

THE NEW DYNAMICS OF AGEING - AN INTERDISCIPLINARY RESEARCH PROGRAMME



INTRODUCTION

Building on the existing successful collaboration and previous initiatives on ageing the ESRC, EPSRC, BBSRC, MRC and AHRC are inviting proposals under this major cross-Council research programme on ageing. It is expected that researchers from the full range of disciplines covered by the five Research Councils will come together to investigate the research questions posed by the Programme. The programme is also strongly user focused. It seeks to promote collaboration and interaction with, and/or dissemination of best practice and new knowledge to professionals and organisations working to improve the lives of older people and, importantly, direct engagement with older people themselves.



PROGRAMME OBJECTIVES

The overall aim of this Programme is to advance our understanding of the dynamics of ageing from a multidisciplinary and/or interdisciplinary perspective (hereafter multidisciplinary). Thus the central questions are:

- What are the forces driving ageing?
- What are its new contours and dynamics?
- What are the influences shaping them (behavioural, biological, clinical, cultural, historical, social and technological) and how can their consequences be managed to achieve the maximum benefits for older people?

The research challenge is clear: it is essential to harness inputs from a wide range of disciplines to reveal the dynamic interplay between ageing individuals and their changing technological, cultural, social and physical environments – local, national and global - and to develop methods and means which will allow us to overcome current constraints on the quality of life of older people.

The central objectives of the Programme are:

- to explore the ways in which individual ageing is subject to different influences over the lifecourse, including identifying the biological determinants of healthy ageing and the social, cultural and environmental factors contributing to ageing well;
- to understand the dynamic ways in which the meaning, understanding and experience of ageing are currently changing and becoming more diverse;
- to investigate the diverse ways in which ageing is/has been understood and represented at different times and in different cultures.
- to encourage and support the development of innovative multidisciplinary research groups and methods;



- to provide a sound evidence base for policy and practice (including the development of prototype systems, procedures and devices) so that research contributes to well-being and quality of life.

In addressing these objectives, the Programme will set out to:

- generate new knowledge on the ageing process with a particular emphasis on ageing well
- encourage new multidisciplinary approaches to ageing research;
- use information from non-human models, cross species studies, systems biology, clinical studies and population surveys where appropriate to provide fundamental understanding of the factors contributing to ageing;
- encourage comparative research, for instance on a regional, (inter)national, ethnic, cultural, historical or social basis, with a particular emphasis on the global north and south;
- help to create a new generation of researchers studying ageing and working across disciplines where appropriate;
- contribute to policy, practice and product development;
- provide new opportunities for UK science to link with international research efforts including, but not limited to, those in the EU and North America.
- identify opportunities for further research beyond the life of the programme;

RESEARCH AREAS AND TOPICS

The Programme is organised into two substantive themes (ageing well across the lifecourse, and ageing and its environments) with eight sub-themes.

1. Ageing Well Across the Lifecourse

The lifecourse is central to understanding well-being in later life and the interplay of biological, biomedical, clinical, economic, technological, behavioural, cultural and social factors over the lifecourse will determine the nature of the individual ageing process. This theme focuses on activity, later-life transitions and the end of life.

i. Active Ageing

This is now a central feature of policy and practice in the UK and is the cornerstone of the EU, WHO and UN policies on ageing. However both the concept and the various factors that interact to determine it are inadequately understood. Important research questions include:

- How do fundamental ageing mechanisms such as genetic and behavioural factors interact to determine functional capacity across the lifecourse?
- What are the general, organ-specific and systemic mechanisms driving age-related changes, and how are such mechanisms influenced by physiological and environmental factors such as exercise and nutrition?

- Can changes in lifestyle, such as engagement in intellectual, cultural and creative activity influence well-being? If change occurs, why does this happen? What are the therapeutic features and how can they be developed?
- How does employment contribute to well-being? How can the Finnish concept of 'workability' be applied to the UK? How are employers responding to workforce ageing? How can the design of work, the work place and ICT applications assist activity and extended working life in particular? What are the particular occupational health issues affecting older workers and how can these be overcome?
- How can the design of social space contribute to the maintenance of mental and physical well-being?

The links need to be explored between the biology of ageing, physical and mental factors (including nutrition, exercise and cognitive function), medical intervention, nutrition, socio-economic factors, cultural contexts, ethnicity, the built environment, regional diversity and generational change.

