that affects 400,000 people in the UK and millions worldwide, numbers forecast to at least double by the middle of the century. In the US, the economic toll of the disease is currently \$80-\$100 billion, but by 2050 the estimate is that more than \$1 trillion will be spent annually on AD and related dementias in that country.⁵

The researchers found that those sisters with the lowest scores on idea complexity, assessed from autobiographical writings they had made earlier in their lives and which in essence are believed to display the depth and breadth of thought, had three times the prevalence of the disease and also significantly lower longevity than the other nuns. Their conclusion from this long study is that higher education, encouraging greater emotional expression and finding ways to engage our minds to deepen idea complexity are likely to protect us in later life from cognitive decline.

Alzheimer’s is bad enough, but add stroke, arthritis, heart disease, diabetes, Parkinson disease, hip fractures, osteoporosis, sensory impairments, and sexual dysfunction to the list and the downside of an Ageing Society is pretty obvious. Stir in issues such as loneliness and isolation; mobility impairment; nutritional status; depression; and the challenges can seem overwhelming.

But there are solutions.

The Nun study has helped change the way people think about ageing and Alzheimer’s disease. For example, according to Snowdon, the most common form of Alzheimer’s

⁴ P Laslett Fresh Map of Life

⁵ Alzheimer's Disease Annual Report, Alzheimer's Disease International, 2004-2005

disease is not a yes/no ailment that suddenly occurs as people get older. It more than likely appears to have roots in early life. This includes many lifestyle factors including education, nutrition, exercise, depression and cardiovascular health. All of these seem to play a significant role in the later development of Alzheimer's disease.

The research team also discovered that the cumulative effects of brain damage done by small strokes may tip the balance toward dementia. If such strokes can be prevented, so may be dementia.

A Nun study does not come cheap, but longitudinal studies are inherently expensive. It has required a combined effort by doctors; biologists; social scientists and involved many disciplines which is the nature of age research. The results still point to interim conclusions and there is much that still needs to be done, but it does at least suggest the path for future research and offers glimmers of hope. It also reveals that ageing is a life-long process and there is great value in studying it right the way through as well as focusing on the specific disease state.

The bulk of the funding has come from the National Institute of Ageing, one of the 27 Institutes and Centres of the National Institutes of Health in the USA. The NIA leads a broad scientific effort to understand the nature of ageing and to extend the healthy, active years of life. It was established in 1974, when Congress granted authority to form the NIA to provide leadership in age research, training, health information dissemination, and other programs relevant to ageing and older people. Subsequent amendments to this legislation designated the NIA as the primary Federal agency on Alzheimer's disease research on which it spends over half its budget.

It is a comprehensive brief and the remit of the NIA made a markedly favourable impression on a House of Lords Committee investigation into research into ageing , as did its \$1.05 billion funding in 2005. About \$100 million is spent in the NIA's own centre in Bethesda and the rest funds research programmes throughout the USA. Reporting in 2006, the committee noted that “ the NIA covers the research agenda that is the responsibility in the UK of all the Research Councils and the Department of Health (excepting the design and technology research of the EPSRC) . In consequence, the US has a far more coherent effort in the field than does the UK.” They went so far as to say of UK age research “Our conclusion is that the attempts at coordination so far made under the aegis of the research councils are woefully inadequate. The image we have is of a series of ill-thought-out initiatives which have long titles, short lives, vague terms of reference, little infrastructure, and no sense of purpose.”⁶

This was a serious criticism and a valid judgment because the history of co-ordinating age research in the UK has not been good. Accepting that age research is a broad canvas and ranges from “the molecular and cellular changes associated with basic biological processes of cell death, senescence and physiological ageing, to technologies and design to help older people maintain their independence and autonomy⁷”, the UK has found it difficult to decide how research into ageing fits in

⁶ House of Lords Science and Technology Committee 1st Report of Session 2005-06 Ageing: Scientific Aspects

⁷ Research Councils UK,

with the current professional and academic boundaries that delineate research activity. This is a general problem in research and a problem for funding organisations in the UK which tend to function in disciplines rather than subjects. While we have a good record of co-coordinating research into say cancer, in the past we have not been clear as to the strategic significance of research into ageing, but on the upside the responses to the House of Lords report suggest that there is a new momentum to address the issues

However, without a clear position and priority for ageing research, we will not be able to maximise the UK contribution. We need to do this with some urgency if we are to meet the challenges mentioned earlier.

