

NHMRC DEMENTIA RESEARCH GRANTS PROGRAM ROUND TWO

GRANTS \$9.1 MILLION

Chief Investigator	Admin institution	Recommended funding	Grant title	Lay description of the project
<p>Professor <i>Dimity Pond</i></p>	<p>University of Newcastle</p>	<p>\$792,180 over two years</p>	<p>Outcomes of best practice diagnosis and management of dementia in general practice</p>	<p>The outcome of this study will be new Australian data on what happens to people with dementia under the care of their GP, followed up for two years. In addition we will test the results for patients and carers of GP adherence to best practice for diagnosis and management of dementia.</p> <p>This is a 3-state randomised intervention trial in general practice which aims to add an extra year to an already funded study examining the outcomes for carers and patients of training GPs with extra skills in dementia screening and management guidelines.</p> <p>Outcomes for those GPs who adhere to the guidelines will be compared to outcomes for those GPs who do not. Patient and carer outcomes – include quality of life, depression, satisfaction with care and referral indicators, and patient pathways of care over the 24 month period will be recorded.</p> <p>In addition the study will examine barriers and enablers to GP best practice in dementia care.</p>
<p>Ms <i>Mandy Vidovich</i></p>	<p>University of Western Australia</p>	<p>\$467,208 over three years</p>	<p>A randomised clinical trial of cognitive activity for older adults with mild cognitive impairment</p>	<p>Australia's population is ageing rapidly and so is the frequency of age-related disorders. Dementia is one of the most frequent mental health disorders of older people and one of the leading causes of years of life lost due to disability in Australia.</p> <p>Mild Cognitive Impairment (MCI) in old age is considered an important clinical state potentially predictive of future cognitive decline. There is increasing evidence that the onset of dementia can be delayed with targeting potentially modifiable risk factors. In older adults, frequent participation in mentally stimulating leisure activities has been associated with stronger cognitive (abilities such as memory) performances and reduced risk of dementia.</p> <p>Further, the rate of cognitive and functional decline can be influenced by cognitive intervention strategies, though few randomised control studies have explored these findings with individuals who have a diagnosis of MCI.</p> <p>The primary focus of this research is to determine whether a structured program of cognitive activity (CA) can delay progression of cognitive decline amongst older adults with MCI. 160 older adults will be randomised (by chance, like the flip of a coin) to either a 10 week CA intervention with a focus on cognitive training and rehabilitation techniques or a 10 week control educational intervention providing</p>

				<p>information on aging and retirement. Their cognitive performance, quality of life and functional level will be monitored during follow-up.</p> <p>The proposed study will improve the understanding of possible modifying factors of cognition and highlight the potential of intervention in an older age population. The results will have implications for policy recommendations regarding health care resources and facilitate changes in the approach and management of individuals with MCI.</p>
<p>Professor Sergio E Starkstein</p>	<p>University of Western Australia</p>	<p>\$516,278 over three years</p>	<p>The mechanism, predictive value and impact of apathy in patients with Alzheimer's disease and their caregivers</p>	<p>Behavioural and psychological symptoms of dementia have been consistently associated with increased patients' distress, and are considered by caregivers as the most difficult symptoms to manage.</p> <p>Apathy is the state of loss of motivation and emotional withdrawal that occurs in a high proportion of patients with Alzheimer's disease. These patients require more management and support, given their reliance on others to schedule their activities and initiate behaviours even when they are still capable of performing the activities.</p> <p>In spite of the high frequency of apathy in dementia and the high potential of negative effects on patients and caregivers, little is known about the cause of this phenomenon, its potential influence on the long-term progression of Alzheimer's disease, and on its impact on caregivers' emotional well-being.</p> <p>The main aim of our proposal is to examine the mechanism, clinical relevance and impact of apathy in Alzheimer's disease. More specifically, we will determine whether apathy predicts more severe depression, increasing motor problems, and a faster progression of cognitive and functional problems. Using state-of-the-art neuroimaging techniques we will examine the association between apathy and abnormalities in specific brain regions.</p> <p>Finally, we will examine whether caregivers of patients with apathy have relatively more severe emotional problems, a higher care giving burden and poor quality of life.</p>

