

Policy and Practice on Ageing: Informed by evidence
Building Ageing Research Capacity Colloquium

Network Themes and BARC Strategic Areas Workshops

Afternoon Workshop 3 - Healthy Ageing Issues Paper

Day 2 – 5 July
1:30 -3:00 PM

Presented by:



ARC/NHMRC Research
Network in Ageing Well

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This is a background document that has been produced by the ARC/NHMRC Research Network in Ageing Well and is only to be used for the purpose of informing discussion at the workshop on 5 July 2006. The materials contained herein are not available for the purposes of quotation until the workshop discussion has been incorporated. An updated version will be sent to all workshop participants and will be made available on the Network website (www.ageingwell.edu.au).

Any statements about proposed Network actions or directions are statements of possibility only. Directions will be determined at a later date after taking into consideration the discussion at the workshop.

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Healthy Ageing Workshop

Background

The purpose of this paper is to discuss issues relevant to the Healthy Ageing theme of the ARC/NHMRC Research Network in Ageing Well to inform the Australian Ageing Research Agenda. The Strategic Ageing Research Themes contained in the Framework for an Australian Ageing Research Agenda (2003) that link most closely with the Network Healthy Ageing theme are *achieving healthy ageing to maintain health, and independence and providing accessible, appropriate, high quality health and aged care*. The National Research Priority on Promoting and Maintaining Good Health includes the goal of **Ageing well, ageing productively** ‘*developing better social, medical and population health strategies to improve the mental and physical capacities of ageing people*’

The Prime Minister’s Science, Engineering and Innovation Council (PMSEIC) paper on health ageing presented a vision for an additional 10 years of healthy and productive life expectancy by 2020 (PMSEIC, 2003a). To advance our understanding of healthy ageing it is necessary to pursue research that includes multidisciplinary and multi-methodological studies. Targeted research on healthy ageing will benefit from contributions from biological, medical, behavioural, psychological, and social perspectives and the employment of quantitative and qualitative methodologies.

What is healthy ageing?

Healthy ageing is a one of a number of terms that have been used to promote a process of ageing that emphasises the possibility for maintenance and improvement of health as we age (Browning & Kendig, 2003). Other related terms used by practitioners, researchers and policy makers include successful ageing, active ageing, positive ageing, and productive ageing. In a review of the definitions related to ageing well Browning and Thomas (2006) suggested that healthy ageing is:

a process whereby people can achieve or maintain the best possible state of physical, mental, and cognitive health and well being, meaningful and positive engagement with people, community and institutions, and a personal sense of security and autonomy, adapting to the changes associated with ageing.

This definition has benefited from further expert input and in addition we would include achieving and maintaining *emotional and spiritual well-being and integrity* as part of the process of healthy ageing. Therefore, healthy ageing is a multidimensional process and this is reflected in the discussion of issues highlighted below. We also note that it is important to recognise that there is great heterogeneity in the way people age. Issues discussed include two inter-related themes (1) optimising independence and healthy ageing, and (2) the ageing mind.

The PMSEIC (2003) report on healthy ageing made recommendations for research in the areas of physical activity, nutrition, work and the social environment, the built environment, a national network for healthy ageing research, and longitudinal studies of healthy and productive ageing.

An earlier Review of Healthy Ageing Research in Australia for the Community Services Ministers’ Advisory Council (Kendig et al., 2001) recommended priority research topics in a number of areas including well-being, independence, and activity; social and cultural diversity; improving and maintaining health, intergenerational relations, programs and services research, and the baby boom and social change.

Issue 1 - Optimising independence and healthy ageing

There is a large research literature on the determinants of the domains of healthy ageing. Studies have focussed on determinants of functional decline (Stuck, Waltheart, Nikolaus et al, 1999), and on the effects of health behaviours (Peel et al., 2005) and social and neighbourhood environments (Bowling et al, 2006; Seeman & Crimmins, 2001) on health. The MacArthur Studies on Successful Ageing have provided important knowledge concerning the determinants of successful ageing. The Australian Longitudinal Study of Ageing has demonstrated the utility of the MacArthur model with a population-based sample (Andrews, Clarke & Luszcz, 2002). However there is a degree of circularity in the way that predictors of healthy ageing have been examined in the research literature where, not surprisingly good physical, cognitive and social health at baseline predict good health and longevity at follow-up. The reliability of measures of healthy ageing domains has also been questioned (see for example, Curb, Ceria-Ulep, Rodriguez et al, 2006).