To stimulate the process, the Funders' Forum for Research on Ageing and Older People – an alliance of charities, research councils and government departments committed to improving the quality and quantity of UK age research – partnered with the corporate research division of Unilever to hold a workshop on 21 to 23 May 2006 into the issues surrounding age research and produce a vision for action which is the basis for this report.

Age research as basic science

“If I were a policy-maker, interested in saving money for health care over the long haul, I would regard it as an act of high prudence to give high priority to a lot more basic research in biologic science.”

Lewis Thomas The Technology of Medicine

John Maynard Smith, the evolutionary biologist, described ageing as “a progressive, generalised impairment of function resulting in an increased probability of death”. Fair enough and until recently it was felt by most doctors that diseases, to which older adults were particularly vulnerable, such as osteoporosis and the dementias, were unavoidable attributes of the aging process, and healthy aging was something of an oxymoron. That focus is slowly beginning to shift as researchers attempt to differentiate the processes of aging from the effects of debilitating diseases. There is a recognition that perhaps the underlying biological changes that predispose everyone to fatal and disabling diseases and disorders are caused by the processes of life-time ageing. The principal risk factor for most diseases of later life may be ageing itself, but it is also the case that we would not all get Alzheimer's if only we lived long enough.

The evidence from work on small mammals and other animals that genetic and dietary interventions can retard nearly all late-life diseases in parallel has negated the idea that age-related illnesses are independently influenced by genes and/or behavioural risk factors. It may well be that our own bodies have "switches" that influence how quickly we age. These switches are not set in stone; they are potentially adjustable.⁸

⁸ Olshansky, S.J., Perry, D., Miller, R.A., Butler, R.N. 2006. In pursuit of the Longevity Dividend. *The Scientist* 20(3):28-36.

But if ageing underlies most diseases and the functional changes that determine whether we enjoy late life or suffer in frailty and dependency, why is it that most of the available support for research is directed at individual diseases with only a tiny fraction directed at basic science? Furthermore, why is it that little goes to research into the social aspects of ageing? Ageing may not be the social construct of race, there are real and significant differences between older and younger people, but how we age has a lot to do with our individual beliefs about ageing which are often shaped by the social cage in which we live.

Most universities and hospitals focus on disease and organ systems and compared to medical research disciplines, the biology and sociology of ageing seems almost invisible. In a recent attempt to map health research in the UK, age research is not even separately identified.⁹ Even in the United States, for all its support for estimable studies such as that of the nuns, the NIH spends only 0.1% of its total \$28 billion a year budget on understanding the biology of aging and how it predisposes us to costly diseases and disorders expressed at later ages¹⁰.

Professor John Grimley Evans, a doyen of UK geratologists, is not the only one concerned at the implications for age research, “There is a tension between the generalist nature of clinical practice among older people and the need for clinical and basic research to be intensely focused if it is to be of the highest standard. There is also now a geratological agenda in molecular biology and genetics. How to ensure both clinical and research excellence without threatening the essential link between them is now perhaps the single most important issue for geriatrics.¹¹”

It would be a pity, to put it mildly, if our present knowledge of how, why, and when ageing processes take place could benefit people alive today, but did not do so because we were unable to provide the structures and funding that enabled the necessary research to be developed and translated into therapeutic interventions.

Disraeli said “for the happiness of the people and the power of the country, the care of public health is the first duty of the statesman.” Improved health status for all is a moral objective. But improved health status for older people is not only a moral imperative, it is also an economic one. Healthy older individuals tend to work longer. They accumulate more savings and investments than those who are ill. They spend their money in the so-called mature markets, including travel and hospitality, invest in financial services, and increasingly provide the intergenerational transfers to younger generations that will pay for future higher education¹².

