15th National Conference of
Emerging Researchers in Ageing

PATHWAYS TO AGEING WELL

31st October - 1st November, 2016 | Canberra

Conference Program & Proceedings

Australian
National
University

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Centre for Research in Ageing, Health and Wellbeing

Research School of Population Health

The Australian National University

Proudly welcomes you to the

15th National Conference of Emerging Researchers in Ageing

'Pathways to Ageing Well'

31st October to 1st November, 2016

China in the World Building, The Australian National University

Contents

Welcome from the ERA 2016 Convenor

It is with great pleasure that I welcome you to the 2016 Emerging Researchers in Ageing Conference at the Australian National University in Canberra. As part of this welcome I acknowledge the traditional owners of the land on which we meet, the Ngunnawal people, and their elders past and present.

The conference is hosted by the Centre for Research on Ageing, Health and Wellbeing and supported by the ARC Centre of Excellence in Population Ageing Research (CEPAR). Now in its 15th year, ERA has become a key event in the Australian Ageing Research calendar and has provided opportunities for many students and early career scholars to meet peers and friends with whom they will travel on their ageing research journey.

The theme of this year's conference is 'Pathways to ageing well', to represent some key aspects of the philosophy of our work at ANU, and to link to our key longitudinal study on ageing, the PATH Through Life Project. Pathways to ageing well recognizes that all older adults have a right to age well, regardless of health status, disability, cognitive impairment, gender, sexual orientation, race and religion. Research into ageing well aims to find the best approaches for individuals and groups, and to advocate for these among policy-makers. Successful research incorporates excellence in quality and scientific method, and is targeted to have impact in policy or practice.

The workshops that follow our conference reflect key topics to support the careers of emerging researchers in ageing. They include longitudinal methods which are essential for studying trajectories of development in late life, capacity building, and using research in health promotion.

The conference program includes 47 oral presentations, 5 rapid fire presentations, and lunch time posters series. I encourage you all to attend these sessions to both learn as well as offer support and constructive feedback to your peers.

The conference is held in the ANU China in the World Building which is a stunning new addition to our campus. We hope you take the opportunity to visit our national sites and experience some local culture and food.

We would like to thank our generous sponsors who have made this event possible and the Australian Association of Gerontology as well as the ERA team.

Once again, welcome to ERA 2016!

Professor Kaarin Anstey

Welcome from the ERA National Convenor

It is with great pleasure that I welcome you to the 15th National Conference of Emerging Researchers in Ageing. As a boutique conference supporting research students and early career researchers, it is always a fun and friendly event focused on providing feedback to presenters in the early stages of their research journeys.

I would like to thank Professor Kaarin Anstey and her team from the Centre for Research in Ageing, Health and Wellbeing (CRAHW) at The Australian National University for organising a great conference. I would also like to thank all our conference sponsors, especially the ARC Centre of Excellence in Population Ageing Research (CEPAR) who are the primary sponsors of the ERA initiative. This will be the first ERA conference since 2006 that I have missed but you will be well looked after as our ERA National Administrator Courtney Hempton will be there to welcome you all, supported by her predecessor Susan Hunt who is now a lecturer at CQU. So make sure you take the time to chat with them and the ANU team.

Have a great conference.

Dr Matthew Carroll

Acknowledgements

We appreciate the generous support of the following sponsors for ERA 2016

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Silver Sponsor

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Australian Association of Gerontology

Best Oral Presentation Sponsor

Hallmark Ageing Research Initiative, University of Melbourne

Welcome Reception Sponsor

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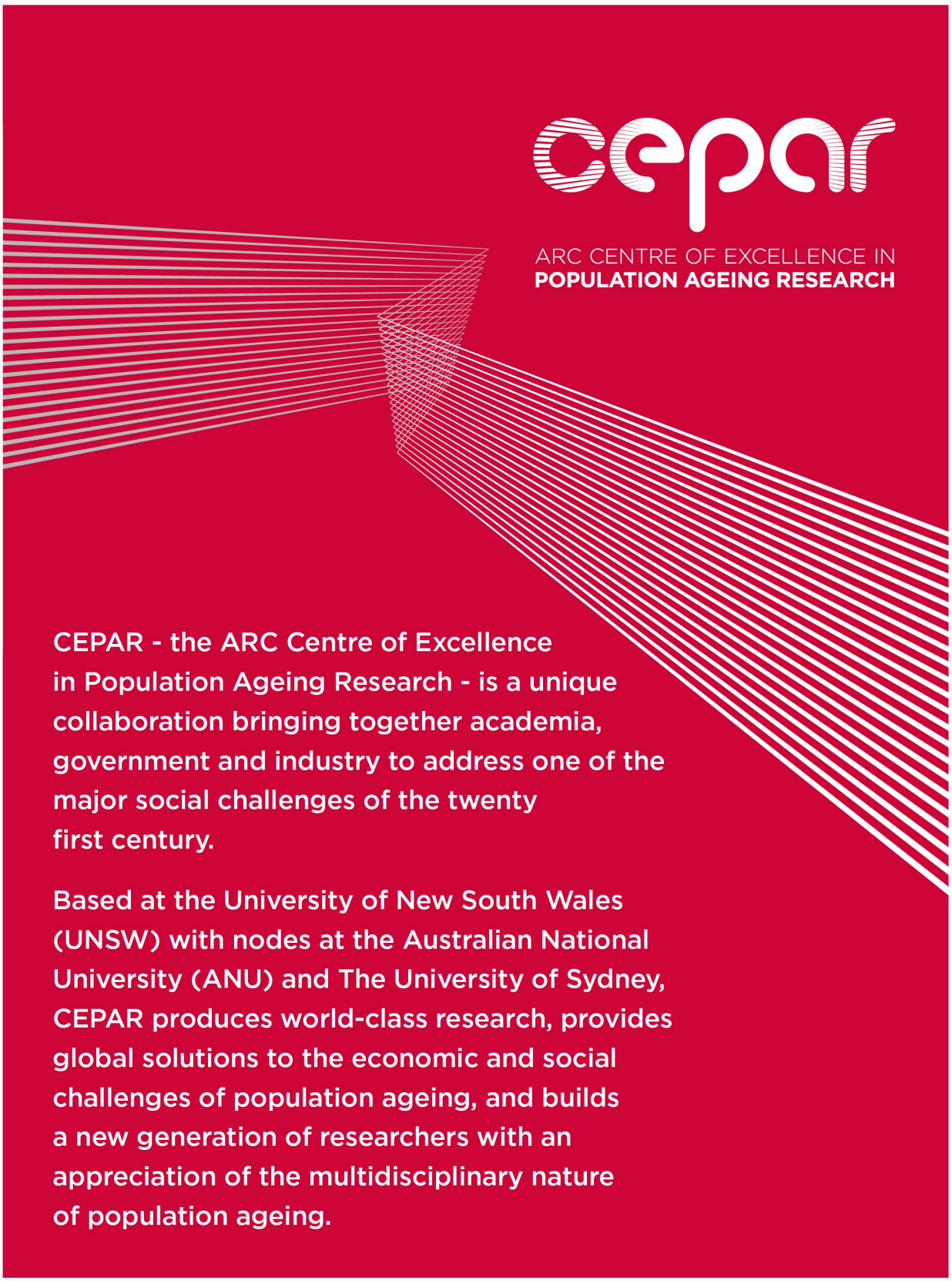
The Conference Organising Committee for ERA 2016 included:

* Kaarin Anstey, ANU
* Kerry Sargent-Cox, ANU
* Kim Kiely, ANU
* Lily O'Donoughue Jenkins, ANU
* Heather Hubble, ANU
* Matthew Carroll, Monash University/ERA
* Courtney Hempton, Monash University/ERA
* Pam Simpkins, ANU
* Marion Eluga, ANU

We would also like to acknowledge the staff from the Centre for Ageing, Health and Wellbeing for all their hard work and the assistance of the ERA National Executive based at Monash University in ensuring the success of this event.

