FUTURAGE
A ROAD MAP *for* AGEING RESEARCH

"Healthy Ageing"
Work Package 5

Report from the 1st Scientific Workshop held in Newcastle, UK on the 15-16 March 2010

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1 Introduction

This report presents the initial consultation on the priorities and process for future research on healthy ageing from the first Workshop held in Newcastle upon Tyne, UK on 15-16th March 2010. The report is structured into four sections. In the first section the context and rationale for this theme are discussed along with the need for a multidisciplinary approach both within the research and in the contribution to the agenda. The second section describes the overall philosophy of the workshop in terms of the contribution from non-European countries on their perceived gaps in the current knowledge base for improving and maintaining healthy ageing and the initial key topics which framed the sub-themes:

- Monitoring and resolving inequalities in healthy ageing
- Interventions for Improved Health and Wellbeing with Ageing and Co-morbidity
- Prevention and promotion of healthy ageing
- Psychosocial factors and healthy ageing

The third section provides the detail of first broad priority areas highlighted by the four sub-themes. The final section brings together the cross-cutting areas that emerged from discussion and the perceived gaps and overlaps between the sub-themes and between the Healthy Ageing theme and the other main themes within the Road Map (Biogerontology, Social and Economic Resources, Environments of Ageing).

2 Context and rationale for Healthy Ageing theme

Europe is already the oldest region in the world and, as with other regions there is no evidence that the trend for rising life expectancy will not be sustained for the foreseeable future. That greater numbers of people are reaching retirement and well beyond should be celebrated, but there are far-reaching implications for individuals, society and governments unless the extra years of life lived are predominantly healthy ones.

Not only are our populations as a whole ageing with premature mortality being reduced but mortality rates even in the oldest old, a category commonly used to describe those aged 85 years and over, are also decreasing. Indeed the oldest old are the fastest growing section of the population in many countries. Moreover there has been an even more rapid increase in the number of centenarians and supercentenarians (aged 110 years and over), these individuals being relatively rare 50 years ago. The rising numbers of the oldest old are a particular issue for health and social care policy since multiple chronic diseases, frailty, disability and the need for care are particularly high in this age group. However older people are heterogenous and some will still be able to function and live independently even at extreme ages and with multiple medical conditions. Though there is some evidence in a few selected European countries (Denmark, Sweden, France, UK) on the health of the oldest old, even in these countries there is little data to indicate whether newer cohorts are more or less healthy.

Healthy ageing is a well-used term that is understood on a general level to encapsulate the ability to be socially engaged, productive and to function independently both at a physical and cognitive level. However definitions between studies vary and there is no consensus across different countries. The European Union provides a unique opportunity as a ‘population laboratory’ where we can document the trends in the health of the older population in countries at very different stages and trajectories of increasing life expectancy but also in countries

with similarities and differences in attitudes, experiences, delivery of health and social care and family and social structures.

3 Philosophy and structure of first Healthy Ageing workshop

In line with the rationale for the theme and with reference to previous presentations as part of Era-age, four key sub-themes were identified, these being: Monitoring and resolving inequalities in healthy ageing; Interventions for improved health and wellbeing with ageing and co-morbidity; Prevention and promotion of healthy ageing; and Psychosocial factors and healthy ageing. The workshop opened therefore with short presentations from leaders in these four areas with their views on the state of research and new knowledge needed.

Though participants to the workshop were leaders in the fields of geriatric medicine, epidemiology, demography, sociology, psychology, biogerontology and social gerontology within Europe and beyond, it was important that they were fully aware of current and past European research priorities on healthy ageing. To this end a representative of the Directorate General of Research was invited to present on 'Current health research and healthy ageing in the EU'.

Knowledge gaps on how to achieve healthy ageing and the associated research agendas are not confined to Europe and there are insights that can be gained from and synergies made with countries such as the US and Canada who both have national level Institutes of Ageing. Dr Richard Suzman, Director of the Behavioral and Social Research Program at the US National Institute on Aging and Dr Anne Martin-Matthews, Scientific Director of the Institute of Aging of the Canadian Institutes of Health Research, were invited to provide an overview of the agenda for healthy ageing research in their country. Given that Japan enjoys, and has enjoyed for some time, the position of having the longest life expectancy, we invited Dr Craig Willcox from Okinawa International University to inform the workshop of the knowledge gaps in Japan, particularly with respect to the oldest old.

During the workshop participants had two opportunities to focus in smaller groups on their chosen sub-theme and they were charged to discuss which areas required more in-depth exploration and in particular to note areas of innovation in one country that should be tested/implemented in others.

In total 31 people attended the workshop. Despite numerous attempts to enlist researchers from as many European countries as possible, participants predominantly came from Western Europe with only one from Eastern Europe (Poland). The list of participants and their affiliations is shown in Annex 1.

4 Initial research priorities in Healthy Ageing

This section describes the results of the first consultations within the sub-themes.