The economic gains from improving health and life expectancy would not just benefit individuals. It has been estimated that if UK life expectancy were to increase by five years – to current Japanese levels – then gross domestic product of the UK could be

⁹ UK Health Research Analysis

http://www.ukcrc.org/pdf/ukcrc_Health_Research_Analysis_Report.pdf

¹⁰ Olshansky, S.J., Perry, D., Miller, R.A., Butler, R.N. 2006. In pursuit of the Longevity Dividend. *The Scientist* 20(3):28-36.

¹¹ J Grimley Evans *BMJ* 1997;315:1075-1077

¹² Mature Thinking A social and statistical portrait of Britain’s mature market Millennium research bureau 2003

between £3 billion and £5 billion a year higher.¹³ There would be higher pension costs, but there are economists who value the financial benefits of extending life expectancy and providing for a healthier age far more highly¹⁴.

Economics is an important rationale for researching into human disease in older people. But while necessary it is not sufficient. As the WHO famously declared at Alma-Ata in 1978, health “is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity”. The declaration went on to state that health is “a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector.”¹⁵

The WHO declaration highlights the importance of understanding health in older age as the manifestation in individuals of the interplay of biological, psychological, behavioural and social factors and this cannot be overstated.

What is possible?

Frans van der Ouderaa, Unilever Vice-President Corporate Research, considers that age research has to answer two challenges:

Can we give society compelling reasons to invest in ‘Ageing’ science?
What could be achieved in terms of the science of Ageing that would transform society?

In regard to the first challenge, Ageing makes us vulnerable to disease and injury, but we do not know why and it is vital we find out, which is as compelling a reason as any for basic research into ageing as such.

As to the second challenge, consider a world in which there was “an intervention, such as a pill, that could significantly reduce your risk of cancer. Imagine an intervention that could reduce your risk of stroke, or dementia, or arthritis. Now, imagine an intervention that does all these things, and at the same time reduces your risk of everything else undesirable about growing older”¹⁶

This is not science fiction. Nor is it the sloganising of those who offer thousand year lives to those born now. This is the sober view of respectable scientists who believe that while such a pill may sound like fantasy, aging interventions already do this in animal models and who go on to suggest that a concerted effort to slow ageing begin

¹³ Wellcome Trust Ageing 1 September 2006

¹⁴ Murphy, K M. and Topel R H *Diminishing Returns?: The Costs and Benefits of Improving Health Perspectives in Biology and Medicine* - Volume 46, Number 3, Summer 2003, pp. S108-S128

¹⁵ Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978

¹⁶ Olshansky, S.J., Perry, D., Miller, R.A., Butler, R.N. 2006. In pursuit of the Longevity Dividend. *The Scientist* 20(3):28-36.

immediately - because it will save and extend lives, improve health, and create wealth.

It is a bold vision, but society could be transformed by ageing research in other less apocalyptic ways. It is morally wrong that how long you live should depend on your life-time socio-economic status. Poor people living just a few city blocks from wealthier people are sicker and die earlier. The argument about the direction of causation can continue, but the socially minded wants to do something about the inequality.

In the same vein, if the onset of the symptoms of Alzheimer's disease can be delayed, effectively until death, then one of the most fearsome prospects of older age will be alleviated for millions. Even delaying the onset of Alzheimer's disease by five years in the US could save an estimated \$50 billion per year.¹⁷ Or if the incidence could be reduced by just 10%, then the economic benefit in the UK alone could be as much as £1.5 bn. a year and a great deal of human suffering would be alleviated.

There will be no Fountain of Youth in the lifetime of anyone reading this, but there can be great improvement in the prospects for life at older age. We need to continue untangling the factors that shape old age be they genes, nutrition, socio-economic, environment, occupation, lifestyle or chance. We are still a very long way from knowing why the aged cell or organ is more vulnerable to pathology and how we can change this. But it will need a massive effort and the effective leverage of the talent and resources to achieve these ends.