Message from our Sponsors



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Australian National University
THE UNIVERSITY OF SYDNEY

Message from our Sponsors

Dr Helen Barrie
AAG President

Belinda Cash
National SECG President

Australian Association of Gerontology (AAG) is proud to continue its collegial support of the Emerging Researchers in Ageing Conference. Emerging Researchers in Ageing (ERA) has been a fantastic and important initiative to support students undertaking higher degrees by research in the field of ageing in Australia.

AAG is the national peak body linking professionals working across the sectors and multidisciplinary fields of ageing to help them collaborate and exchange information on ageing. AAG hold a series of activities at a state and national level to connect professionals in ageing. These include webinars, forums, seminars and our flagship Conference which is in its 49th year, and held directly after the ERA conference.

The multidisciplinary and inter-sectoral nature of AAG provides a growing and engaged 1000+ members with the opportunity to network and learn from the expertise and experience of other professionals that is focused on evidence based practical approaches to improving the experience of ageing for all.

AAG's vibrant Student and Early Career Groups (SECG) at a national and local level accounts for approximately 25% of AAG's total membership activities throughout the year. These events allow SECG members to develop their professional skills while providing networks to grow their careers in gerontology.

If you are new to the area of ageing, we encourage you to join AAG; it will open up a world of opportunities and support your passion for ageing. You will be part of Australia's largest community of researchers, health, allied health and aged care professionals, policy workers and other experts engaged in ageing, drawn from diverse disciplines.

We look forward to meeting with you at the conference. Please come and say hello or visit the AAG stand for more information. Enjoy the conference.

Save the dates
50th AAG Conference, Perth, 8 – 10 November 2017


"I choose quality residential care."
Goodwin has cared for seniors living with dementia since 1954, and now cares for more than 400 residents across three live-in care facilities in Canberra.
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Keynote Speakers

Dr Chris Hatherly is Director of Science Policy and Projects at the Australian Academy of Science. In this role he facilitates interaction between Australia's leading scientists and government on a range of science-related public policy issues, and oversees a range of projects and programs aimed at advancing science and research in Australia. One of these is the establishment of the Science in Australia Gender Equity (SAGE) initiative that is working with three-quarters of Australia's universities and a number of other research organisations to roll out an accreditation framework rating organisations on how much they're doing to improve gender equity in STEM disciplines. Another is the newly formed Australian Brain Alliance that has brought many of Australia's neuroscientists and behavioural scientists together to establish a major national brain research initiative. Prior to joining the Academy in early 2015, Chris worked for Alzheimer's Australia overseeing the national dementia research and knowledge translation programs. This role included close collaboration with a number of researchers and research programs, and significant input into the advocacy that resulted in the $200m national dementia research initiative announced in 2013. Chris completed his PhD in cognitive ageing (psychology) at The Australian National University in 2010 under the supervision of Professor Kaarin Anstey. During his PhD he was National Student President of the AAG and after completing his studies, he was ACT President of the AAG and served on the AAG Board.

Professor Cathie Sherrington is a Professorial Research Fellow and NHMRC Senior Research Fellowship holder at the George Institute for Global Health and Sydney Medical School, The University of Sydney. She leads the Ageing and Physical Disability Research Group within the Institute's Musculoskeletal Division. Her research focuses on falls prevention and exercise interventions in older people and those with disability. She has authored over 170 journal articles, has been a Chief Investigator on NHMRC grants totaling over $14 million and currently supervises 5 PhD students. She was one of the founders of PEDro, the Physiotherapy Evidence Database www.pedro.org. Prior to completing a PhD and Masters of Public Heath Cathie was a physiotherapist in aged care and rehabilitation settings.

Prizes

ERA Best Oral Presentation ($250)
presented by Ruth Williams, Hallmark Ageing Research Initiative

Presenting an oral paper at a research conference requires the ability to present a complicated research program in a clear, visually appealing and engaging manner. The presenter considered by the judging panel to be the best oral presenter will be awarded a prize to the value of $250, and a certificate.

ERA Best Poster ($250)
presented by Professor Kaarin Anstey, Conference Convenor

Successful poster presentations require great skill in displaying just the right amount of content in an eye-catching way in order to get the desired message across. The poster considered by the judging panel to be the best will be awarded a prize to the value of $250, and a certificate.

ERA Best Full Paper ($250)
presented by Professor Kaarin Anstey, Conference Convenor

ERA prides itself on providing the opportunity to conference presenters to submit a full paper for peer review and have these papers included in the conference proceedings. The full paper considered by the judging panel to be the best will be awarded a prize to the value of $250, and a certificate.

Helen Bartlett Prize for Innovation in Ageing Research ($250)
presented by Professor Kaarin Anstey, Conference Convenor

The Helen Bartlett Prize for Innovation is awarded for the most original and creative research presented at the conference (oral presentation or poster). The prize recognises the outstanding contribution made by Professor Helen Bartlett, Pro Vice-Chancellor, Monash Malaysia, to the field of ageing research in Australia, particularly as the founder of the ERA initiative. A prize to the value of $250, and a certificate, will be awarded to the winning student.

AAG Best Rapid Fire Presentation ($250)
Belinda Cash, President National AAG Student and Early Career Group

The AAG plays an active role in supporting the development of student and early career researchers. In line with this support for their members, the Best Rapid Fire presenter considered by the AAG judging panel will be awarded a prize to the value of $250, and a certificate.

Best presentation by an AAG Student or Early Career Member ($250)
presented by Dr Helen Barrie (Feist), President Australian Association of Gerontology, Silver Sponsor

The AAG is pleased to also sponsor the Best Presentation by an AAG Student or Early Career Member Prize. The recipient will be awarded a prize to the value of $250, and a certificate.

Bursaries

One of the ways the ERA initiative provides support for the training of a new generation of emerging researchers is through the provision of travel bursaries to ERA 2016 participants. This year 22 bursaries valued at $150 and $250 each were provided to higher degree students to assist with the expenses of participating in the conference.