Determinants of healthy ageing examined in longitudinal studies include absence of chronic medical and psychiatric problems, cognitive competence, high positive affect, normal range BMI, supportive social networks, physical activity, moderate alcohol use, good self-perceived health, not smoking, lower limb strength and good vision. In contrast, poor health or cognitive status at baseline is predictive of poor health status or death at follow-up (see for example, Anstey, Luszcz, Giles & Andrews, 2001). What is lacking in the evidence base are determinants of healthy ageing in different population groups defined, for example, by ethnicity or socio-economic status.

To optimise independence and healthy ageing in Australia we propose two broad areas of research. One focus involves further analysis of the major longitudinal studies on ageing in Australia by combining data sets to enhance the power of analyses and generalisability of the findings. Such an approach will provide further key strategic information concerning for the determinants of healthy ageing. A particular focus is those dynamic factors that are amenable to intervention.

A second area of research focus to optimise independence and healthy ageing should be the design and evaluation of interventions for older people that optimise social integration and maintenance of roles and dignity, as well as physical, cognitive, emotional, and mental health and functioning. Interventions for older people may address the following:

- specific health behaviours, for example, physical activity and healthy eating;
- health and functional problems, for example, falls, frailty, and chronic illnesses such as arthritis or Type 2 diabetes;
- the social and physical environments which either facilitate or impede healthy living; and
- cognitive competence, for example
 - training designed to minimise losses and maintain or enhance existing cognitive functions associated with normative age-related decline or
 - training targeting residual cognitive capacity to manage challenging behaviours of those with significant cognitive impairment.

Most often interventions focus on a specific domains (falls prevention, increasing levels of physical activity) and settings (primary care, community, hospital, in home). The evidence base for different interventions is patchy with falls interventions, physical activity interventions, chronic illness management interventions and behavioural training for various cognitive functions forming the majority of published evidence. More recently, the role of obesity as a major predictor of diseases, frailty, health care use and costs of care has resulted in increased attention for interventions to prevent obesity at all points of the lifespan (see for example, Blaum et al., 2005).

Healthy ageing interventions may take a broad public health approach by raising awareness of a particular issue (for example the health benefits of physical activity or that much of the age-related memory loss does not jeopardise day-to-day functioning) and promoting the issue through public health campaigns or in particular settings. A more targeted and perhaps efficient approach would be to identify individuals at risk for specific chronic health conditions and those who may be at risk for poor outcomes at key late life transitions. These transitions might include health transitions such as the onset or worsening of a chronic illness (for example, cardiovascular disease, and diabetes), sensory or cognitive impairment; psychological transitions associated with loss of independence; and social transitions associated with changes in family and friendship networks. If these potentially stressful or challenging transitions were identified early then timely interventions could be devised and implemented most effectively and efficiently. While a transition approach focuses on individual risk identification it is important to address also the physical and social environments that contribute to healthy (or unhealthy) ageing. An ecological approach to interventions is required that recognises the interaction between the individual and their social and physical environment. Such an approach focuses on individual behaviour change as well as providing supportive social and physical environments to optimise ageing well. (see for example, Heath et al. 2006; Sallis et al. 2006)

Issue 2 - The ageing mind and mental well-being

Cognitive capacity and general mental and emotional health are of fundamental importance to people as they age. Under this issue we address the promotion of cognitive capacity and the maintenance of other aspects of mental and emotional well-being.

The ageing mind

This issue focuses on the broad array of functions of the brain and mind that are necessary to understand and adapt to one's world. At the level of cognition or information processing they include attention, memory, language, communication and problem solving. In order to function and adapt to ageing, cognitive competence is required to execute basic tasks of daily living, understand health information, follow health recommendations and make health decisions (health literacy), make decisions about housing and finances, respond to changing technologies, and attend to and remember a variety of information necessary for social interchange and survival. Issues of cognitive capacity range from understanding the basic elementary processes that underlie thinking and can be evaluated at a behavioural level, to those that require imaging techniques that aspire to map brain-behaviour links. Secondly, the ageing mind extends to include mental health and emotional well-being, not merely the absence of depression or loneliness, but concepts of happiness, satisfaction, and optimism, which have been linked to better physical health and longevity. The healthy ageing mind includes the capacity to adapt in a balanced way to challenges, transitions, and daily life and in this sense, accepts the process of ageing, adapts to change and weathers challenges with equanimity.