The quality of life in older age

As we age we become more heterogeneous as we arrive in later life from a huge variety of life paths. And we get there in different conditions in regard to health status; genetic endowment; income levels; socio-demographic indicators; educational attainment; marital arrangement and whatever else goes into making us individual human beings.

Most of us will need help in older age. Lewis Thomas, the distinguished American physician and luminously human writer, used to talk of three levels of technology: non-technology ("caring"), half-way technology (does not reverse or prevent the underlying problem), and high technology (preventative or curative).¹⁸ Unless we are among the lucky few, we will need a mix of these technologies and non-technologies for a successful later life. The caring technologies are obvious; halfway technologies are those that ameliorate and control but do not fix – which includes most of the drugs that older people take - and high technologies that fix the basic problem are still relatively rare.

The design community has bundled these technologies together into a concept called 'inclusive design' as a means by which the older population will be better able to

¹⁷ The Science of Aging Gracefully American Federation of Aging Research 2005

¹⁸ By halfway technology Thomas meant measures that somewhat ameliorate the downstream consequences of the disease but do not prevent or "fix" the disease in any fundamental way, e.g. iron lungs as opposed to the polio vaccine Medical Humanities Report Volume 25, No. 3 Spring, 2004 Centre for Ethics and Humanities and Michigan State University

handle the process of ageing, reflecting the idea that with older people it is not age in itself that is the barrier to life fulfilment but the environment in which they live.¹⁹

Based on the belief that the appropriate use of technology, along with innovations in its delivery, can have a significant impact on the quality of life for older people, their families and caregivers²⁰, one of the challenges has been to translate this belief into the daily lives of older people. While technologies that promote greater independence and better health for older people have existed for many years, a key requirement is the need to encourage their use by older people as part of their normal lifestyles, which in turn requires an understanding of the social, physical and emotional milieu in which people lead their lives. One example of the difficulties in introducing improvements in the quality of life is the relatively low level of hearing aid uptake and usage, even when the devices are available²¹.

Contexts differ and so do people. Psychologically, old age may be viewed as a time of resilience and fortitude²². But while people can cope, there is evidence that those with a greater knowledge and understanding of the ageing process itself have higher life satisfaction measures and are better equipped to deal with the process.²³

There are big questions to be addressed. For instance, the standard mantra is that older people wish to continue living in their own homes and the thrust of much of the technology is to enable them to do so. But we have been social animals throughout our evolutionary history and we were never meant to live alone. So there are issues surrounding the extent to which solitary independence is necessarily in every older person's best interest. Some years ago the residence of choice of older people in Norway was the nursing home, because it was so good!

The Social Dimension

Social research among older people is as important as the biological studies. Pensions policy; long term care; living arrangements in old age; social isolation and other issues are just as relevant and important as biological research.

The social science perspective of the influential Swiss sociologist Martin Kohli and other social geratologists provides a vital counterpoint to the medico-biological approach and also provides a fresh and additional perspective for examining issues surrounding ageing. Kohli has written extensively on such social issues as Housing, Ageing and Justice and Generational Transfers and twenty years ago he was

¹⁹ John Bond, Freya Dittman-Kohli, Gerben Westerhof and Sheila Peace 3rd edition of Ageing in Society: European perspectives on gerontology London, Sage, 2006

²⁰ Agelab MIT <http://web.mit.edu/agelab>

²¹ Smeeth L, Fletcher A, Ng E, Stirling S, Nunes M, Breeze E, Bulpitt C, Jones D, Tulloch A. Reduced hearing, ownership, and use of hearing aids in elderly people in the UK – the MRC Trial of the Assessment and Management of Older People in the Community: a cross-sectional survey. *The Lancet*. 2002;**359**:1466–1470

²² Hamarat E, Thompson D, Aysan F, Steele D, Matheny K, Simons C. Age differences in coping resources and satisfaction with life among middle-aged, young-old, and oldest-old adults *J Genet Psychol*. 2002 Sep;163(3):360-7