4.1 Monitoring and resolving inequalities in healthy ageing

The group highlighted 5 broad topics where there was either a lack of basic comparative work on the underlying concepts or that further comparative research was needed. There was some discussion on the risk associated with topic areas and whether they were short or long term aims.

Broad research topics

1. Understanding the underlying dimensions of healthy ageing

Building a coherent conceptual framework that included the major dimensions of healthy ageing was felt to be at the heart of this sub-theme. Monitoring and resolving inequalities in healthy ageing demands that the measures used are appropriate and truly comparable. However the major models of healthy/successful ageing have been developed from a researcher's perspective. There is an urgent need to explore how older people themselves define healthy ageing, including the oldest old with multi-morbidity, and how older people cope, adapt to and overcome functional limitations. Research in this area would draw on and interact with that within two of the other themes: Social and Economic Resources and Environments of Ageing, in terms of assessing how individuals interact with wider society and the environment.

It is important that this topic is addressed by multidisciplinary teams to ensure that all dimensions are covered and would necessitate qualitative and quantitative methods. This could be accomplished within a short space of time with a representative set of countries.

2. Research to underpin measures to monitor healthy ageing

In addition to the previous topic focused on the definition of healthy ageing, there is also a need for research to produce other comparable measures across

European countries, for example socio-economic status, functioning, multi-morbidity, frailty, social engagement. It would be important that information from migrant and other minority populations was included. These measures would assess the personal and societal burden of ageing and would form a basis for planning for the ageing population including organisation of services. In addition this research would deepen understanding of: the huge variation that exists in healthy life expectancy between European countries; how the social gradient in healthy ageing plays out in different countries and to what it is related.

This research is resource intensive and high risk if not undertaken in a coordinated manner with good infrastructure. It is a long term process and will require all countries to be involved.

3. Modelling links between disease and functioning over the life course

Although there has been varying amounts of research in this area, gaps in knowledge remain, specifically how different social groups and genders transition through disease and functioning, the role of the environment, and how these relationships will play out in future healthy life expectancy. This area is important to inform policy makers for planning for ageing populations. Since the same level of disease may impact differentially on disability in different environments or countries and the context and indeed the transitions may differ between countries, such differences will assist in our understanding of the disablement process.

This area of research requires longitudinal studies in representative groups of countries and is potentially risky as not all the underlying science is available. An important issue is that it needs to be an iterative process so that longitudinal studies can be continuously improved as knowledge advances.

4. Healthy ageing, work and retirement

Many countries are considering extending working life and delaying the age at which state pensions are provided. We have little understanding of how the pension system impacts on health, the impact of the current economic crisis and

unemployment and whether this is changing social gradients and whether we can increase working life. This area requires explanation of the trends in the health (physical and mental) of the young old and understanding of the relationship with the different exits from labour market, pensions, socio-economic status, social engagement, family structures, informal care-giving and cultural expectations surrounding work and caring. With the growth in the numbers of the oldest old, decisions to retire or not may be influenced not only by the individual's family circumstances and whether they are required to provide care to an aged parent but also the cultural expectations of elder care and the health and social support systems within the society.

This area builds on areas 1 and 2, requiring harmonization of measures and is therefore potentially risky and long term. As in area 3 longitudinal studies will be required but these should be conducted in comparative countries to cover the variation in pensions and social policy.

5. Exploring the interrelationship between health and functioning in the oldest old

The oldest old is the fastest growing section of population in many countries and is also the group with the most functional limitation, heterogeneity and transitions. There is a dearth of knowledge on the patterns of complex health problems and frailty that are most prevalent in the oldest old, the phenotype and genotype of healthy ageing and its predictors and what the oldest old consider is important in terms of quality of life and wellbeing.

There are already a number of studies which have been or are being conducted in this age group but this should be increased to not only include countries that are geographically representative of European areas but also of life expectancy trends. The main risk in conducting studies in this age group is the problem in recruiting participants who are cognitively impaired or frail. Longitudinal studies in this age group require smaller intervals between follow-up in order that transitions are not missed through death. It was felt that time use studies would be important here to assess how this age group adapt and cope with increasing frailty.

4.2 Interventions for Improved Health and Wellbeing with Ageing and Co-morbidity

The workgroup had initially been titled “Treatments and Services for Healthy Ageing” and the first action was to consider the scope and definition of the issue. It was recognised that as population ageing proceeds, relationships and interactions between health, wellbeing and disease are likely to shift so that the notion of “Ageing with Health” may become more apposite than an aspiration for ageing in the absence of disease. It is acknowledged that older age groups experience a higher prevalence of co-morbid conditions that may co-exist with high levels of health and wellbeing. Accordingly the 1st Scientific Workshop on Healthy Ageing workgroup on Treatments and Services for Healthy Ageing defined the focus of its consideration (and its new title) as: “Interventions for Improved Health and Wellbeing with Ageing and Co-morbidity”.

Broad research areas

Within this general theme, two cross cutting and overarching areas were identified. Broadly stated these were: research into the organisation and delivery of health care, and research into the organisation and delivery of research benefits.