As well as the determinants of activity across the lifecourse there is an important role for the modification of lifestyles in old age through health promotion. For example:

- When and why do older people undertake exercise? What are the physiological, psychological, social and cultural barriers to exercise and healthy diet and to the life-work balance, and how do these differ between the young-old and old-old?
- What factors determine the health behaviours of ethnic minority groups?
- What is the role of health professionals in influencing behaviour?
- What role do/can rehabilitation and related therapies play in restoring capacity following falls?

ii. Autonomy and Independence

Independence in old age is threatened by decline in the functional motor and cognition performance needed to complete everyday tasks. Currently, the functional performance needs of older people are poorly specified and little research has addressed the impact of cognitive status, mobility, health and environment on functional capability. Fundamental research is needed to measure the impact of advances in inclusive design, assistive technology and health maintenance and also to ensure that interventions (biological, medical, social) aimed at promoting active ageing are evidence based. Accordingly, it is important to develop the tools and methods for assessing functional capability of older people and to identify where barriers (physical, cultural, psychological, environmental) to participation exist and how technology, social services and healthcare can be utilised to provide independence.

To inform policy and the development of services and technologies that support independent living, research is required to define the biological, medical, technological, behavioural, cultural and social components of autonomy and independence. For example, research questions around the understanding of autonomy and independence include:

- What are the major physiological and psychological changes leading to physical or mental frailty in older adults?
- What objective measures (physiological, behavioural, social) can be deployed to measure and enhance independence and quality of life in frail older adults?
- What are the effects of personality, personal history, health, gender, support networks, marital status, ethnic and cultural differences on perceptions of and attitudes towards autonomy and ability to maintain independence?
- How does access to material culture and relationship with the material environment affect identity? For example, how does the ways in which older age is culturally represented affect feelings of autonomy and independence?
- How do older people define and perceive themselves?
- What effects do the built environment and transport systems have on autonomy?

Further questions around the design and use of technological interventions to promote and enhance autonomy and independence include:

- What is the impact and potential of ICT products, systems and services in enabling and promoting independence, activity and creativity?
- What are the roles of assistive technologies in maintaining independence? What are the facilitators and barriers to successful take-up of such technologies? Are there differences in assistive technology usage between different ethnic groups?
- How can understanding of the cognitive, behavioural, cultural and social aspects enhance the design process applied to assistive technologies, especially in relation to digital technologies?
- How far can new assistive technologies replace traditional approaches to care and aid the transition from institutional to home-based care?
- Can stronger economic cases be developed to support the transition to significantly greater deployment of assistive technologies?
- What are the legal and ethical aspects of these technologies?
- How can users' views and priorities be communicated effectively to designers, product development organisations and other professionals?
- How can technologies for self-narrative and self-definition contribute to our understanding of the ageing process as actually experienced and the needs of the aged?
- How can the different ICT systems be better designed and integrated to improve outcomes for older people?

iii. Later life Transitions

The lifecourse is being restructured and nowhere is this more evident than the replacement of retirement based on pension ages with a range of different later-life pathways. Research is needed to chart these new forms of later life transition and their incidence in different population groups. Some potential topics for study include:

- How have different societies and different historical moments defined the boundaries of life stages and the transitions between them?

- How have age-related norms and expectations traditionally been codified and communicated; how have they changed and how is that change represented in media or visual culture?
- What new lifestyles, forms of consumption and identities are emerging among third agers (50-70s)?
- What are the drivers (biological, physical, behavioural and social factors, and their interactions) in the diverse transitions from 'middle age' to 'old age' and from 'old age' to 'extreme old' age?
- How do media and other cultural representations affect these transformations?
- How do social and behavioural changes – in particular the reversal of roles between carer and cared-for - affect the relationship between generations?

Since a common response of 'developed' nations to population ageing is to encourage the extension of working life, there are critical policy questions for research concerning the various forms of labour force exit and how far the goal of working life may be realised. There are also possible comparative studies of developed countries and between the developed and developing world.

iv. The Oldest Old

This rapidly growing section of the older population is an under studied group and many of the standard instruments for assessing function and quality of life in old age have yet to be validated in this context. It will thus be essential to develop a full description of the healthy ageing phenotype and to discover its major biological determinants. Our understanding of frailty is in its infancy and can be developed by research rooted in the biological, medical, physical, behavioural and social sciences, arts and humanities. Co-morbidity and multiple minor impairments have major ramifications for the experience, quality of life and behaviour of this section of the older population and for the provision of care. Research on the roles of nutrition and exercise could also prove valuable. Key areas for research could include:

- What are the biological mechanisms driving frailty at the cell, tissue, organ and whole organism level? Do these differ between the old and extreme old? Can studies in model organisms be used to provide insights?
- How can the challenges of increasing frailty be addressed by developments in health technology?
- How do people conceptualise and plan for future dependency? What is the role of different care providers in promoting well-being among these groups?
- How can cross-national, historical and cross-cultural research shed light on the factors associated with healthy and fulfilling longevity?
- How can new understandings created through cross-cultural and historical comparisons of perceptions and representations of death and dying, preparation for death and coping with bereavement be made relevant for the development of clinical practice, care arrangements and bereavement counselling?
- What can research into the ethical dilemmas generated by death, dying and more generally care for frail older people contribute to collective and individual understanding and to policy and practice?