²³ Davis NC, Friedrich D. Knowledge of aging and life satisfaction among older adults *Int J Aging Hum Dev*. 2004;59(1):43-6

signalling the nature of ageism brought on by the structural problems of modern bureaucracies when he wrote, “Chronological age is apparently a very good criterion for the rational organisation of public services and transfers. It renders the life course—and by that the passage of individuals through social systems - orderly and calculable”.²⁴

As our society ages, important inter-generational fissures may arise. In a study of German society, researchers concluded that until 2016, pension reform can be democratically enforced because a majority of the voters will still be below the indifference age. 2016 is “Germany’s last chance”; after that year, it will be a gerontocracy.²⁵ While the model they use is highly mechanical; presupposing that voting shares fully translate into specific policies, and that people’s votes are based only on their current individual position, their findings throw into sharp relief the need for careful consideration of policies affecting older people. It would be complacent for the UK to believe that it had solved the ‘pensions problem’ and the Funders’ Forum is committed to supporting social research into ageing.

Healthy Ageing

The WHO define healthy or Active ageing as.. ‘the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age’.

As part of the Honolulu Heart programme , 6505 men between the ages of 45 and 68 who were in good health when the study began in the mid 1960s, were tracked for nearly three decades (many studies have been sex specific and usually of men, in the same way that gerontology is , with casual insult, the study of old men) . Of those who survived to reach ages between 71 and 95, 40% remained free of both physical and cognitive impairment. The best predictors of successful healthy ageing were low blood pressure, low blood sugar, non-smoking and not being obese.²⁶

It is a short and deceptively simple list and moderate alcohol use and a positively healthy diet could well be added, but public health authorities in the developed world have found it extremely difficult to persuade populations to follow these precepts. As parameters go, the four factors are somewhat heroic in that each one is the outcome of a wide range of more fundamental aspects such as social networks; cultural approaches to food; price and availability of food stuffs; spatial geography of home and work; employment; education and so on.

But they make the point that successful older age starts early in life and is not just about combating specific diseases. Even if the leading causes of death in old age –

²⁴ M Kohli in *Life: The Social Psychology of Ageing* edited by V W Marshall Sage London 1986

²⁵ Hans-Werner Sinn, & Silke Uebelmesser (2003): Pensions and the path to gerontocracy in Germany. *European Journal of Political Economy*, 19, 153-158.

²⁶ *Scientific American Staying Young* 2004

cardiovascular disease, stroke and cancer – were eliminated, we would not become immortal. Such an advance, were it achievable, would result in perhaps a 15-year increase in human life expectancy in developed countries, after which ageing itself would be revealed as the leading cause of death. As one GP has put it “I do not regularly use old age as a cause of death when certifying, but I think that it is entirely appropriate when, after a period of progressive decline, often over many years, an older person succumbs to the inevitable consequence of being born.”²⁷

An EU public health programme defines Healthy Ageing as, “the process of optimising equal opportunities for health to enable older people to take an active part in society and to enjoy an independent and good quality of life”.²⁸ The UK Government says that it is committed to Healthy Ageing and believes that “with a high uptake of health promotion activities amongst older people and early returns for improved health, independence and well-being, it makes economic sense to invest in systems which promote health in old age.”²⁹

Healthy Ageing is a life-long activity and requires a multi-agency approach. One source of expertise in shaping public attitudes and consumer behaviour are the commercial companies who have unrivalled experience in doing precisely this. While there is a certain conceit in the claim of many such companies that they understand their customers, there is no doubt that they do have insights in human behaviour in albeit constrained contexts which could be utilised in partnership with other bodies.

The Partnership Principle

Students of animal behaviour talk of proximate and ultimate aims. The proximate aims of those concerned about age research in the UK is the better co-ordination of existing expenditures in the UK in this area and a radical increase in the monies going into basic research. The ultimate aim of the funding bodies and research organisations is that the research will provide better outcomes in older age. The question is how best to do it and the answer hinges on partnerships.

There are a variety of stake-holders among UK funding bodies, including charities, trusts, research councils, and government departments. They wish to leverage the funds they contribute to best effect by working in partnership and one candidate for this is the Funders’ Forum. This core group is working to reach articulate a position for itself and also with the wider community with an interest in ageing research as to the strategic direction of such research.