1. **Organisation and delivery of effective healthcare**

   As the populations of member states age, health services will need to evolve to meet the new needs of aged populations for health and wellbeing with co-morbidity. EU member states implement a range of health care systems, with significant heterogeneity in the distribution of service models and configurations. This issue cuts across healthy ageing themes of treatments and services, prevention and population health and addresses priorities which are of great significance internationally. Comparative and experimental studies within and between EU member states will require concerted and co-ordinated action and co-operation and will offer the opportunity for rapid improvements in the understanding of effective, and cost effective design and delivery of interventions for health and wellbeing with ageing and co-morbidity.

One of the central components of the issue of organisation and delivery of health care for health and wellbeing with ageing and co-morbidity is the impact of health systems as facilitators of healthy ageing. In this regard, the relative impact of primary and secondary care systems is seen as a priority issue for research. Further areas of key importance under this heading include access to services (and associated health impact), service configuration, delivery and organisation, particularly the relationships between the primary and secondary health care systems and social care systems and services.

New technologies hold promise for their potential impact on health and wellbeing, the effective and cost effective delivery of services for health and wellbeing and the development of new ways of obtaining and experiencing services to maintain health and wellbeing across the life course. Accordingly research into the roles and uses of new technologies is regarded as an important cross cutting theme for healthy ageing, and other FUTURAGE themes.

The development of effective and cost effective services for health and wellbeing with ageing and co-morbidity implies challenges to extant beliefs and behaviours which influence health and wellbeing across the life course. Accordingly, research into effective and cost effective ways to change beliefs and behaviours to achieve health and wellbeing are prioritised and seen as cross cutting in the theme for healthy ageing, and other FUTURAGE themes.

2. Organisation and delivery of research benefits

In recent years it has become recognised that delays in translating evidence into changed health care practice represent a tangible gap in the research process. Policymakers and researchers are increasingly recognising the need to utilise the science of behaviour change at an individual and organisational level to ensure that the benefits of research are translated into effective and cost-effective practices. There is an emerging literature focused on strategies to increase implementation of research findings into evidence-based practice. Accordingly, one of the over-arching themes identified in this workgroup was the translation of research findings into clinical practice.

Research into health and ageing is an intensely interdisciplinary activity. Scientists from social and psychological sciences, economics, health, medical and biological sciences train and develop in different cultures and the interdisciplinary working that is required to generate new insights and knowledge requires support and development. For this reason the topic of interdisciplinarity (including the tools to develop interdisciplinary research and the skills that enable interdisciplinary research to be carried out and to be effective) is considered an important cross cutting theme, as is the development and maintenance of research capacity and infrastructure

The pressures of financial constraint and evidence based practice ensure that an additional overarching and cross cutting theme is the support and development of economic modelling/cost benefit/cost utility methods for research on healthy ageing and complex interventions involving older people.

Key issues and priorities

The following key issues were identified

- The diversity of public policy on health related services
- The spectrum of autonomy, dependency and disability, and the relationships between disability, function and health
- Ensuring translation of new and existing knowledge
- Family and carer interrelationships and carer issues
- Diversity and variation in health and ageing
- Identifying target groups for promoting lifelong health and wellbeing.
- How to foster change in beliefs and behaviours for healthy ageing

a) The diversity of public policy on health related services

There is diversity of policy and practice across EU member states, and the identification of exemplars of best practice and associated research was seen as a key issue. The priorities in this area included primary and secondary care, health and social care and their associated interfaces, the organisation and

delivery of services and their impact on access to appropriate services and family and carer inter-relationships and carer issues.

It is increasingly the case that health and social care systems for older people in some member states rely on migrant care workers from other member states. The implications of these developments for the future care of older people are unclear as economic and political factors will influence the availability of social care.

b) The spectrum of autonomy, dependency and disability and their relationships with health

The spectrum of autonomy, dependency and disability and their relationships with health was identified as a key issue within which the priorities were the effectiveness of disability prevention, the effectiveness of inclusive design (universal design) and technologies, and investing in autonomy and its link with lack of dependence.

c) Ensuring translation of new and existing knowledge

The cross cutting theme “ensuring translation of new and existing knowledge” emerged as also a key issue for this workgroup, including implementation and comparative effectiveness research and economic modelling of effective interventions as priority areas. Many technologies exist to assist healthy ageing but their costs and benefits in comparative terms are unclear. Greater clarity should be achieved to guide future policies for investment in service development.

d) Diversity and variation in health and ageing

It was recognised that families have a pivotal role in the support of older people. However, there are challenges related to changes in family composition and roles. There is considerable variability across Europe. Key issues identified were family and carer interrelationships and carer issues, ethno-cultural diversity, socio- economic variation and gender issues related to health, disability and care giving. Social inclusion of older people varies and can be enhanced. It was

suggested that usual health economic approaches based on QALYS may disadvantage older people because they generally have fewer years to live and these may be in poorer health. International comparisons outside Europe may provide useful comparative data related to diversity in aging and health.

e) Identifying target groups for promoting lifelong health and wellbeing.