<p>Professor Maria A Fiatarone Singh</p>	<p>University of Sydney</p>	<p>\$895,506 over three years</p>	<p>SMART: Study of Mental Activity and Resistance Training: a randomised control trial</p>	<p>Over 170,000 individuals are affected by dementia in Australia, with many more individuals at-risk by virtue of borderline cognitive impairment. The personal, social and economic impact is therefore significant and projected to increase due to the ageing of the population. Even relatively modest goals, however, such as delaying the onset of dementia by a few years could have a large impact on the burden to individuals and society.</p> <p>New strategies aimed at preventing cognitive decline are therefore an urgent priority. In this regard, there is mounting evidence that involvement in a variety of mentally and physically stimulating activities throughout life may be important for optimal brain function and a reduced occurrence of memory problems in older adults. There is also some evidence that even when started in later life, mental and physical exercises can maintain or improve brain function compared to those who do not engage in such activities. However, the best type or combination of activities to achieve such benefits is far from clear.</p> <p>In addition, whether such techniques would work in those who have already developed mild changes in mental function is largely unknown. Therefore, we have designed a robust clinical trial in which individuals who have early changes in memory or thinking ability without an identified cause will be randomly assigned to mental exercises, weight lifting exercise, both interventions together, or a control condition.</p> <p>Participants will have their cognitive abilities tested after 1 year to ascertain whether lasting benefits do occur. As well, brain size and biochemistry will be assessed using sophisticated magnetic resonance imaging studies. Associated improvements in fitness, body fat, mood, risk for other chronic diseases, and independence and quality of life will also be measured. This study will therefore provide the first comparison of the isolated and combined effects of these two interventions in an older sample at risk for dementia, as well as provide new insights into possible biological changes underlying these benefits.</p>

<p>Professor Lynn Chenoweth</p>	<p>University of Technology Sydney</p>	<p>\$1,473,395 over three years</p>	<p>Person-centred environment and care for residents with dementia: a cost-effective way of improving quality of life and quality of care?</p>	<p>Improving the quality of life (QOL) and quality of care for persons with dementia are important areas of Australian health research. A growing body of evidence shows that QOL in dementia can be improved by relatively simple and inexpensive modifications to nursing care practices and the physical environment.</p> <p>Most studies in these areas are observational, few have utilized a randomized control group design, and none has included economic evaluation. This study will address these deficiencies. This is the first time that a randomized controlled trial of Person-Centred Care (PCC) and Person-Centred Environment Design (PCD) will be undertaken.</p> <p>The study will be conducted in 40 residential aged care services in New South Wales, to determine the efficacy and cost effectiveness of implementing PCC and PCD separately, and in combination, in improving resident quality of life and quality of care</p> <p><u>Study Aims</u></p> <ol style="list-style-type: none"> 1. Determine the effect of providing person-centred care (PCC) on the quality of life (QOL) of aged care residents with dementia 2. Determine the effect of modifying the physical dementia care environment (person-centred environment design (PCD)) on the QOL of aged care residents with dementia 3. Determine the combined effect of PCC and PCD on resident QOL 4. Determine the effect of PCC on quality of care for aged care residents with dementia 5. Determine the effect of PCD on quality of care 6. Determine the combined effect of PCC and PCD on quality of care 7. Determine the costs of PCD and PCC, and undertake an economic evaluation.

Assoc Professor Sally Green	Monash University, Victoria	\$1,051,265 over three years	Evidence-based care of people with dementia	<p>The number of Australians with dementia is increasing and so therefore is the frequency of people with dementia presenting to general practice. There is a recent evidence based clinical practice guideline to inform the diagnosis and management of people with dementia and the support of their carers. Many of the recommendations from this guideline are relevant to Australian general practitioners.</p> <p>Strategies to implement guidelines into practice are needed in all areas of health care, but changing clinical practice is complex and a body of research developing methods of identifying barriers to specific practice changes is emerging.</p> <p>This project aims to support GPs in improving the general practice based care of people with dementia, and so improve their quality of life. In addition we aim to contribute to the body of knowledge about how to bring about practice change and implement a clinical practice guideline. We plan to design a strategy for implementing this new guideline into practice, working with GPs to change their practice where needed. We will test the effect of this strategy on the care of people with dementia, on their quality of life and on that of their carers.</p>
Professor Gavin Andrews	University of New South Wales	\$133,050 over two years	Confirming the burden of disease associated with dementia using new empirically driven, Australian-based disability ratings	<p>The amount of burden the population experiences as a result of individual diseases influences health policy. The Australian Burden of Disease project quantifies the relative burden associated with each disease. New estimates are to be released this year will outline the magnitude of burden associated with dementia now and estimate that for the year 2023.</p> <p>Although the projections use the best data available, three improvements to the methodology would improve the accuracy of the dementia burden estimates.</p> <p>First, the dementia calculations currently use a “disability weight” metric derived from a Dutch study. This is problematic in that the weights do not reflect an Australian experience of dementia, nor do they reflect the preferences of people closely affected by the disease (e.g. carers). Second, the dementia estimates do not include cases of mild cognitive impairment (considered a precursor state of dementia). Hence the dementia estimates may not estimate the full impact of dementia in Australia.</p>