Sponsored by the Emerging Researchers in Ageing initiative

The 2016 ERA Bursary recipients are:

Australian National University
Thomas Shaw
Jeofrey Abalos

Griffith University
Meiling Qi
Tracee Cash

Monash University
Briony Murphy

Southern Cross University
Li-Min Lee

Swinburne University
Jeanie Beh

University of Canberra
Elizabeth Low

University of New England
Alison Rahn

University of New South Wales
Ye In Hwang

University of Newcastle
Cassie Curryer
Mijanur Rahman
Karen Bell-Weinberg
Kedsaroporn Kenbubpha

The University of Queensland
Adam Burston
Sharifah Munirah Syed Elias

University of South Australia
Teresa Somes

University of Sunshine Coast
Dana Craven

University of Sydney
Kate Milledge
David Lester

University of Tasmania
Zhaohua Zhu

The University of Wollongong
Lindsey Brett

Conference Program

Monday 31st October 2016

8:00 – 9:00 — **Registration - Lotus Hall**

9:00 – 10:10

Opening Plenary - Auditorium

Welcome, Acknowledgement & Opening
Professor Brian P. Schmidt AC, Vice-Chancellor
The Australian National University

ERA Welcome
Professor Kaarin Anstey
Director, Centre for Research on Ageing, Health and Wellbeing
ANU Research School of Population Health

Courtney Hempton
ERA National Administrator

Message from our Silver Sponsor - Goodwin Aged Care Services
Tamra Macleod, Aged Care Specialist Nurse Practitioner

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Keynote
Making a difference on the other side of the fence: Using a PhD in policy
Dr Chris Hatherly
Director, Science Policy and Projects
Australian Academy of Science

10:10 – 10:40 — **Morning Tea and Poster Viewing**
Lotus Hall

Conference Program

	Session A	Session B	Session C
10:40-12:00	**Physical Functioning Pathways** Auditorium **Chair: Dr Kim Kiely**	**Pathways to Health Promotion & Physical Activity** Seminar Room A **Chair: Dr Kerry Sargent-Cox**	**Pathways for Service Use & Planning** Seminar Room B **Chair: Dr Da Jiang**
	Spinal manipulative therapy for neck pain and dizziness in older people: A feasibility randomised controlled trial ***Julie Kendall*** ***RMIT***	Bridging interest and learning of mobile touch screen technologies for older adults ***Jeanie Beh*** ***Swinburne University of Technology***	Medical service utilization among Australian older women with asthma ***Parivash Eftekhari*** ***University of Newcastle***
	Standard x-ray– Undetectable osteophytes are associated with changes in knee pain and structures in older adults: A population based cohort study ***Zhaohua Zhu*** ***University of Tasmania***	A mixed methods study of health promotion of hypertensive Thai elders: The health promotion compass ***Thitaporn Keinwong*** ***University of Newcastle***	The types and patterns of HACC service use among a large cohort of Australian women as they age from 77-80 to 87-90 ***Mijanur Rahman*** ***University of Newcastle***
	Bimetric trajectory analysis of sit-to-stand can be indicative of risk of fall among older people ***Maryam Ghahramani*** ***The University of Wollongong***	What is the effect of health coaching on physical activity participation in older people? A systematic review of randomised controlled trials ***Juliana Oliveira*** ***University of Sydney***	Transforming space to place: A case study of placemaking in residential aged care ***Aaron Wyllie*** ***Monash University***
	The effects of manual therapy on falls and physical performance measures in people with musculoskeletal pain: A systematic review ***Julie Kendall*** ***RMIT***	Promoting active ageing in older people with mental disorders in communities: Development and testing of a survey instrument ***Kedsaraporn Kenbubpha*** ***University of Newcastle***	Development of non-intrusive methodology to assess indoor environment in residential aged care facilities ***Federico Tartarini*** ***University of Wollongong***
	Measured mobility status is strongly associated with functional independence in community dwelling older people: An observation cross-sectional study ***David Lester*** ***University of Sydney***	You're never too old to walk ***Samantha Fien*** ***Bond University***	'Remember, I live with my mother': The housing circumstances of women baby boomers in Australia ***Cassie Curryer*** ***University of Newcastle***
	Preventing falls amongst older aboriginal people: Development and pilot evaluation of the Ironbark Project ***Caroline Lukaszyk*** ***University of Sydney***	How physical exercise can benefit individuals living with dementia in nursing homes ***Lindsey Brett*** ***University of Wollongong***	Living arrangements of older persons in the Philippines: Patterns and determinants ***Jeofrey Abalos*** ***Australian National University***
12:00-1:00	**Lunch and Poster Viewing** Lotus Hall		

Conference Program

	Session D	Session E	Session F
1:00-2:05	**Pathways for the Psychosocial Dimensions of Ageing** Auditorium **Chair: Dr Kerry Sargent-Cox**	**Neurological & Biological Ageing Pathways** Seminar Room A **Chair: Dr Erin Walsh**	**Practitioner Perspectives of Pathways** Seminar Room B **Chair: Lily 0'Donoughue Jenkin**
	Ageing well as an autistic adult in Australia ***Ye In Hwang*** ***University of New South Wales***	Australian longitudinal study of older persons: Hearing impairment ***Carlene Britt*** ***Monash University***	Dementia care in radiography ***Rachel Challen*** ***University of Sydney***
	Depressive symptoms in older adults awaiting cataract surgery ***Anna Palagyi*** ***University of Sydney***	Associations between myelination and cardiovascular health in vivo ***Thomas Shaw*** ***Australian National University***	Prevention of suicide among nursing home residents: Recommendations from expert and stakeholder panels ***Briony Murphy*** ***Monash University***
	Effectiveness of a combination of Tai Chi plus Thera-bands on stress, depression, anxiety, pain and well-being in older sedentary office workers: A study protocol for a pilot study ***Meling Qi*** ***Griffith University***	Cerebellum and Alzheimer's disease ***Hossein Tabataba El-Jafari*** ***Australian National University***	The experience of moral distress for Australian aged care workers: Implications for care delivery ***Adam Burston*** ***The University of Queensland***
	The evaluation of a spiritual reminiscence therapy program for older Malaysian adults with loneliness, anxiety and depression ***Sharifah Munirah Syed Elias*** ***The University of Queensland***	Mapping differences in brain myelin between midlife and early-old age ***Sidhant Chopra*** ***Australian National University***	Don't worry, be happy! The surprising role that optimism and hope has on retaining workers within organisations ***Katrina Radford*** ***Griffith University***
	Life *Satisfaction of older people: The case of Vietnam* ***Quang Trinh*** ***Australian National University***	The association between kidney function, brain structure and cognition in a community-based population ***Peiqi Dong*** **Australian National *University***	Working well with older adults and their sexual expression ***Linda Kirkman*** ***La Trobe University***
2:10-2:30	**Rapid Fire Oral Presentations** **Sponsored by the Australian Association of Gerontology** Auditorium—**Chair: Dr Kim Kiely**		
	Enacting CDC for people with dementia living in the community and their carers: A situational analysis ***Tracee Cash*** ***Griffith University***	Volunteering benefits life satisfaction and cognitive functioning in older adulthood: The role of social network size ***Da Jiang*** ***Australian National University***	Crossing the river: Learning experiences of Thai elders with hypertension when receiving health education ***Thitaporn Keinwong*** ***University of Newcastle***
	Making strides in aged care ***Samantha Fien*** ***Bond University***	Hippocampus and basal forebrain degeneration precedes cognitive decline in obstructive sleep apnea patients ***Lacey Atkins*** ***The University of Queensland***	