There are many groups for whom efforts can be made to promote healthy ageing. There is a literature that has established that some interventions in older people are associated with improved health. Examples of these include anticipatory care systems directed towards specific groups based on risk profiles, complex interventions for which efficacy has been established. There are research methodologies including implementation research that are applicable. An emerging area of targeting is based on the role of early life factors in health in older age.

f) How to foster change in beliefs and behaviours for healthy ageing

Behavioural approaches are effective in changing behaviours to support healthy ageing. However, there is a need to better understand personal concepts related to medical and social needs and risk. This is a further area where implementation research is a priority to achieve translation.

g) Organisation and delivery of research benefits

An important priority is to translate research into policy and clinical practice. Again implementation and comparative effectiveness research can assist. Interdisciplinary research should achieve dividends given the complexity of issues related to ageing. Adequate research capacity and infrastructure is required. As stated elsewhere economic modelling/cost benefit/cost utility methods are of high priority in order to refine the preferred options for development, particularly in relation to complex interventions.

h) Organisation and delivery of effective healthcare

The organisation of healthcare is variable across countries. A basic classification is whether the older person interacts with a primary healthcare system or whether the older person has direct access to secondary care. Integration of primary healthcare with social care and universal access is seen as the preferred option. Secondary care should also be readily accessible where it has been identified as appropriate. However, there are further issues to explore related to access, service configuration, delivery and organisation and relationships with social care. In these contexts there are new technologies that can potentially support a primary health system to function effectively. The healthcare system can promote beliefs and behaviours that facilitate healthy ageing.

4.3 Prevention and promotion of healthy ageing

The group highlighted 5 broad topics where there is a lack of research and where further comparative research is needed.

Broad research topics

1. **Identification of markers of ageing from cellular to societal level**

- Can cellular biomarkers be developed to increase understanding of mechanisms and efficacy of interventions
- Do markers of ageing in midlife predict subsequent trajectories, i.e. later functional decline/other outcomes (e.g. mild/early cognitive impairment, urinary incontinence, physical performance, unexplained fatigue, multiple morbidities/drugs, low grade inflammation)?
- What kind of markers do we need? What markers give what outcomes?
- Across international cohorts, which markers of early ageing are good predictors of health outcomes in later life and do they vary across different cohorts?

It may be useful in primary prevention to identify individuals at high risk for unhealthy ageing before disability or frailty has occurred by characterizing early markers that are associated with later disability. One crucial research question is

to identify early markers of ageing which are not in themselves manifested as diseases or pathological conditions. This may be biological indicators, physiological markers, physical performance, or measures of early frailty. There are several research questions which need to be answered: Is it possible to identify markers of ageing in midlife? Are different markers of ageing interrelated or do they progress in parallel to each other? Are markers of ageing in midlife different from those which become apparent in late life? Are markers of ageing as ”dangerous” in midlife as in late life? Are markers of ageing the same in men and women and do they have the same consequences? Due to large variations in factors which may influence early markers of ageing it is necessary to compare patterns of results in different cultures/countries. This topic would benefit from comparative research across several EU countries using existing cohort studies.

2. Importance of life course factors for markers of early ageing

- Identify which factors throughout the life course predict markers of ageing in mid life and their change? For example are the effects of adult risk factors (e.g. socio-economic status/chronic diseases/ disability) on early markers of ageing modified by effects of earlier life experience and exposures including genetics during life course?
- Do patterns of associations vary in different cultures/countries?

It has been increasingly recognized that the aging process is shaped throughout the entire life course, not only in old age. Strain in childhood, youth and early adulthood increases the risk of early occurrence of chronic disease, which in turn increases the risk of premature disability. Life course research is primarily based on prospective studies and focuses on biological, psychological and social factors that influence the association between development and aging processes over the entire life course. There is growing evidence on the influence of early life factors on healthy ageing, especially on cognitive function, muscle physical performance in midlife. More evidence is needed on the influence of life course factors (including early life factors) on healthy aging in late life, critical/sensitive periods throughout life on healthy aging, accumulation of risk factors throughout life on healthy aging, how different life course factors interact in relation to healthy

aging and on the biological mechanisms leading to these outcomes. As mechanisms for associations between life course factors and ageing may vary across different countries we propose that comparative studies in different EU countries should be undertaken, using existing cohort data.

3. Physical activity, diet/nutrition, obesity management

- How can functional decline/onset of new disease be reduced - in different populations with and without comorbidity, with and without enduring lifelong disability (e.g. Down's syndrome), in different socio-economic groups, in men and women, in different cultures
- Specific sub-questions:
    - Is beginning physical activity at all ages in life equally effective, under all conditions?
    - Is there a dose-response relationship between physical activity and outcomes?
    - What are the mechanisms for exercise effects on outcomes?
    - Need for nutritional research other than in care homes, and focus not only on malnutrition, e.g. there is a need for more knowledge on optimal nutrition for community dwelling older people
    - How do emotions, coping strategies, and physical and social environments influence lifestyle changes in midlife and old age?
    - When does a life event cause change in health behaviour?