				<p>Finally, there is no evidence that the method used by the Burden of Disease study to account for the impact of disease comorbidity adequately deals with the comorbidity associated with dementia. Consequently, there is need to develop a new and comprehensive set of disability weights for dementia that are Australian-based, include all stages of dementia severity and account for comorbidity.</p> <p>The proposed project aims to develop a new set of empirically derived Australian-based disability weights for dementia. The project will entail three studies.</p> <p>The first study will generate empirically based case vignettes that describe a range of dementia case scenarios. These descriptions will then be used in rating exercises (Study 2) to develop new disability weights.</p> <p>The second study involves Australian health practitioners, carers and lay persons reading case vignettes and completing health valuation rating exercises to generate new disability weights for dementia.</p> <p>The third study uses the new disability weights to re-calculate the burden of disease estimates for dementia. The new estimates will be compared to those reported by the 2007 Australian Burden of Disease project.</p> <p>In knowing the accuracy of the estimates, policy makers can use the burden data for dementia with confidence when engaging in service planning for the future.</p>
Dr Julian Trollor	University of New South Wales	\$904,409 over three years	The role of metabolic and inflammatory factors in cognitive	Metabolic factors and measures of inflammation in the body have recently been shown to influence mental function and increase the risk of developing age-related disorders such as Alzheimer's disease. The influence metabolic factors and inflammation have on function of the ageing brain is likely to be determined by complex interplay between many factors, such as physical health, lifestyle, nutrition and our genes.

			<p>decline and cerebro-vascular pathology in the elderly</p>	<p>By studying these factors and how they relate to one another in large groups of elderly individuals, we will be able to determine the role these factors play in brain ageing. In addition we will be able to determine an 'at risk' profile for elderly individuals for accelerated ageing effects. Identification of this profile is important as it will allow the development of interventions which may prevent or delay the onset of cognitive decline in late life.</p> <p>We plan to study the impact of metabolic and inflammatory factors on brain ageing and in two groups of elderly individuals both of which are currently being studied in detail by our research team. By using these existing groups we will minimize the costs associated with our research, but maximize the research benefit and the benefit to society.</p> <p>Our groups include a large community sample of elderly individuals aged 70-90 years and a large group of elderly twins aged over 65 years. Our use of twins for the study is particularly important as it will help us separate genetic and environmental influences on the measures. We will measure multiple metabolic and inflammatory factors in the body and determine their relationship to detailed tests of cognitive function and to cerebrovascular pathology on brain magnetic resonance imaging.</p> <p>We will look at how these factors relate to one another and which factors are most strongly associated with accelerated ageing. We will be able to follow subjects in each group over a 2 year interval to see which factors most strongly predict change in cognitive function and cerebrovascular pathology over time. Our research is unique in its inclusion of multiple factors which may affect brain ageing, its ability to look in detail at the contribution of genetic influences on metabolic and inflammatory factors, and in our planned follow-up of these individuals.</p>
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<p>Ms <i>Lee-Fay Low</i></p>	<p>University of New South Wales</p>	<p>\$220,200 over two years</p>	<p>Dementia literacy in Greek, Italian and Chinese Australians</p>	<p>The dementia knowledge and beliefs of persons from Italian, Greek and Chinese backgrounds will be compared to third generation Australians. Five hundred persons from each group will be randomly selected from around Australia to be surveyed by telephone. Questions will assess whether dementia symptoms are recognised, what these persons think causes dementia, where they would go for help, how likely they are to use aged care services and stigma towards persons with dementia.</p> <p>Focus groups will be conducted to identify barriers to service use and identify methods to improve dementia knowledge in Italian, Greek and Chinese groups. This information will be used to improve community education and service delivery for persons with dementia from culturally and linguistically diverse backgrounds.</p> <p>The Primary Dementia Collaborative Research Centre at the University of NSW, NSW Multicultural Health Communication Service and Alzheimer's Australia are partners in this research.</p>
<p>Dr <i>Victor Vickland</i></p>	<p>University of New South Wales</p>	<p>\$380,500 over three years</p>	<p>A computer model of service delivery for behavioural and psychological symptoms of dementia: a tool for policy makers and service providers</p>	<p>Behavioural and psychological symptoms of dementia (BPSD) affect approximate 90% of persons with dementia. BPSD include depression, aggression and psychosis and have negative effects on persons with dementia and carers. Management of BPSD is costly.</p> <p>This project will update and enhance our theoretical model of service delivery for BPSD by turning it into a computer-based model to assist health managers and policy makers.</p> <p>This model will incorporate the projected increase in prevalence of dementia and project associated costs of care into the future. It will also incorporate information about interventions for BPSD, and how they may affect prevalence and cost in the future.</p>