There is a healthy diversity of views and opinions and probably there is no single template that is set in stone. Partnership is about collaboration, persuasion and co-operation and an ability to incorporate ideas and views and build on what is already there. But to move forward there is also the need for agreement and co-ordination as to what is being done and consensus as to whom should be involved. If the wider

²⁷ Brian Mansfield BMJ. 2001 August 25; 323(7310): 455.

²⁸ Healthy Ageing – a challenge for Europe The Swedish National Institute of Public Health 2006

²⁹ A New Ambition for Old Age Next Steps in Implementing the National Service Framework for Older People A Report from Professor Ian Philp, National Director for Older People, Department of Health 2006

community is to be involved then it opens the possibility that partners in future may include both financial and non-financial contributors and there has to be agreement as to what that means in practice.

Models in other countries

There are existing models in other countries so there is no need to reinvent the wheel, just modify it for the UK terrain.

The USA has a model of health research under the aegis of the NIH which includes ageing. It is based on both intramural activity within the NIH itself and extra mural funding to researchers around the country.

A physical centre with multi-disciplinary teams working on age research has many attractions. As described by Will Bohr, a Danish scientist who works at the NIA centre in Baltimore, “A real centre with walls had the advantages of being able to attract top-quality research scientists by paying them competitive salaries. It provided a training ground for new researchers, and created a good working environment.”³⁰ The Academy of Medical Sciences supports the creation of physical centres within which clinical and basic scientists can work together and share resources.

On the other hand, Richard Sprott, who was an associate director of the NIA before becoming the first Executive Director of the Ellison Medical Foundation, told his lordly visitors that he did not see any value in a bricks and mortar institute dedicated solely to ageing research; this tended to isolate researchers on ageing from other researchers.

Whatever the pros and cons of physical centres, a US style NIA at the present time is almost certainly a non-starter in the UK. It could not be done without making comparable changes to the organisation of research in many other fields at considerable cost and for all these reasons it will not happen even if it were desirable.

A more fruitful approach might be to utilise aspects of the National Institute of Ageing Research, established in 2000 as part of the Canadian Institutes of Health Research. The Canadian version of an NIA has a similar mission to its US counterpart – namely the advancement of knowledge in the field of ageing to improve the quality of life and health of older Canadians. It has similar intentions in terms of building research capacity; developing and initiating high quality research programmes; disseminate, transfer and translate research findings into policies, interventions, services and products. One of its key tasks is to achieve a consensus among the research community and others involved in the well-being of older people on the strategic directions in age research in Canada.

The difference is that it does all this on a very tight budget and as a virtual institute using electronic communications as the glue to bind together the age research community in Canada. It has a small staff who co-ordinate activities and initiate and develop programmes across Canada. To date, the institute has, among other things,

³⁰ House of Lords Science and Technology Committee 1st Report of Session 2005-06 Ageing: Scientific Aspects

established a C\$27 million programme to help train young researchers in ageing and so build capacity; established a longitudinal study on ageing; introduced a C\$1 million a year mobility research programme and developed a cognitive impairment strategy with a wide range of associates including pharma companies as well as the voluntary and public sectors.

Obstacles to progress

Research focussed on treating the diseases that plague later life, is funded far more generously than research into the biology of ageing because it has worked well in many respects and has generated public support. It is supported by the pharmaceutical industry because diseases mean drugs. There is no incentive on the part of pharmaceutical companies to stress lifestyle choices rather than drugs.