There is evidence that physical exercise can slow the physiological decline with aging, prevent onset of several diseases (e.g. cardiovascular diseases and diabetes), and prevent some of the consequences of disease. Further, prospective cohort studies have shown that persons who are physically active have fewer impairments, functional limitations and less disability. However, it is not known: whether the same effect is obtained whenever physical activity is begun in life and whatever the conditions under which it is done; whether there is a dose-response relationship between physical activity and disability in old age; what are the mechanisms for exercise affecting disability; and are there gender differences in the way physical activity influences disability. Studies on nutrition in

healthy older persons are scarce and therefore it is largely unknown which types of nutrition should be recommended to healthy persons in midlife and old age to maintain health. Acknowledging the growing number of obese persons in Western populations it is important to be aware of this in future studies on healthy aging.

4. Intervention studies

- Need for lifestyle trials with hard(er) outcomes
- How can people be encouraged to change health behaviours – how, when (mid life, old age)?
- How can success with lifestyle interventions be measured?
- Can biomarkers be used to measure efficacy and increase understanding of mechanisms of lifestyle intervention effects?
- What subtypes of activity (eg. weight bearing, strength training) and nutritional interventions (eg. micronutrients) are effective for which specific outcomes?
- When is it possible to use physical activity or nutrition as alternatives to medication?

There is evidence that multifactorial interventions in older people do have an effect on postponing functional decline. However, little is known on more innovative types of intervention, e.g. group education and counselling of older people, individual educational programmes for older people, educational programmes via e-mail, facebook, cell phones, education of staff. Bearing in mind that there are specific subgroups who are particularly vulnerable it would be important to ensure these are included, for instance the socially disadvantaged, ethnic minorities, new widow(er)s, newly discharged from hospitals. These types of interventions might be one way of creating intervention studies on early markers of ageing and on life style changes.

Building on the knowledge gained on early markers of ageing the next step would be to create intervention studies. It would be important to explore whether it is possible to intervene on early markers of ageing – and whether this would have measureable effects. Further, there is a need for intervention studies on life style (physical activity, nutrition, obesity management). These should focus on the

mechanisms of effects, gender differences in effects, strategies for health behaviour change and include how emotions, coping strategies, and physical and social environments influence life style behaviour in old age?

There is a need for comparative effectiveness studies which focus on "what works best" and building on innovation in one country. It may therefore be possible to design RCTs of health behaviour interventions where different EU countries take different arms or focus on different subgroups.

5. Implementation research

Implementation of research knowledge into practice is scarce. There is a need to synthesise and learn from existing research on implementation – a novel area of emerging research which requires a dedicated funding stream. In other words: to translating lifestyle intervention research findings into individualised advice to older people. In short it is not known how our knowledge on risk factors for unhealthy ageing can be implemented in real life so that it can benefit older people. We propose that this topic should be progressed via reviews of existing implementation research in field of ageing (and others) followed by studies in different subgroups of older people: with and without chronic disease or disability, different socio-economic groups, men and women, different cultures, to determine what kind of knowledge older people are interested in getting, the method by which it should be passed and the person who should pass on the knowledge.

Key issues and associated priorities

The group also identified research infrastructure as a key issue for this topic area. There are sufficient data in the different EU countries to pursue many of the proposed research questions. However, harmonizing these data is time consuming and should be recognised itself as a topic area. Thus, there is a need for specific EU funding to harmonise data bases for comparative studies. This will bring considerable added value as well as being the basis for undertaking the cross-cultural analyses of identification of markers of early ageing, for studying the

importance of life course factors for markers of early ageing, and for the studies on physical activity, nutrition and obesity management.

4.4 Psychosocial factors and healthy ageing

From a psychosocial perspective, the concept of healthy ageing is somewhat problematic due to a lack of clarity in what precisely constitutes healthy ageing. Taking a broad definition, as has been used previously in this report, healthy ageing is the ability to be socially engaged, productive and to function independently both at a physical and cognitive level, well into later life. Healthy ageing therefore consists of good physical health and high levels of psychological well-being. However, whether it is a requirement that one is also socially engaged and productive for one to be ageing healthily is open to debate. Certainly there is evidence that high levels of social engagement are predictive of and related to good physical health and high well-being. However, good health and well-being can persist even in the absence of social engagement. For the purposes of this sub-theme, therefore, social engagement is treated as a factor that influences healthy ageing, rather than a being a part of healthy ageing itself. This is an essential stance, as the need to further our understanding of how social engagement influences healthy ageing is recognised by this sub-theme as one of the key priorities for research.