<p>Assoc Professor Glynda Kinsella</p>	<p>La Trobe University, Victoria</p>	<p>\$551,452 over three years</p>	<p>Early intervention for amnesic mild cognitive impairment: a randomised trial of memory management</p>	<p>It is increasingly recognised that Alzheimer’s disease can emerge slowly over years and persons presenting with memory impairment, or mild cognitive impairment (MCI), are at increased risk of developing Alzheimer’s disease. Following diagnosis of MCI, active management through symptomatic drug treatment remains equivocal, therefore, memory impairment continues to be troublesome and patients and families are seeking interventions that offer improvement in quality of life.</p> <p>Cognitive interventions are low cost and, where effective, can provide a stand-alone intervention or add value to the pharmacological approach. The primary aim of this study is to evaluate whether an early intervention program of memory training is effective in improving use of memory strategies in everyday life, and whether this has psychological and emotional benefits for individuals with MCI and their families.</p> <p>We will evaluate through a randomised controlled trial the efficacy of a memory-group program which will involve the family and patient, rather than just the person with MCI, in developing increased awareness of memory issues and specific strategies to prevent memory failures.</p> <p>Over successive cohorts recruited from memory clinics, families will be randomly assigned to either an immediate intervention or a delayed intervention (waiting-list control) group. We will also recruit a sample of healthy older adults who will be similarly randomised into early and late intervention groups. Healthy older adults will provide a means of establishing whether any improvements in the MCI groups are (i) to the same extent as healthy older adults and (ii) to normative levels.</p> <p>Evaluation will be at pre- and post-intervention and at six months follow-up on tests of memory, questionnaires of knowledge and use of memory strategies in everyday life, and appraisal of level of wellbeing. Information about memory and systematic training in compensatory memory skills are expected to significantly improve the capacity of patients and families to cope with everyday memory difficulties. Through active participation in the management of memory impairment, it is expected that the level of wellbeing will increase, for both patient and families.</p>
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Dr Marie Cooke	Griffith University, Queensland	\$148,475 over one year	The effect of music on agitated behaviours in older people with dementia: a randomised control trial	<p>This study uses a cost effective non-pharmacological intervention, that being music therapy to improve quality of life (QOL) in people with dementia. Dementia results in a decline in mood and cognitive functioning and the emergence of behaviour problems that include aggressive acts, agitation, and sleep-wake and rest-activity pattern disturbance.</p> <p>Aggressive behaviour is a common burden for caregivers in residential and family care. The subsequent stress that aggression places on caregivers can lead to staff and family burn out, an increase in restraint use, and decreased quality of care.</p> <p>Research suggests that disruptive behaviours are recognised as a predictor in staff resignation and carer stress, both of which add significantly to the current costs of aged care. This project therefore has the potential to benefit both people living with dementia and their carers.</p> <p>The positive outcomes of music on people of all ages and health status have been established in various clinical settings. Recent research suggests that music therapy may be useful in the management of disruptive behaviours in people with dementia. Music therapy for people with dementia has the potential to improve their quality of life (QOL) through an improvement in depression, and a reduction in aggression and agitation.</p> <p>This study will investigate the effect of a live music program (where participants use their voices and instruments to perform and create music) on agitated behaviours in older people with dementia. It will provide evidence contributing to better understandings about music therapy and its contribution to QOL and disruptive behaviours in people with dementia that can be transferred to other settings such as the community and home-based care of people with dementia.</p>