2. Ageing and its Environments

The dynamic interaction between ageing individuals and their physical, economic and social environments is a critical determinant of well-being in old age. This theme emphasises the financial and physical environments of ageing and examines its global dimensions.

i. Resources for Ageing

Financial capital is central to well-being in old age and one of the major resources that older people may command. Pensions are a key element of financial capital and new forms of pension provision raise new questions about income and living standards of future pensioners as well as the macroeconomic impact of pensions. Pressing questions concern the future of public and occupational pensions, the role of pension regulators, saving and spending patterns across the lifecourse and between men and women, and financial planning for extended life and dependency. For example:

- What constraints and choices are faced by the relatively wealthy and poor in making pension and savings arrangements?
- What factors determine financial plans for later life and what is the cumulative impact of factors throughout the lifecourse on capital, accrued wealth and material decisions in later life?
- What is the impact of the recent restructuring of pensions on intergenerational transfers, both within the family and those mediated by the state?
- How are intergenerational cash transfers patterned within different families, across cultures and between the north and south of the globe?
- As well as financial resources some older people receive in kind support, especially from relatives. What is the potential of health technology resources to support self-care and carers, including the extent to which technology can supplement and substitute for different forms of formal and informal care? To what extent is frailty influenced by different factors (e.g. genetic, behavioural)?

ii. Locality, Place and Participation

Locality and place are key elements of identity (including ethnic identity) and citizenship in old age. However, there is very little information on the cumulative impact of life course factors on participation and in the differences between age cohorts. There is a dearth of comparative research in this area too. Political scientists have neglected ageing as a research topic. Obviously the concept of social capital is important here but it needs to be subjected to multidisciplinary cross-examination and assessed from a lifecourse perspective. For example:

- How is community social capital developed and what roles do older people play?
- What are the determinates that influence whether older people are included or excluded from community and civic life. For example, with regard to participation in education, the arts, leisure, political and social activities?
- What individual and behavioural factors determine decisions to engage in such activities and how do these change over-time?

- Are there differences cross-culturally and cross-nationally in roles of elders and the degree of respect and control they command, and what accounts for any similarities or differences? How have these roles changed over time?
- How do factors such as inclusion, authority and intergenerational relationships affect health, self esteem and well-being? How does representation of the aged impact for good or bad on inclusion?
- What is the meaning of citizenship in old age?

iii. The Built and Technological Environment

The design of housing and public space is of great importance to the prospects for active ageing and well-being in old age. The EPSRC EQUAL initiatives have advanced knowledge in this field but there is still a need for further multidisciplinary research. For example the effects of car design on autonomy have yet to be explored and public transport environments have hardly been addressed. Some topics for study include:

- How can information interfaces be designed to reduce exclusion particularly among the oldest old?
- What aspects of environment enhance or diminish well-being in old age? For example, how does the aesthetic quality of the spaces and environments older people inhabit impact on their well-being?
- What are the critical aspects of safety for older people? What are the trade-offs between safety and other factors which older people value when making decisions about moving from fully independent living to sheltered accommodation?
- How can we predict better the impact of citizens' choices and behaviour concerning consumption in the field of housing and transport?
- What is the relationship between mobility and cognitive impairment and the environment?

A critical aspect of the built environment is the workplace and its design but this is under researched in the UK. New research is required into workplace design and workplace technologies for older people. It is particularly important to link experts in technology, engineering and design with social scientists with expertise in policy, social and economic fields. There is also a clear need for the consideration of the physiological constraints on older people and how these play into the design of enabling environments.

iv. The Global Dynamics of Ageing

The influence of global economic agencies, such as the World Bank, on domestic policies in fields such as pensions and long-term care, is increasingly apparent. Thus, there is a wholly new research agenda that needs to be opened-up to focus on the relationship between globalisation and policies on ageing. For example, do the pensions policies in the EU countries reflect the result of global economic forces? We lack understanding of the complex two-way relationships between population ageing, the well-being of older people and process of development, change and modernisation. The UN 2002 Plan of Action on Ageing prioritises developing countries and this creates a context for north/south research to advance understanding of ageing dynamics in

different cultures and world regions. It also paves the way for policy and practice-oriented research designed to develop models of good practice. It demands that we assess the implications of accelerated ageing in the developing world.