There is a second issue of importance to this sub-theme relating to the 'healthy ageing' construct. Physical health and psychological well-being are closely linked and influence each other strongly, yet high levels of well-being can persist in the presence of poor physical health, and vice versa. Nevertheless, within the framework of the healthy ageing concept, one cannot be said to be ageing healthily if either physical health or psychological well-being is absent. This is a significant point, as it is arguably the minority of older people who will possess both good physical health and high levels of psychological well-being at one and the same time, especially in advanced stages of later life. Given that it has already been noted in this report that there is a need to understand more of what older people themselves understand to be 'healthy ageing', the relative importance of health and well-being to older people is thus a subject in itself that requires more research. In addition, recognition of the distinction between physical health and psychological well-being is

critical as, when weighing the available research evidence on what predicts healthy ageing (and in determining where are the gaps in the research evidence), one must always consider if the impact of a given factor is equally on physical health and well-being, or with greater strength on health than on well-being, or with greater strength on well-being than on health. To truly promote healthy ageing, it is the factors that reliably influence both physical health and psychological well-being that we must urgently uncover and understand.

Broad research areas

In reflecting on the key research tasks relating to psychosocial factors in healthy ageing, the workshop considered what are understood to be the main relevant components of current European social policy, and what are likely to be the cornerstones of future European social policy on ageing, so that the research 'road map' that is drawn up will be able to inform that agenda. It was considered that European social policy has/will have as its core priorities:

- Maintaining lifelong health
- Social participation and engagement in late life

Following this discussion, it was felt that in order to meet the policy agenda, research on psychosocial factors in healthy ageing should be specified in relation to a core task:

- **The development of an integrated science of behaviour change**
    - interventions (individual/social/public health) that lead to behaviour change
    - maintenance of behaviour change following cessation of intervention
    - moderation of change via social and environmental barriers and facilitators

This core task should be framed within a life course perspective, as a healthy later life is significantly determined by early- and mid-life health status, cognitions and behaviour. Our understanding of behaviour change and change maintenance should therefore be related to the following processes:

- How does a person's cognitions and behaviour develop over the life course?

- How do the physical, social and economic environments impact upon the person and influence behavioural development?

The applied focus of the core task should be on those factors that research evidence has demonstrated to be the main determinants of healthy ageing:

- physical activity
- social 'interaction'
- diet/eating behaviour

Of these three determinants, the strongest evidence for a reliable influence on healthy ageing is for physical activity and diet/eating behaviour. Yet even where evidence is strong, further research is required to improve our understanding. With regard to physical activity, future research should be directed toward improving our knowledge of: how physical activity impacts directly and indirectly on healthy ageing; the relative merits of different forms of physical activity (habitual exercise, sustained aerobic exercise, strength and balance training); and how physical activity differentially affects physical health and psychological well-being. With regard to diet/eating behaviour, a detailed understanding of the social factors linked to healthy eating is lacking. In particular: how is dietary management and variety linked to material resources; the degree to which the impact of dietary variety on healthy ageing is moderated by age itself; and the significance of eating as a social and meaningful activity.

The weakest evidence for the impact of the three determinants of healthy ageing is that relating to social interaction. Part of the reason for this is the failure to adequately distinguish between a host of inter-related concepts, all of which have been linked to (or held to be a required aspect of) healthy ageing: social interaction; social activity; social integration; social engagement; social participation. Another reason for the failure to develop a strong evidence base is that measures of social interaction can be operationalised on a number of discrete levels: frequency; density; quality; type; purpose. There is therefore a need for research that is able to clearly conceptualise a highly confused research area and determine the exact element or elements of social 'interaction' that determine healthy ageing (and whether any

identified effects are direct or indirect). Specific topics that require further research within the broad area of social interaction and healthy ageing include: the importance of non-spousal family relationships and intergenerational ties; whether 'virtual' social networks and social networking will compensate for the decline in 'real' social networks that is occurring as a result of demographic change; and the processes by which individuals' health and well-being are reciprocally influenced within spousal/close relationships.

The three main determinants of healthy ageing, while independently affecting healthy ageing, will also affect healthy ageing through mutual action. For example, physical activity and eating behaviour are strongly linked, and it has previously been mentioned that more work is required on eating behaviour as a social activity. There is therefore a need for research that is sufficiently resourced (both in terms of funds and expertise) to enable an integrative approach to understanding the main determinants of healthy ageing.

Finally, there was recognition within the workshop for the quality of the research evidence implicating **sleep quality and sleep quantity** in healthy ageing. Sleep quality/quantity is also implicated in levels of physical activity (via feelings of fatigue), eating behaviour (through impacts on appetite), and social interaction (through its effect on well-being and depression). Approximately 50% of the variability in sleep behaviour in later life develops in mid-life and migrates into old age, and so sleep is a topic for research that would fit within the required life course perspective. Sleeping behaviour is also modifiable and amenable to intervention. However, the topic of sleep has received far less attention as a determinant of healthy ageing than physical activity, social interaction, and diet/eating behaviour. This imbalance should be urgently redressed

<u>Key research issues and topics</u>

Having set the broad research agenda for psychosocial factors in healthy ageing, the workshop sought to draw attention to the need for research focused on particular themes.