Conference Program

2:30—3:00	**Afternoon Tea and Poster Viewing** Lotus Hall

	Session G	Session H	Session I
3:00 – 4:05	**Pathways through Dementia** ***Sponsored by Goodwin Aged Care Services*** Auditorium **Chair: Dr Moyra Mortby**	**Social Relationships & Participation Pathways** Seminar Room A **Chair: Dr Sarang Kim**	**Nutrition & Diet Pathways** Seminar Room B **Chair: Dr Diane Hosking**
	A novel test assessing social Age-ility in people with dementia ***Karen Bell-Weinberg*** ***University of Newcastle***	The devil's in the detail: To what extent can a written agreement protect an older person in an assets for care arrangement with their children? ***Teresa Somes*** ***University of South Australia***	Associations between nutrient intake and composition of functional tooth units in older men: The Concord Health and Ageing in Men project ***Kate Milledge*** ***University of Sydney***
	Supporting a person to age well while living with dementia: A grounded theory study ***Sheridan Read*** ***Curtin University***	'I'm glad you're here': Stories from Aboriginal people in the pastoral industry ***Delyna Baxter*** ***Australian National University***	Malnutrition screening of community living older adults: A content analysis of enablers and barriers to screening practice ***Dana Craven*** ***University of the Sunshine Coast***
	The impact of the MAXCOG intervention: The views of clients, supporters and counsellors ***Bridget Regan*** ***La Trobe University***	Reaching out to touch: Couples' companionship needs vs. institutional interference ***Alison Rahn*** ***University of New England***	Who eats well? The meal patterns of older Australians living in one-person households in the ACT ***Elizabeth Low*** ***University of Canberra***
	Ageing well through the prevention of dementia: A protocol for a multidomain MCI intervention ***Mitchell McMaster*** ***Australian National University***	Facing loneliness directly: An existential perspective of the Chinese older adults ***Betty Chung*** ***The Hong Kong Polytechnic University***	Deconstructing diet—Investigating the link between diet and body weight in ageing ***Erin Walsh*** ***Australian National University***
	Geo-spatial mapping projected dementias and their implications for health and aged care services ***Hamish Robertson*** ***University of New South Wales***	Coming out later in life: Exploring the experiences of older lesbian and bisexual women ***Li-Min Lee*** ***Southern Cross University***	

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Conference Program

4:10-5:00

Closing Plenary - Auditorium

Keynote

Exercise to prevent falls: Research overview and implementation challenges

Professor Cathie Sherrington

NHMRC Senior Research Fellow

The George Institute and University of Sydney

Announcement of Prizes

Best Oral Presentation—*Sponsored by* 

Best Poster

Best Full Written Paper

Helen Bartlett Prize for Innovation in Ageing Research

Best Rapid Fire Presentation Prize
Best Presentation by an AAG Student or EC member } *Sponsored by* 

Message from our Silver Sponsor - Australian Association of Gerontology

Dr Helen Barrie (Feist), President

Announcement of the ERA Travel Exchange Recipients and ERA 2017 Conference

Courtney Hempton

ERA National Administrator

Closing

5:00-7:00

Conference Reception

Lotus Hall

Sponsored by Carers Australia

Poster Sessions

Posters will be displayed throughout Monday 31st October in the Lotus Hall. Delegates are encouraged to take time during tea and lunch breaks to view the posters and meet the authors.

For the first time, poster presenters have been invited to do a rapid oral presentation at 2.10pm to highlight their research and encourage participants to view the posters. The participating rapid presenters are asterisked below and a separate prize will be given by the judges from the Australian Association of Gerontology.

No	Title	Authors
1	Gender differentials in cognition among older adults in India and China: Role of height, childhood socioeconomic status and education	**Selvamani Yesuvadian** **International Institute for Population Sciences**
2	Default attentional strategies across the adult lifespan	**Rebecca Lawrence** **Australian National University**
3	Botanical supplements for management of the behavioural and psychological symptoms of dementia: A systematic review and meta-analysis	**Anna Hyde** **RMIT**
4	*Crossing the river: Learning experiences of Thai elders with hypertension when receiving health education	**Thitaporn Keinwong** **University of Newcastle**
5	Review: Improving care for people with dementia in acute settings through 'person-centered' approaches	**Kara Cappetta** **University of Wollongong**
6	*Making strides in aged care	**Samantha Fien** **Bond University**
7	*Volunteering benefits life satisfaction and cognitive functioning in older adulthood: The role of social network size	**Da Jiang** **Australian National University**
8	Association between MRI-detected osteophytes and changes in knee structures and pain in older adults: A cohort study	**Zhaohua Zhu** **University of Tasmania**
9	Promoting active ageing in older people with mental disorders in Thai primary care units: The findings of focus groups with health care workers	**Kedsaraporn Kenbubpha** **University of Newcastle**
10	*Hippocampus and basal forebrain degeneration precedes cognitive decline in obstructive sleep apnea patients	**Lacey Atkins** **The University of Queensland**
11	*Enacting CDC for people with dementia living in the community and their carers: A situational analysis	**Tracey Cash** **The University of Queensland**

Workshop Program

Tuesday 1 November 2016

Conference Workshops

9:00-12.30

Longitudinal Research Methods
presented by
Dr Kim Kiely

Law Building
Seminar Room G21

This workshop will provide a gentle introduction to the applied analysis of longitudinal data. The course will i) provide a conceptual overview explaining why longitudinal data is needed to properly study ageing processes, ii) outline longitudinal research designs, and iii) present basic methods commonly used to analyse longitudinal data. Methods demonstrated will include linear mixed models, growth curves, and survival (time to event) analyses. If time permits, advanced methods that build on these models may be briefly discussed. Workshop notes, exercise sheets, and worked examples will be provided. Participants are expected to have knowledge of fundamental statistical concepts, and ideally experience conducting and interpreting simple linear and logistic regression. To get the most out of this workshop, participants are strongly encouraged to bring their own laptops with installed statistical software (preferably SPSS or Stata) but this is not essential.

Using Research to Inform Health Promotion
presented by
Professor Kaarin Anstey for the NHMRC CRE in Cognitive Health

China in the World
Seminar Room A

This workshop will provide an introduction to health promotion and a discussion of the type of research that is relevant for health promotion in ageing. Participants will also have an opportunity to use a new e-learning tool that assists policy-makers access and use research to inform policy development. A panel discussion will include contributions from health promotion practitioners from Government as well as academics.

Building Research Capacity
presented by
Prof Elizabeth Beattie

Law Building
Seminar Room G13

This interactive workshop will focus on the critical topic of building individual and team research capacity in ageing. We will focus on how to negotiate the continuing process of strengthening your abilities to perform core research functions, solve problems, define and achieve objectives and recognise, understand and deal with changing needs. We will also discuss building and leading your own research team.

Conclusion of Workshops

12.30

Conference participants registered for the joint ERA/AAG workshop on Critical Success Factors for an Academic Career will need to proceed to the AAG conference venue at the National Convention Centre by 1.15pm.

Conference Abstracts

Session A
Physical Functioning Pathways

SPINAL MAIPULATIVE THERAPY FOR NECK PAIN AND DIZZINESS IN OLDER PEOPLE: A FEASIBILITY RANDOMISED CONTROLLED TRIAL

KENDALL JC[1], HARTVIGSEN J[23], FRENCH SD[4], AZARI MF[1].