From the perspective of ageing, key questions surround the extent to which 'normal' cognitive decline can be distinguished from that which may be 'impaired' and the possibility of progressing to various degrees of impairment (Luszcz, 2000). Extreme impairment manifests as dementia or other neuropathologies of ageing. Controversy continues over whether these are endpoints on a continuum of functioning or qualitatively different categories or states of mind. The continuity of a transition from normal to impaired cognitive ageing or the inevitability of dementia very late in life is an issue that is being informed by amassing data in Australia and overseas.

In the U.S., the National Research Council has set a sweeping agenda on the topic of the ageing mind that underlines the central role that cognition plays in all aspects of ageing, particularly maintaining and achieving independence, which in turn optimises quality of life and healthy ageing (Stern & Carstensen, 2003). In Australia (see for example PMSIEC, 2003b) government reports have often adopted a problem or pathology focus in contrast to one that recognises that mental acuity may continue into advanced age for majority of individuals.

An alternative approach to reducing poor health outcomes and promoting healthy ageing is promoting brain development in children, young adults and older people, by improving education, cognitive development and employment opportunities at all ages. A body of research now confirms that brain size and intelligence in early life are important determinants of good health at older ages and of longevity. High literacy rates in the Indian state of Kerala have long been known to be independently associated with increased life span – the Kerala Paradox. “We are what we eat” is at most a half-truth. We are more an amalgam of nutrition, what we inherit (our genes) and brain development through good parenting, community supports and life-long education.

The most important determinants of healthy ageing and longevity, in the modern world, are cognitive and behavioural. In the 21st century we need to move on from a purely physical and medical approach to health and ageing, with emphasis on nutrition and physical activity, to one that also embraces mental and cognitive activities. This means a focus on education at all levels; not only better schools and pre-schools but access to tertiary and continuing education and job opportunities at high skill levels and continuing education for older people. Making such an educational approach universal, affordable and life-long would benefit the whole society as well as promoting healthy ageing. For example, Wight et al (2006) found that irrespective of individual educational attainments, older adults living in low education neighbourhoods exhibited lower levels of cognitive functioning than those living in high education neighbourhoods. They concluded that ‘Promoting educational attainment among the general population living in disadvantaged neighbourhoods may prove cognitively beneficial to its aging residents because it may lead to meliorations in stressful life conditions and coping deficiencies.’ (p.1071).

A central challenge for future work on cognitive competence will be to integrate existing knowledge by examining the neuropathologies of ageing with those garnered from studies of healthy older adults and applying different methodological and theoretical assumptions. Other areas for additional expansion and collaboration include:

- the combination of more complex behavioural tasks with techniques that can monitor in real time the dynamics of changes in the brain while the behavioural tasks are being conducted;
- physical illnesses, and their treatments, have direct effects on cognitive abilities therefore a better understanding of co-morbidities and cognition is required. To date this area has been dealt with indirectly, and existing work has been directed toward consequences of single health conditions or those requiring attention at one point in time;
- investigation of the interplay between depressive illness, chronic disease, disability, and cognitive impairment which impacts on rehabilitative efforts and treatment response;
- multidisciplinary work that combines specialised understanding from two or more disciplines to address questions relevant to the process of ageing, for example, psychologists, lawyers, and occupational therapists to assess capacity for independent living or driving capacity; and
- work with special groups with pre-existing conditions that may make it difficult to assess current cognitive competence or deterioration, for example, those with life long or acquired intellectual disabilities, communication or sensory difficulties.

Particular attention needs to be given to understanding the cognition of the oldest old. This is important for several reasons. Population demographics indicate that the size of this cohort is the fastest growing and at the same time, there is a popular belief that if you live long enough, you will develop dementia or become ‘senile’. While scientists seem to be moving toward a consensus that the latter is a myth, this has not necessarily penetrated the general public. Negative expectations can have an adverse impact on actual cognitive function and hence lead to underestimates of cognitive competence. In order to maximise the ‘healthy life expectancy’ of all, it is vitally important to understand the cognitive strengths that persist into late life and enhance its quality.