A UK survey into public attitudes towards ageing found that when asked to name areas of research into ageing, people tended to name a health condition first and then assume that research is going on to find a cure or assist with the treatment of that condition, such as: cancer, strokes, degenerative conditions, Parkinson's, Alzheimer's, and a general decline in mental alertness. Unsurprisingly scientific research into ageing was strongly associated with medical research.³¹

Successful as the disease-centred approach has been, there is a clear and present need for basic, interdisciplinary research in ageing. But there are growing obstacles to such collaboration other than the commercial motivations of the pharmaceutical industry and the general unawareness of the issues by the public. Part of the problem is a lack of resources, which feeds competition rather than encourages cooperation. Further, the structural effect of the RAE has probably intensified the focus on increased specialization in universities. Ageing research is a field into which many scientists transfer from their existing disciplines. These mature researchers need to be encouraged and incentives provided so that more of them make the move. And there is a need to encourage young scientists to become involved in the work. There is a general problem in the culture in the scientific world that you must be a recognised specialist before you can engage in multidisciplinary research, effectively excluding young researchers from working on ageing research.

A survey by the American Federation of Aging Research in 2005 found that at the broadest level, researchers in ageing are also struggling with public attitudes about age. The scientists who responded stressed that their goal is not just to have older people living in nursing homes absorbing public resources, but rather to extend the quality of their lives. One researcher described it this way: "Ageism is a problem. The public needs to understand that there is such a thing as successful ageing, where individuals can remain productive and contribute to society in old age".

Next Steps

³¹ **Public Consultation on Ageing: Research into Public Attitudes Towards Ageing BBSRC and MRC 2006**

Despite all the caveats and strictures, it would be wrong not to acknowledge that the UK has a solid record in innovative, creative and collaborative ageing research funded by charities and research councils (e.g. The New Dynamics of ageing programme³² and SPARC³³). But it is clear that more resources must be spent in under-funded areas of ageing research, such as healthy ageing and the basic biology of ageing, to complement existing programmes of research aimed at end-point chronic disease.

The task is how can this be done without losing the diversity and dynamism of many of those involved in ageing research while grappling with the ambiguities of research programmes and processes.

The Funders' Forum sees its vision as funders of age research in the UK to build research capacity by sustaining excellent researchers, developing young ones and being influential in leveraging funding, developing strategic partnerships and informing public policy on ageing. Through being innovative, creative and collaborative, the tangible benefit will be the advancement of knowledge in the field of ageing and subsequent improvement in the quality of life and the health of older people in Britain and elsewhere in the world.

Perhaps a way forward is to build on what has already been shown to work well within a UK context but to add a powerful advocate in the Funders Forum, focussed on the needs of older people and committed to ensuring that the outcomes of research are swiftly translated into practical means of ensuring that those needs are met.

³² The New Dynamics of Ageing programme is a five year multidisciplinary research initiative with the ultimate aim of improving quality of life of older people. The programme is a unique collaboration between five UK Research Councils - ESRC, EPSRC, BBSRC, MRC and AHRC - and is the largest and most ambitious research programme on ageing ever mounted in the UK.

³³ SPARC brings together researchers, practitioners and policy makers in ageing. It specialises in communicating the latest design, engineering and biological ageing-related research to all stakeholders, making the case about the benefits for an ageing population of scientific research, and it encourages new blood into ageing research. It is funded by BBSRC and EPSRC.

Annex 1 Meeting Programme and Participant list**THE FUTURE OF AGEING RESEARCH IN THE UK: A VISION FOR ACTION****SPARK Workshop, 21 to 23 May 2006, Hotel Des Indes, The Hague**

SUNDAY 21 MAY 2006

Arrival

*19.00 Drinks**19.30 Informal dinner*

MONDAY 22ND MAY 2006

*08.15 Coffee***08.30 Welcome and Introduction**

- Sponsor's welcome Frans van der Ouderaa, Unilever
- Objectives of workshop Michael Lake, Funders' Forum
- Introductions and expectations Min-Min Teh and Diana Parry
- Context and challenge for ageing research Stewart Sutherland, House of Lords

09.45 Session 1**Cutting the cost and boosting the bonus: the economic value of healthy ageing**

- What does 'healthy ageing' really mean? John Grimley Evans, Oxford University
- In sickness and health: clinical challenges for older populations Rudi Westendorp, Leiden University
- Keeping on keeping on: productivity and ageing Geert de Jong, Shell International

10.30 Break

- Facing our financial futures Paul Hatery, Swiss Re
- Putting a value on ageing research Robert Topel, Chicago University