[1]School of Biomedical Sciences, RMIT University, [2]Department of Sports Science and Clinical Biomechanics, University of Southern Denmark, [3]Nordic Institute of Chiropractic and Clinical Biomechanics, School of Rehabilitation Therapy, Queens University, Kingston Canada.

With an increasing emphasis on preventing falls in older people, it is important to examine non-pharmacological interventions to manage key risk factors for future falls. Neck pain in particular is associated with dizziness, feelings of instability and impaired postural stability. Spinal manipulative therapy (SMT) is a non-pharmacological intervention which shows some evidence of benefit for neck pain. This study determined the feasibility of conducting a large randomised controlled trial to examine the effectiveness of SMT in older people with neck pain and dizziness. Participants received SMT or sham-SMT weekly for four weeks. Outcomes were recruitment rate, compliance, follow-up rate, and blinding. Secondary outcome measures were self-reported neck pain (Neck Disability Index), dizziness (Dizziness Handicap Inventory), and physical performance and balance (Timed Up & Go, Four Square Step Test, centre of pressure on a force plate). Twenty four participants were recruited after 151 telephone inquiries through community advertising over 10 months. More than one third of potential participants were excluded due to co-morbidities (n=53), including history of stroke or heart attack (n=25), diagnosed spinal or vestibular pathology (n=25) and low cognitive performance (n=10). Compliance of the interventions was good, with only two drop outs (travel (n=1) and aggravation of an unrelated condition (n=1)). Blinding of participants was consistent across groups, 8(66.7%) and 5 (50%) participants indicated they thought they received the 'real' treatment in the SMT (n=12) and sham-SMT (n=10) groups, respectively. Due to the range and complexity of co-morbidities in this population, there may not be a single differential diagnosis of dizziness. The exclusion criteria may have been too broad, and excluding participants with co-morbidities is not generalizable to the larger population. A larger trial of manual therapy for neck pain and dizziness in older adults is not feasible using this study's recruitment methods, inclusion and exclusion criteria.

ASSOCIATION BETWEEN MRI-DETECTED OSTEOPHYTES AND CHANGES IN KNEE STRUCTURES AND PAIN IN OLDER ADULTS: A COHORT STUDY

ZHU Z[1,2], LASLETT L[1], JIN X[1], HAN W[1], ANTONY B[1], WANG X[1,2], LU Mi[4], CICUTTINI F[3], JONES G[1], DING C[1,2,3].

[1] Menzies Institute for Medical Research, University of Tasmania, Hobart, [2] Arthritis Research Institute, 1st Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China [3] Department of Epidemiology and Preventive Medicine, Monash University, [4] Department of Orthopaedics, 1st Affiliated Hospital of Anhui Medical University, Hefei, Anhui, China.

Background: Osteoarthritis (OA) is the most common type of arthritis, with prevalence estimates expected to increase dramatically worldwide due to ageing populations. Although magnetic resonance imaging has been widely used to evaluate knee OA changes, longitudinal studies examined relationships between MRI-detected osteophytes (OPs) and clinical features are rare. Objectives: To describe cross-sectional and longitudinal associations between MRI-detected OPs and knee structural abnormalities as well as knee pain in older adults. Method: Prospective population-based cohort study of 895 participants aged 50-80 years (mean age 62 years, 50% female) were performed. T1- or T2-weighted fat suppressed MRI was used to assess knee OPs, cartilage volume, cartilage defects and bone marrow lesions (BMLs) at baseline and after 2.6 years. Radiographic OPs were scored at baseline according to the Osteoarthritis Research Society International atlas. Knee pain was assessed by self-administered Western Ontario and McMaster Osteoarthritis (WOMAC) Index questionnaire at baseline and after 5 years. Analyses were performed using linear regression models and log-binominal regression models. Results: 85% participants had MRI-detected OPs at baseline, while 10% of participants had radiographic OPs. Cross-sectionally, MRI-detected OPs at medial tibiofemoral, lateral tibiofemoral and/or patellar compartments were significantly and site-specifically associated with a higher prevalence of cartilage defects ($p<0.01$), BMLs ($p<0.01$), lower cartilage volume ($p<0.01$) and higher prevalence of knee pain ($p<0.01$) after adjustment for common covariates. Longitudinally, baseline MRI-detected OPs site-specifically predicted increases in cartilage defects ($p<0.01$) and BMLs ($p<0.01$), and loss of cartilage volume ($p<0.01$) over 2.6 years in multivariable analyses. Medial tibiofemoral and total OP scores were dose-dependently associated with increases in total knee pain over 5 years, before and after adjustment for relevant covariates. Conclusions: MRI-detected OPs were associated with knee structural abnormalities and knee pain cross-sectionally and longitudinally, suggesting MRI-detected OPs may have a predictive value of structural and symptomatic changes in OA.

BIMETRIC TRAJECTORY ANALYSIS OF SIT-TO-STAND CAN BE INDICATIVE OF RISK OF FALL AMONG OLDER PEOPLE

GHAHRAMANI M[1], NAGHDY F[1], STIRLING D[1], NAGHDY G[1], JAN P[2 1]. *School of Electrical, Computer and Telecommunications Engineering, University of Wollongong, [2] Illawarra Health and Medical Research Institute, University of Wollongong, [2] Illawarra Shoalhaven Local Health District.*

Approximately 30% of people above 65 fall each year and this figure increases to 40% for people older than 80 [1]. Many falls in older people happen during postural transitions like standing up or sitting down [2]. Clinically, the Sit-to-Stand or Stand-to-Sit tests are used for balance assessment. These tests are evaluated by clinicians based on visual observation. Although in these methods, subjects with balance deficiencies can be identified, objectively it is not possible to assess any improvement or the decline in elderly subjects' balance and motion over time and this type of assessment is subjective and prone to human error [3]. In this research, our aim is to objectively figure out whether kinematics of chest and pelvis while doing the Sit-to-Stand and Stand-to-Sit transitions can be indicative of risk of fall among older people. For this reason, a group of young subjects (10 subjects aged 19-35), a group of elderly subjects with a history of no falls (22 subjects aged 66-85) and a group of elderly subjects with a history of multiple falls in the past two years (23 subjects aged 63-92) are recruited. Two inertial sensors are attached to the chest and pelvis of the subjects and the subjects are asked to fold their arms and stand up from a chair (24 centimetres height and without armsets) and sit down again for 5 times continuously as quickly as they can. The angular rotation of chest and pelvis of the subjects while doing the test is recorded and further analysed with some pattern recognition methods (Dynamic Time Warping) to compare the trajectory of different group of subjects. By applying, One-way ANOVA it is seen that this method is effective in recognising elderly multiple-fallers and the trajectory of elderly multiple-fallers is significantly different from both young subjects and elderly non-fallers.