Dr Nancy Pachana	University of Queensland	\$547,250 over three years	Validation of a competency assessment method for persons with dementia	<p>Deciding what if any aspects of their financial affairs a person with dementia or suspected dementia can responsibly manage is a difficult process for health and legal professionals as well as for guardianship boards and tribunals. This process is often stressful for the older person, and families can find deciding when to “take over” stressful.</p> <p>Also, having family members manage the older person’s assets may result in family conflict. There is a small amount of overseas research examining this issue. However, no comprehensive and validated method exists internationally or in Australia to determine competency in this context.</p> <p>We will test a methodology for assessing the capacity of individuals to manage their own financial affairs where dementia is an issue. This method involves the use of a number of reliable and well-validated instruments measuring the older person’s mental state, anxiety levels, depression, and social vulnerability combined with an interview exploring the personal circumstances of the older adult in relation to their financial affairs.</p> <p>We will work with the Office of the Adult Guardian in Queensland to recruit participants and to verify both the utility and usability of our methodology with stakeholders (e.g. solicitors, the Office of the Adult Guardian). A comparison will be made between the results obtained in approximately 200 financial competency cases with the competency opinions independently arrived at by the Office of the Adult Guardian in Queensland.</p> <p>As a result of this research, we will be able to ascertain the viability and utility of this assessment method, improve the method as per the data gathered, and ultimately seek future funding to trial the methods across multiple jurisdictions (e.g. other states) and contexts (e.g. various cultural contexts).</p>

<p>Professor Len Gray</p>	<p>University of Queensland</p>	<p>\$516,698 over three years</p>	<p>Clinical outcomes, staff and carer perceptions of acute hospitalisation of patients with dementia</p>	<p>This work will provide a clear picture of the problem of dementia in hospital, including how often people with dementia are admitted, what happens to them, how hospitals respond to their needs, and how well carers perceive their needs are met. Our key objective is to provide sufficient information to inform better design of hospital procedures for people with dementia.</p> <p>The study will examine the illnesses and cognitive function of 500 people aged over 70 years, who are admitted to 14 wards in 4 hospitals in an around Brisbane. At admission, the study will identify people with cognitive impairment and follow them through the episode to identify what happens to them.</p> <p>The care protocols in relation to cognition and behaviour (if any) of the 14 wards under study will be examined, and the records of at least 100 patients will be reviewed to determine how well the cognitive problems are recognized and managed by staff.</p> <p>A substudy of 30 carers of people with pre-existing dementia will involve interviews at the time of admission to ascertain expectations, and at the conclusion of the hospital stay to understand carers' perceptions of how well they considered the care was delivered.</p> <p>In each aspect of the study, a comparison with a similar group of older people without dementia will be made, both objectively and subjectively. Hospital admissions appear to be full of risks for older people with dementia – they appear to be at risk of health incidents (delirium, falls, over-medication, etc), may decline in function and behaviour, and ultimately may be discharged prematurely to institutional care.</p> <p>Our research aims to provide a basis for planning a logical, careful response to the problem of dementia in hospital.</p>
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<p>Professor Helen Chenery</p>	<p>University of Queensland</p>	<p>\$648,360 over three years</p>	<p>An efficacy study of a cognitive- communicative intervention to improve transition to residential care in dementia</p>	<p>The transition from home to a residential aged care facility (RACF) is a potentially traumatic process that has a negative impact on the health and well-being of both people with dementia and their caregivers.</p> <p>This project will develop an intervention program for people with dementia that maximizes their ability to learn and retain functional skills and that enhances the communicative competence of both people with dementia and their caregivers.</p> <p>This will serve to minimize the stress and disorientation, as well as accompanying increased risk of illness, of entering residential care. We will investigate whether this intervention program has good outcomes both for the people with dementia as well as their caregivers.</p> <p>The research will develop guidelines for the development of best-practice policies for service providers and the government, which will assist both health workers and home-based caregivers to better manage the transition of people with dementia from home to the RACF environment.</p>
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