1. **Social/behavioural genetics.**

The workshop recognised the need to prioritise research that had sufficient breadth of perspective to disentangle the relative effects of genetic, behavioural, and environmental influences on healthy ageing. Research was required that could unpack: how individuals differ in their susceptibility to physical and mental ill health; how genetic factors influence 'lifestyle' behaviours known to influence healthy ageing (e.g., smoking, alcohol use); how genetic factors influence personal 'resources' such as coping behaviours and personal attributes such as risk perception, and how these interact with social, cultural, and environmental stressors and resources.

2. **Life course transitions**

The life course is broken by key events, some socially mandated and anticipated, some unexpected. These events, the manner in which they occur and are responded to, are likely to have a disproportionate impact on healthy ageing. A better understanding of the psychosocial processes involved in the following life transitions is needed: the impact of health events and the successful restoration of functioning/the decline into frailty; work, retirement, and withdrawal from the labour force; migration; and widowhood and bereavement. Specific theoretical frameworks offer the potential for insight into life transitions but have as yet received little empirical attention, and should therefore be further explored. These include, for example, Paul Baltes model of selection and optimisation with compensation (SOC), and Margaret Baltes work on the relationship and tension between autonomy and dependency. As well as transition points, there are other components of the life course that effect entry into and out of particular spheres of activity on more than one occasion, and which may impact on healthy ageing. These include opportunities for life-long learning and voluntary work, both topics remaining under-researched with respect to healthy ageing.

3. **Personal factors and healthy ageing**

Attributes of the individual are known to have implications for healthy ageing. These range from ethnicity and gender, through to dispositions (personality characteristics) such as optimism and attitudes to ageing. However, while we may know with some

certainty which particular social and personal attributes are connected to healthy ageing, the mechanisms whereby these attributes effect their influence requires clarification. In particular, research is required into: the healthy ageing of ethnic minority groups within dominant cultures (including work on the validity of constructs of healthy ageing within these minorities); the influence of gender on entry into, and acceptance of, the caregiving role (including the impact on carer and care-receiver health and well-being) and access to and utilisation of health care; and the underlying mechanisms by which dispositions and dispositional perceptions such as optimism, sense of coherence, perceived control, perceived self-reported health, and the holding of negative attitudes to one's own ageing/stereotypes of old age, exert such a profound influence on health and well-being in later life

4. **Connectedness and orientation**

Work on social exclusion explores the processes whereby particular groups within society are marginalised. Some important work within this field focuses on older people, and further work utilising this framework should be encouraged. However, there is a more concentrated research agenda that requires development, concerned with the connectedness of older people to everyday life, and how an individual's orientation to the past, present, or future is related to healthy ageing. There is a separation of older people from mainstream social activity, in terms of the location, type, and temporal patterning of their activity relative to that of other age groups; and a failure to connect different generations within core social activities. What are the social practices and processes that lead to this separation? Some social practices, for example reminiscence activities with frail older people, are predicated on the notion that older people benefit from social and personal engagement with aspects of the social and personal history through which they have passed. Yet other research indicates that a future-orientation, with active planning for the present and future eventualities, is associated with higher levels of well-being. What should we promote in older people, in order to ensure healthy ageing – an engagement with the past, or with the present and future? Finally, what is the significance of 'occupational being' for an older person's healthy ageing: the maintenance of productivity and productive relationships?

5. **Successful ageing in the oldest old**

As longevity increases, the size of the population living to advanced old age will increase. Due to the fact that until relatively recently the number of individuals living to advanced old age was small, research within this group has been limited. Given the predicted increase in numbers in this sector of the population, important research questions need addressing: how do physically frail older individuals maintain high levels of well-being; how far into late life can health gains be made, and what are the metrics on which resource judgements should be based when seeking to improve health and well-being in the oldest old; what are the physical and psychological transitions that occur in the final stages of life; and is 'healthy ageing' the same for a 90 year-old as it is for a 70 year-old?

4.5 Theoretical/Methodological Issues

As well as prioritising the above research areas, the workshop gave thought to the important theoretical and methodological issues that need consideration so that empirical research is sufficiently and effectively underpinned. Within this domain, the following points were generated:

- Further work is required to create a consensus on what exactly constitutes healthy ageing, and the respective importance of physical health and psychological well-being across the life course.
- Synthesis is required of methodologies for assessing and measuring psychosocial aspects of healthy ageing, so that only the very best tools and approaches are used.
- The measurement of well-being and QoL in frail populations needs further research, in order to evaluate existing tools properly and to develop new tools and methods as required.
- While gerontology is an integrative science, the wings of biology/clinical medicine and psychology/sociology often operate in distinct spheres. Separate research literatures have developed on concepts that need linkage – for example, the literatures on frailty and social exclusions both consider vulnerability and risk in older people, but have currently no bridge to enable cross-fertilisation of ideas. More avenues must exist to ensure that the requirement for inter-disciplinary research that is implicit in the concept of

healthy ageing is supported by a better integration of literatures, concepts, and methods.