THE EFFECTS OF MANUAL THERAPY ON FALLS AND PHYSICAL PERFORMANCE MEASURES IN PEOPLE WITH MUSCULOSKELETAL PAIN: SYSTEMATIC REVIEW

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Musculoskeletal pain is common in older people, and associated with decreased physical mobility, increased care seeking and increased number of future falls. Manual therapy is a non-pharmacological intervention commonly used for the management of musculoskeletal pain. While there is a growing body of evidence showing the effectiveness of manual therapy for musculoskeletal pain, there has not been a review of the secondary physical mobility and balance confidence improvements that may result from increased range of motion and decreased pain from these therapies. This systematic review examines controlled clinic trials using manual therapy for musculoskeletal pain that report outcome measures of musculoskeletal pain that report outcome measures of falls, physical performance and fear of falls. Twenty one studies have been included. Outcome measures reported in included studies consisted of timed up & go test (8 studies), gait speed (7 studies), balance (5 studies), sit-to-stand (4 studies), step test (4 studies), and four square step test (1 study), and concerns of falling (1 study). Musculoskeletal pain diagnoses of included studies consisted of knee OA (7 studies), hip OA (4 studies), knee or hip OA (1 study), LBP (5 studies), neck pain (2 studies), knee pain (1 study), fibromyalgia (1 study), ankle arthropathy (1 study), and post-vertebral fracture (1 study). Only 4 of the included studies found a significant between group improvement on sit-to-stand (1 study), 6 min walk time (1 study) and postural balance (2 studies). Improvements in physical performance and balance were generally accompanied by significant improvements in pain; however, not all studies with significant pain reduction showed accompanied significant improvements in physical performance and balance.

MEASURED MOBILITY STATUS IS STRONGLY ASSOCIATED WITH FUNCTIONAL INDEPENDENCE IN COMMUNITY DWELLING OLDER PEOPLE: AN OBSERVATIONAL CROSS-SECTIONAL STUDY

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For most older people ageing well would include maintaining mobility independence and living at home. Government and wider society agree, so long as there is no excessive burden. This attitude assumes that if an older person has poor mobility they will require supportive services. Most literature in this area uses self-report measures (such as difficulty with one or more ADLs) to stratify people's levels of disability rather than actual measurement of mobility capacity. This leaves clinicians and public health professionals without clear targets for interventions at a patient or population level. This study tested the hypothesis that the more impaired a person's objectively measured mobility the greater their use of formal and informal supportive services. This presentation will report the findings of an observational cross-sectional study of 70 people aged 80 years or older living in rural NSW, Australia. The primary outcome was the total hours per month of formal and informal service use. Predictor variables were five common, clinical measures of mobility and balance. Service use data and other information were collected during a single interview followed by an objective assessment of physical functioning. Each predictor variable (objective mobility measure) was found to be independently and significantly associated with service use, even after controlling for potential confounders. The strongest association was with usual gait speed over 4 metres. This study provides the first direct evidence of an association between an older person's measured mobility status and their use of supportive services. Sample size and cross-sectional study design limit the strength of the conclusions. Investigation of the impact of maintenance or re-attainment of normal gait speed, lower limb strength and balance on maintaining independence while continuing to live at home is warranted, since a positive impact may maximise mobility independence while minimising financial and care demands on government and society.

PREVENTING FALLS AMONGST OLDER ABORIGINAL PEOPLE: DEVELOPMENT AND PILOT EVALUATION OF THE IRONBARK PROGRAM

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Fall-related injury accounts for 24% of injury-related hospitalisations in Aboriginal people but very few Aboriginal-specific fall prevention programs are available in NSW. Informed by an audit of existing services, stakeholder interviews and "Yarning Circles" (focus group discussions) with over 70 older Aboriginal people, we developed and pilot tested a new fall prevention program in partnership with Aboriginal community groups. The Ironbark Program is a weekly, group-based, strength and balance exercise class with an education component held within interactive 'Yarning both ways' sessions. The program was delivered in 6 communities in NSW over a 6-month period from June 2015. A mixed methods approach was used for evaluation; strength, balance and gait were assessed to measure changes in physical function, participants completed questionnaires and interviews to assess program acceptability, and monthly calendars were completed to track participant fall incidence. Ninety eight participants (mean age= 64, 71% female) registered for the program; 77 (85%) completed baseline and follow-up measurements. Positive ongoing feedback was received, with attendance remaining constant and ranging from an average of 8 to 27 participants at each site. On average across all sites, there was improvement in participant leg strength (time to complete 5 repetition sit-to-stand: 14 sec to 11 sec, $p<0.01$), balance (timed single-leg stance: 5.6 sec to 7.8 sec, $p<0.01$) and gait speed (timed 4 metre walk: 0.51m/s to 0.94m/s, $p<0.01$). Participants reported both the exercise and yarning components of the program to be enjoyable and valuable. The Ironbark Program was well received, demonstrating acceptability and significant improvements in physical function. If proven to be effective in a definitive trial, this program could prevent falls and associated disability, allowing older Aboriginal people to remain healthy and strong in their homes and communities.

Session B
Pathways to Health Promotion & Physical Activity

BRIDGING INTEREST AND LEARNING OF MOBILE TOUCH SCREEN TECHNOLOGIES FOR OLDER ADULTS

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This paper discusses a workshop to encourage older adults in adopting mobile touch screen technology and consequently assisting them along the pathway to ageing well. Government and local organisations are concerned about the low level of technology uptake amongst older adults. Not being able to use technology is isolating and makes it difficult for older adults to conduct their everyday lives. Hence, it is imperative for older adults to participate in technology use. This study draws on existing interest literature related to early learning (pedagogy) and seeks to apply and extend this to older adult learning (geragogy). Presently, there is very little research conducted in relation to older adults' interests and the influence of older adults' interests on their uptake of mobile touch screen technology. This paper reports the findings based on participatory action research with 60 independently living older adults aged 60 years and older. The aim of the workshops was broadly to investigate ways in which older adults' interest in technology use could be developed and maintained, and specifically to test the Interest-Bridge Model which evolved during previous studies. The model uses the interests and hobbies of older adults to move their interest in technology from being situational (relatively temporary) to individual (relatively permanent). Workshop participants were taught according to requests based on interest and technology usage the model. A repeated measures mixed methods methodology collected data from interviews, observations and questionnaires. Results indicate that curriculum guided only by the interests of older adults, rather than structured curriculum has a positive influence on their adoption of mobile touch screen technologies. A set of guidelines was also developed to enhance older adults learning of technology. In addition to the focus on their interest, participants reported that their learning was assisted by a peer-supported environment.

A MIXED METHODS STUDY OF HEALTH PROMOTION OF HYPERTENSIVE THAI ELDERS: THE HEALTH PROMOTION COMPASS

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Aim. To explore the current health promotion activities for Thai elders in relation to hypertension. Methods. Mixed methods research was conducted at the five Primary Care Units in metropolitan Thailand. Quantitative data was collected via audits of the available health education materials and health promotion policies. Qualitative data was collected via interviews of the health care providers about health promotion of hypertensive elders and of Thai elders and their learning experiences with hypertensive health education. The data for each part was collected in parallel and then analysed separately. The findings were then merged. Results. Quantitative findings showed that the health education materials did not support the learning of Thai elders. Similarly, health promotion policies did not take into account the way older people learn. Qualitative results showed that there was a disconnect between the health professionals and the Thai elders perceptions. The elders described many difficulties they faced in relation to health education when diagnosed with hypertension. These difficulties were not identified by the health professionals. "The compass of older people learning" model was designed by synthesising the findings of all the data sets. The four directions of the compass are: the practicalities, ways

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to learn, facilitators, and inhibitors of learning. This model will help to guide the Thai elders' learning and ensure effective health promotion. Conclusion. Current health promotion for Thai elders on hypertension is not adequate. Health promotion policies and health education activities require revision so that the health of Thai elders can improve.