Specific research is required regionally and internationally to identify the net effects of the migration of older and younger people on community demographic profiles and community cohesion. For example, what effect does retirement and other types of migration have on the formation of support networks, community activity and social interaction? This research must also situate British research with ethnic minority groups in an alternative cultural context. For example:

- What effects do cultural norms and policies in countries of origin have on immigrants' well-being in later life?
- How do older people in diasporic communities in the UK forge and sustain multi-stranded social relations, linking together their societies of origin and settlement (transnationalism)?
- What are the social and economic consequences of transnationalism for older people in countries of origin and settlement?
- How does transnationalism affect well-being in old age?

INNOVATIVE APPROACHES TO MULTIDISCIPLINARY RESEARCH THE ETHOS OF THE NDA PROGRAMME

A key generic objective of the Programme is to encourage the development of innovative interdisciplinary research groups and methods. Thus in addition to the specific research themes described previously, there are generic priorities relating to novel methodologies, tools and data analysis that will benefit ageing research and improve the quality of life of older people. For example;

1. The development and application of novel methods and methodologies

Proposals are welcomed on the development and application of novel methodologies that will bridge conventional disciplinary barriers and encourage new multidisciplinary collaborations. Examples of such successful collaboration in the ageing field include:

- the teaming of designers and gerontologists, engineers and occupational therapists in the design of assistive technologies;
- linking psycholinguists and epidemiologists to study the association between early life language skills on the development of dementia in old age;
- bringing together researchers in human physiology, psychology, biomechanics and rehabilitation medicine to develop new approaches to improving mobility.

Collaborations that contribute to the formulation of new multi-(and inter-) disciplinary approaches, that encourage life course perspectives, integrate different levels of analysis (e.g. micro and macro-social, genetic and social), which evaluate complex interactions in the process, perception and experience of ageing and which integrate research with product development are desirable.

2. Analysis of existing data sources from an interdisciplinary perspective

Research on ageing and older people generates a wide variety of data, ranging from essentially qualitative assessments, through epidemiological and clinical measurement, to molecular measurements of biological markers. Interdisciplinary research on methods for integrating qualitative and quantitative studies on ageing has the potential to deliver significant added value from existing data sets. For example, there is a need:

- For new research methods that can integrate data from diverse measures, which draw on many dimensions of individuals' or groups' social, cultural and biological background.
- To re-analysis existing large data sets on ageing such as ELSA

3. The development of new methodologies aimed at understanding the nature and cause of the new dynamics of ageing

Proposals are welcomed which seek to develop new methods aimed at understanding any part of the nature and cause of the new dynamics of ageing or to broaden existing approaches. For example, there is a need:

- To develop methodologies for researching numerically small populations of older people (e.g. black and ethnic minorities)
- To assess quality of life among severely dependent and intellectually disabled populations and to develop quality of life tools for use with other hard to reach groups
- To broaden multidisciplinary approaches to understanding quality of life developed in the ESRC's Growing Older Programme, and to promoting autonomy developed in the EPSRC's EQUAL Initiative
- To develop new participatory research methods to engage older people in, for example, the design and development of products and services or in the design and/or conduct of research studies
- To use the rapid advances in information technology (e-science and GRID computing) to develop innovative web services supporting a wide range of initiatives
- To encourage more economic modelling of the impact of technological developments and biological advances in the life span, the cost of care packages and more generally the development of business cases to assist the promotion of new approaches which facilitate the independence and well-being of older people
- To integrate methodologies more commonly employed by the arts and humanities, such as video, design, narrative, text, theatre, iconography and performance, with more scientific methodologies to develop tools and techniques that can be used to benefit the lives of older people.

HOW TO APPLY

Applications are invited periodically through specific calls for proposals. Applications are encouraged from all disciplines covered by the five Research Councils. A key objective of the Programme is to stimulate multidisciplinary research and the Research Councils are particularly interested in innovative approaches to this.

Applications must be from researchers based at UK Higher Education Institutions and other Research Institutes eligible for Research Council funding including MRC and BBSRC sponsored institutes and units.

Details of how to apply are available at:

http://www.esrc.ac.uk/esrccontent/researchfunding/new_dynamics_of_ageing_programme.asp

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