Other aspects of mental health

Most people maintain high levels of mental health and well-being as they age. However, a proportion of older people will experience some degree of depression, depressive symptoms, or reduced affect at some point during later life. Many individuals have a depressive disorder the onset of which is early in life whereas others may have a later onset often associated with cardiovascular disease or other physical illnesses. Depressive disorders may be associated with negative life events (including grief, and delayed post-traumatic stress disorder), physical illness, pain, nutritional deficiency, or medications. Depressed mood and anxiety can also be associated with reduced cognitive capacity, and depression is an important differential diagnosis in the assessment of dementia. Depression can be masked in older age, and is under-diagnosed and under-treated.

It is now also clear that older people may also be disabled as much as from the anxiety of being unable to perform activities as much as from the inability to actually perform activities (e.g., those individuals with poor falls efficacy, with few falls). This highlights the need to consider the mental health dynamics when addressing physical health.

Conclusion

We have identified two inter-related issues, optimising independence and healthy ageing, and the ageing mind where research focus is needed in Australia. We have noted the heterogeneity of the ageing experience and outcomes in old age and have argued that promoting healthy ageing in the broadest sense requires attention to individual, social, and environmental factors. The future research effort requires input from a range of disciplines and methodologies that will capture the complexity of the healthy ageing process.

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Summary of the Theme and Activities To Date

Healthy Ageing Theme

The Healthy Ageing Theme of the ARC/NHMRC Research Network in Ageing Well is based at Monash University in the Monash Institute of Health Services Research. The Institute also houses the Australasian Cochrane Centre, the Centre for Clinical Effectiveness and the Monash Ageing Research Centre. Health research and geriatric medical expertise for the Network is provided from a further five Universities across four States. The study of medical, psychological, behavioural and social aspects of healthy ageing in Australia is a strength of the Flinders Centre for Ageing Studies, the UNSW Ageing Research Centre, the ANU's Medical School and Centre for Mental Health Research, the University of Sydney's Health Faculties and the University of Newcastle's Research Centre for Gender, Health and Ageing.

A Management Committee for the Healthy Ageing theme of the Network has been established with Professor Colette Browning as the theme Convener. The Co-Convenors are Professors Mary Luszcz and Julie Byles. A part-time project officer, Jane Sims, was appointed mid 2005. The focus of the theme is to examine ways in which older people can actively maintain or restore their health and well being, as well as ways in which social environments, health promotion and medical interventions can actively postpone, reduce or prevent some of the physical, cognitive and mental health problems associated with ageing.

A national workshop on 'Interventions for Older People' held in Melbourne in July, 2005 and sponsored by the theme, brought together more than 30 leading researchers and health promotion experts to identify current knowledge and gaps, outline research directions, explore collaborative activities, and involve post-graduate students and emerging researchers. Five students were assisted to attend the First Biannual APS Psychology & Ageing Interest Group Conference: 'Informing Psychological Interventions', in November 2005 at Deakin University.

Professors Anstey, Byles Luszcz, Browning, and other collaborators in the Healthy Ageing theme are Chief Investigators in the current Network-supported Ageing Well Ageing Productively (AWAP) grant proposal *Learning How to Age Well* led by the ANU hub. The aim of the project is to draw on substantially enhanced longitudinal data sets in order to identify factors capable of preventing disease and compressing morbidity – and thus increase years of active and engaged ageing.

In late 2005 the Research on Aboriginal Ageing Working Group was established under the leadership of Professor GA (Tony) Broe and Dr Lisa Jackson Pulver in the Network hub at the University of New South Wales. This research initiative aims to build research capacities and large-scale research proposals in collaboration with Aboriginal communities and other stakeholders. Work is underway planning a multi-centre, longitudinal, National Aboriginal Ageing and Health Study. The program will aim to compare health trajectories and outcomes in Aboriginal people with early disease and disability with those who are ageing well in multiple settings (urban, rural and remote). Research on Aboriginal Ageing was included as a component of the AWAP proposal on Pathways of Care.

"In collaboration with the International Research Centre for Healthy Ageing and Longevity (IRCHAL - <http://www.longevity-international.com>), the Healthy Ageing and central hubs of the Network plan to examine Australian opportunities for comparative international research on the bio-psycho-social determinants of healthy ageing. It is envisaged that the scope of this multidisciplinary exploration could include, as recommended by the PMEIC (2003) report, "...many disciplines into all aspects of ageing including that conducted by genomic and basic biological sciences, social sciences, public health and clinical and services research" (p viii). One aspect of this collaboration will be a jointly auspiced expert workshop immediately after the 3rd International Conference on Healthy Ageing and Longevity, Melbourne 13-15 October, 2006."