WHAT IS THE EFFECT OF HEALTH COACHING ON PHYSICAL ACTIVITY PARTICIPATION IN OLDER PEOPLE? A SYSTEMATIC REVIEW OF RANDOMISED CONTROLLED TRIALS

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Physical inactivity is particularly common in older age, yet older people have much to gain from being active in terms of disease prevention and maximising independence. Health coaching is a low cost intervention that is known to increase physical activity in people with chronic conditions, however, there is a lack of published research summarising the effect of health coaching on physical activity in older people. Therefore, this review investigated the effect of health coaching on physical activity, mobility, quality of life and mood in people aged 60+ years. We searched MEDLINE, EMBASE, CENTRAL, PsychINFO, PEDro, SPORTSDiscus, Lilacs and CINHAL for randomised controlled trials evaluating the effect of health coaching on physical activity among older people. The primary outcome was physical activity; secondary outcomes were mobility, quality of life and mood. Methodological quality of trials was assessed using the PEDro Scale. This review reported random effects meta-analyses for each outcome as well as meta-regression analyses. Twenty-seven eligible trials were included with 5803 participants. Health coaching had a small, significant effect on physical activity (27 studies; SMD = 0·27; 95% CI 0·18 to 0·37; $p < 0·001$, I^2 =61%). There was no evidence that health coaching significantly improved mobility (8 studies; SMD = 0·10; 95% CI -0·03 to 0·23; p = 0·13; I^2 = 38%), quality of life (8 studies; SMD = 0·07; 95% CI -0·06 to 0·20; $p < 0·05$; I^2 = 54%), or mood (5 studies; SMD = 0·02; 95% CI, -0·12 to 0·16; p =0·83; I^2 = 0%). Our results provide evidence that health coaching is an effective intervention for increasing physical activity participation among older people. We found no evidence of effect of health coaching on quality of life, mobility and mood.

PROMOTING ACTIVE AGEING IN OLDER PEOPLE WITH MENTAL DISORDERS IN COMMUNITIES: DEVELOPMENT AND TESTING OF A SURVEY INSTRUMENT

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This study reports the development and findings of the psychometric properties of a new survey instrument to assess how active ageing is promoted among older people with mental disorders living in communities. This study was carried out in Thailand. The survey instrument was developed using mixed methods research. The first phase was a qualitative study where two focus groups were used to develop instrument questions. The second phase, a quantitative study, involved the development and testing of the instrument. Instrument development consisted of item generation, content validity, face validity, and a pilot study. Five hundred and seventy-nine primary care providers were then surveyed about the instrument. The instrument was divided into categories: participants, education, health, leisure, and security for conceptual and theoretical meaningfulness. A 5-point Likert scale was used ranging from 0 (never) to 4 (always). The initial content validity index was 0.82 and the final of survey instrument was revised into 54 items. The total Cronbach's Alpha was 0.975. Three items were removed because corrected item-total correlation coefficient was lower than 0.30. Test-retest reliability showed a significant correlation with total score 0.97($P<0.01$). The Kaiser-Meyer-Olkin value for measuring of sampling adequacy was 0.956 and Barlett's test of sphericity indicated significantly with $P<0.000$. One item was removed because the item-factor loading was less than 0.40 and the community score was less than 0.50. Therefore, the new survey instrument consisted of 53 items. To conclude, the five factors identified can be used when assessing active ageing among older people with mental disorders in communities. Health policy should consider how these five factors promote active ageing and ageing well for older people with mental disorders in the community.

YOU'RE NEVER TOO OLD TO WALK

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While ageing is associated with loss in muscle mass, muscle strength and physical function, research indicates that exercise (especially resistance training) can minimise these loss leading to motto "move it or lose it". The majority of older Australians, especially Residential Aged Care (RAC) adults, have decreased physical activity leading to poor physical function such as reduced gait speed, strength and balance. Walking is a key physical performance task for residents in their daily routine. Specifically, individuals with slower gait speeds are at higher risk of disability, cognitive impairment, institutionalisation, falls, and mortality. While a variety of gait speed thresholds exist, frail older adults aged >80 years tend to have a more realistic threshold of <0.5 m/s. A total of 100 residents (85.6 ± 6.7 years, range 66-99 years, 66 females) walked across the Gait Mat II platform with 46 residents measuring a speed of <0.6m/s (mean gait speed of 0.63 ± 0.19 m/s). Step time contributed to the largest change in gait speed with each 0.1 s decrease resulting in a 0.09 m/s (95% CI 0.08 - 0.10) faster habitual gait speed. For residents identified as having a habitual gait speed below the relevant thresholds or for those experiencing a decline greater than the maximum

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expected decline of 0.05 m/s per year, we recommend that GPs perform further tests to identify reasons for their poor gait speed. This is important as <0.6m/s gait speed reflects functional or cognitive decline, institutionalisation and mortality within RAC adults. Regular monitoring of gait speed and intervening will produce clinically relevant and measurable positive changes to many older adults that will transfer to improved outcomes for the resident. Interventions, which therefore focus on increasing, stride length and reducing support base and step time may produce meaningful changes in the RAC residents gait speed. Such improvements in gait speed may result in a lower risk of disability, falls and mortality while also reducing the care burden and health care costs in RAC facilities.

HOW PHYSICAL EXERCISE CAN BENEFIT INDIVIDUALS LIVING WITH DEMENTIA IN NURSING HOMES

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Physical exercise has many benefits for older individuals but evidence evaluating the specific benefit for individuals with dementia is limited, especially for those living in residential accommodation. This makes it difficult to determine the optimum type, and parameters of physical exercise for this population. A randomized controlled trial was conducted to evaluate the effects of an evidence-based physical exercise intervention on agitation and physical performance of individuals living with dementia in residential accommodation (n=60). The physical exercise intervention was conducted by a physiotherapist and consisted of a range of activities that targeted strength, balance, endurance and flexibility. To help determine the optimum parameters for this population individuals were randomly allocated into either one of two intervention groups: (i) physical exercise intervention for 45 minutes once a week (n=20); (ii) physical exercise intervention for 15 minutes three times a week (n=20), or (iii) the 'usual care' control group (n=20). The participants had a mean age of 85 and 66% were female. Majority of the participants had an Australian background and did not have the type of dementia specified in their medical notes. The effectiveness of the intervention was determined using the Cohen-Mansfield Agitation Inventory and a range of physical performance measures (Timed Up and Go test, Six Meter Walk test, Five-Time-Sit-to-Stand Test, (Modified) Functional Reach test, timed static pedaling and number of falls). The One-way ANOVA, paired sample t-test, Wilcoxon signed-ranked test, Kruskal-Walis test and Chi Square test were used to analyze the results. Changes in number of falls and timed static pedalling were statistically significant in support of the physical exercise intervention. The other outcome measures showed positive trends in relation to the intervention groups but were not statistically significant. The findings from this study demonstrated that a physical exercise intervention targeting strength, balance, endurance and flexibility improved physical function. If this type of intervention was incorporated into clinical practice it could help to increase physical activity levels and improve care provisions for individuals living with dementia, creating pathways to ageing well. No definitive conclusions could be drawn when comparing the two intervention groups. However, the results do show that as little as 45 minutes of exercise per a week can be beneficial for individuals living with dementia in nursing homes.