11.30 Discussion and feedback

*12.30 Lunch***13.30 Session 2 Potential of new science**

- Towards a joined-up science of ageing Tom Kirkwood, Newcastle University
- Maintaining immune function Ray Daynes, Utah University
- Preserving cardiovascular health Ed Lakatta, National Institute on Aging
- Beating cognitive decline David Smith, Oxford University
- Harnessing the genome David Cox, Perlegen Sciences
- Picking the winners Richard Sprott, Ellison Foundation

15.00 *Break*

15.30 Discussion

16.30 Plenary feedback, discussion and summary

17.30 Close of Day One

19.00 *Drinks*

19.30 *Dinner at Tempat Senang*

TUESDAY 23RD MAY 2006

08.15 *Coffee*

08.30 Review and preview

08.40 Session 3 Solutions in practice

- How to define and measure success Hans-Werner Wahl, Heidelberg University
- Eating for a longer life Jose Ordovas, Tufts University
- The power of connection Bern Shen, Intel
- Overcoming functional challenges with technology and design Peter Lansley, Reading University
- Healthy ageing in its social context John Bond, Newcastle University

09.55 Discussion

10.40 *Break*

11.10 Feedback

11.30 Session 4 Making it happen

- Influencing policy and priorities in the US Daniel Perry, Alliance for Aging Research
- Ageing research: the Canadian experience

Anne Martin-Matthews, Canadian Institutes of Health Research

12:00 *Lunch*

13.00 Session 5 Next steps

- Discussion

14.30 *Break*

15.00 Feedback and conclusions

15.15 Actions arising and wrap-up

16.00 Close

(and business meeting for Funders' Forum members)

Invited Participants

Mr Jon Barrick	The Stroke Association
Prof John Bond	University of Newcastle upon Tyne
Prof Mike Catt	Unilever Corporate Research
Prof David Cox	Perlegen Sciences Inc
Prof Ray Daynes	The University of Utah
Dr Geert de Jong	Shell International BV
Dr Oscar Franco	Unilever Corporate Research
Prof Julia Goodfellow (BBSRC)	Biotechnology and Biological Sciences Research Council
Dr James Goodwin	Help the Aged
Dr Pat Goodwin	The Wellcome Trust
Sir John Grimley Evans	University of Oxford
Ms Anne Harrop	Joseph Rowntree Foundation
Mr Paul Hatley	Swiss Re Life & Health Limited
Dr Lesley Heppell (BBSRC)	Biotechnology and Biological Sciences Research Council
Mr Neil Hunt	Alzheimer's Society
Ms Kate Jopling	Help the Aged
Prof Tom Kirkwood	University of Newcastle upon Tyne
Prof Edward Lakatta	National Institute on Aging (NIA)
Mr Michael Lake	Funders' Forum for Research into Ageing and Older People
Prof Peter Lansley	University of Reading
Prof Janet Lord	The British Council for Ageing
Prof Anne Martin-Matthews	Institute of Aging, Canadian Institutes of Health Research
Prof Jose Ordovas	Tufts University
Mr Daniel Perry	Alliance for Aging Research
Ms Ros Rouse	Economic & Social Research Council (ESRC)
Dr George Sarna	Medical Research Council
Dr Bern Shen	Intel Digital Health
Prof David Smith	University of Oxford
Dr Richard Sprott	The Ellison Medical Foundation
Prof Robert Stout	Northern Ireland Health and Personal Social Services
Lord Stewart Sutherland	House of Lords
Mr Anthony Tomei	The Nuffield Foundation
Prof Robert Topel	University of Chicago

Dr Frans van der Ouderaa
Prof Hans-Werner Wahl
Prof Alan Walker
Prof Rudi Westendorp

Dr Diana Parry
Mrs Angela Smith
Dr Min-Min Teh

Unilever Corporate Research
University of Heidelberg
New Dynamics of Ageing
Leiden University
Department for Work and Pensions
The Falling Apple Consultancy Limited
Unilever Corporate Research
MMT Consulting Limited