- Some (sub)disciplines have developed robust theories and models to explain and predict behavioural change, and yet have little to say about behaviour in later life – an example is health psychology, which has as yet shown little interest as a discipline in exploring behaviour and behaviour change in older people. The 'opening up' of certain disciplines to the importance of healthy ageing research, and their integration with other core healthy ageing disciplines, should be encouraged
- Although 'social interaction' is seen as a key determinant/aspect of healthy ageing, much research is still carried out with an emphasis on the individual. There needs to be more research (with the development of new methodologies as required) that looks at the importance of relational processes in healthy ageing, and conceptualises healthy ageing as the outcome of a system, rather than something intrinsic to an individual and his or her behaviour.

4.6 Strategic investment to build capacity

Finally, the workshop identified important steps that should be taken in order that the European Union has the capacity to carry out the high quality research required to answer the key questions outlined above.

- The creation of centres of excellence for research on healthy ageing, to enable the development of 'critical mass' in expertise, knowledge, and research skills.
- The development of clear career pathways within gerontology and further fellowship opportunities.

- Flexible and responsive funding within the EU: so that research can be funded far more quickly than at present, in order to map the impact of social change; and so that high quality research with potential for European significance can be performed at a 'local' level (e.g., single or dual country studies) prior to 'rolling out' on a broader European stage for further evaluation.

- The strengthening of networks within and out with Europe between researchers, and the linking of research networks to policy makers and practitioners.
- The establishment of protocols and infrastructure to enable greater sharing of data (particularly in the synthesis of previous and current longitudinal studies on ageing, which is badly needed), and the development of reward structures for researchers and institutions to ensure secondary data analysis has greater parity with original research in terms of status.
- The maintenance of large and high quality longitudinal population studies.
- Ensuring the availability of funding for theoretical/methodological innovation as well as for empirical research

5 Cross-cutting areas, overlaps and gaps

In separating out the topics for healthy ageing research into our four sub-themes, it was inevitable that some core issues would be cut across the sub-themes and this is evident from the previous section. Additionally, the some overlaps will obviously occur between the Healthy Ageing theme and the other three Futurage themes (Biogerontology, Social and Economic Resources, Environments and ageing) and these are noted below. Finally topics which fell between sub-themes and other issues that were not addressed are presented and, along with others identified by the stakeholders and the user forums, will be covered in during the second workshop.

5.1 Cross-cutting areas

Four major areas were discussed in at least two of the sub-themes: the healthy ageing construct; health behaviours; research infrastructure and funding and interdisciplinarity.

The healthy ageing construct

Two sub-themes discussed the need for clarification and consensus on what dimensions should be included in the definition of healthy ageing, especially whether social engagement was included in the core concept or was an external factor promoting healthy ageing. A third sub-theme dealt with this issue by re-defining the scope to include Health and Wellbeing with Ageing and Co-morbidity. Achieving a consensus on a definition that include the views of older people themselves especially the oldest old with chronic disease, was seen as the foundation for most of the other topics.

Health behaviours

Three sub-themes covered areas that involved aspects of health behaviours in terms of nutrition, physical activity and obesity management. Discussions ranged from understanding how health behaviours impact on healthy ageing, how and why health behaviours are changed as a result of life events or personal concepts related to

medical and social needs and risk, what advice should be given to older people for maintenance of healthy ageing and who should impart it. In this context, two of the sub-themes identified research into the implementation of new and existing knowledge to change behaviours, clinical practice and services as a priority.

Research infrastructure and funding

All the themes discussed the importance of funding for comparative studies but also a dedicated funding stream to harmonise the datasets already in existence. The need for flexible and responsive funding within the EU was a particular concern to enable research to be funded more quickly, and to be able to capitalise on rapid social changes as they occur. It was not felt that every country should have a longitudinal study of ageing but that there should be good representation of Western, Easter, Northern and Southern Europe and of countries with high and low life expectancy. In addition to the maintenance of large longitudinal population studies of ageing funding should be available for establishing protocols and infrastructure to enable greater data sharings.

Interdisciplinarity

All the themes at some point stressed the need for better integration of the different disciplines that constitute 'gerontology' since some, particularly biology/clinical medicine and psychology/sociology often operate in distinct spheres. On occasions this has led to separate research literatures being developed on equivalent concepts. This could be improved by the creation of multidisciplinary centres of excellence for research on healthy ageing, to enable the development of 'critical mass' in expertise, knowledge, and research skills.

5.2 Overlaps with other Futurage themes

It was unsurprising that some of the topics considered within the Healthy Ageing theme would overlap with topics in Social and Economic Resources and Environment and ageing. The Monitoring inequalities sub-theme felt that, as well as agreeing a working definition of healthy ageing, this process should also be applied

to measures of socio-economic status and education since these would be core factors within a country which could help explain differing trends between countries.

Similarly environment inside and outside the home, can impede or expedite disability and may also have a role to play in decisions whether or not to change health behaviours, for example physical activity.

5.3 Gaps

Three topics were noted to have been omitted from in-depth discussions during the workshop. These were:

- Medication, preventive medication, drug-related illnesses multiple medications
- End of life
- Priorities in Eastern Europe

These will be included in the second workshop along with others identified by the stakeholders and user forums.

Annex 1: List of participants and affiliations

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