Session C
Pathways for Service Use & Planning

MEDICAL SERVICE UTILIZATION AMONG AUSTRALIAN OLDER WOMEN WITH ASTHMA

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Background: Asthma is a manageable chronic disease which has high prevalence and incidence in older people. Careful and effective management is important and involves visiting physician, effective use of medications and self-management. Since there is a gap in knowledge on utilisation of health service in older women with asthma we aimed to determine the level and type of care provided to women with asthma through Australia's Universal Health Insurer, the Medical Benefits Scheme (MBS). Services covered by this scheme include the Asthma Cycle of Care (ACC), GP/specialist visits, allied health visits, other Chronic Disease Management item and respiratory tests. Methods: Data from women in the 1921-1926 birth cohort of the Australian Longitudinal Study on Women's Health (ALSWH) was linked with Medicare Benefits Scheme (MBS) data for this study. Women were initially surveyed in 1996, and re-surveyed every 3 years thereafter until 2011. MBS data was obtained from 1997 to 2013. Participants were included if they completed at least 3 surveys, providing information on asthma at each survey. Annual prevalence of ACC claims for women with asthma was calculated from 2001 to 2013. The number of claims for GP/specialist visits and other service use measures were examined, according to ACC use. Results: Of the 8894 women who completed at least three ALSWH surveys, 776 women reported current asthma, with only 67 women having an ACC assessment between 2001 and 2013. Women who had an ACC had higher number of claims for GP/specialist visits, 75^{+} Health Assessments, Chronic Disease Management assessments, Allied health claims and respiratory tests (all $p<0.0001$). However, there was no significant association between ACC utilization and medication review ($p=0.96$). Conclusion: Asthma Cycle of care is under-used by Australian older women, and appears to be only used by those with higher use of other service. Health service use may be suboptimal for the majority of older women with asthma.

THE TYPES AND PATTERNS OF HACC SERVICE USE AMONG A LARGE COHORT OF OLDER AUSTRALIAN WOMEN

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The Australian aged care system aims to provide a continuum of services to meet the diverse needs of people as they age, depending on whether they are able to be maintained in their own home with sufficient supports, or whether they need to receive residential aged care. Most older people will need some form of aged care services at some time, in addition to the mainstay of care and support provided by partners, family and friends. The aim of this study was to classify the pattern of Home and Community Care (HACC) service use by older Australian women based on actual volume of service use over the period 2001 through 2011 and to understand association with predisposing, enabling and need factors. This study utilized survey and linked aged care data for the 1921-1926 cohort of size 11,596 of the Australian Longitudinal Study on Women's Health. Data were collected from the inception of HACC service in 2001 through 2011 when the women were 76-81 years to 86-91 years of age respectively. A K-Median cluster analysis was performed on 7754 HACC clients of linked dataset based on their types and volume of service use over the whole period of service use. Nine distinct clusters of clients were identified of whom one cluster consisting of more than half of the clients was considered as the least service user group. Two of the clusters were considered as 'complex cluster' in terms of range of community service and assistance received while other clusters comprised mostly of one or two dominant service users. The analysis will have implications for planning delivery of care services for different groups of women in the community and point to ways to increase the effectiveness of service delivery.

TRANSFORMING SPACE TO PLACE: A CASE STUDY OF PLACEMAKING IN RESIDENTIAL AGED CARE

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Aged care service providers are increasingly focusing on architectural and design paradigms which emphasise the role of the built environment as a key feature of life in residential aged care. In a competitive aged care market, aged care homes have become marketing centrepieces for service providers and an opportunity to illustrate to consumers and their decision makers a commitment to technology and innovation. Supported by a burgeoning field of healthcare architects and aged care design specialists, the physical 'space' of aged care and its environmental features is frequently conceived as a provider-led capital project. As a result, the complex and multifaceted process of transforming a space, however innovative and well designed, into a place of meaning, care and connection, is often overlooked. Drawing on a case example involving the relocation of 57 aged care residents to a new facility in south-east Melbourne, the process of placemaking is argued to be the central linking point between space and wellbeing for older adults living in residential aged care. Insights from key stakeholders in the design and relocation process, including residents and staff, highlight meaningful 'place' as the coingredience of space, people and practice. The success of the process is dependent on collaboration between staff and residents, and the provision of opportunities for each to take ownership for the new space and re-negotiate their roles and identity within a new environmental context. Considering the projected growth of older adults living in residential aged care facilities in the coming decades, the transformation of space into meaningful place is argued to be an important area of focus for aged care providers, architects and practitioners.

LIVING ARRANGEMENTS OF OLDER PERSONS IN THE PHILIPPINES: PATTERNS AND DETERMINANTS

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Most countries in the world right now are ageing, as a result of declining fertility and increasing life expectancy. Some of the concerns brought about by population ageing include the provision of health care support to the older persons and its associated costs. In most Asian countries, including the Philippines, filial piety is still prevalent and as such, the family is still expected to take care of the older persons. One enduring facet of this familial support in old age is the high proportion of older persons who co-reside with their children. This support, however, is now being threatened by the rapid demographic, social and economic changes that are happening alongside population ageing. Given this flurry of changes, one question begs to be answered: Who will take care of the older persons in the Philippine when their health deteriorates? Using census data, this paper attempts to answer this question by examining patterns and determinants of living arrangements of older persons in the Philippines in 2010. Living arrangements of the older persons are categorized into: 1) living alone, 2) living in nuclear household, 3) living in an extended household, and 4) living in other types of household. Some of the important factors that could influence their living arrangements include the older persons' health status; and their demographic and socioeconomic characteristics. Living arrangements are a good indicator of family support to the Filipino older persons and have important implications for their well-being. Investigating the patterns and examining the factors influencing the living arrangements of older people can help policy makers in addressing their demands for formal and informal support systems.

DEVELOPMENT OF A NON-INTRUSIVE METHODOLOGY TO ASSESS INDOOR ENVIRONMENT IN RESIDENTIAL AGED CARE FACILITIES

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The thermal environment in Residential Aged Care Facilities (RACFs) not only influences the comfort of occupants, but recent evidence suggests that it may also play a role in influencing/managing behavioural disturbances in residents with dementia. However, little by way of guidance is available in the literature in understanding how RACFs should be designed and operated so as to provide appropriate indoor thermal conditions. Until this information is made available, RACFs that do not provide a comfortable environment for occupants may continue to be built. Limited evidence is also available on how environmental parameters could be

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monitored in a non-intrusive way without distressing residents; furthermore, the majority of multi-parameter measurement devices available are bulky and may interfere with the provision of care. A non-intrusive equipment was developed to assess agitation and to monitor the physical environment in RACFs which complies with the requirements of the thermal comfort standards. A field study was conducted in one RACF to determine any specific effects that the equipment had on behaviours of residents. Agitation of 12 individuals (8 males and 4 females) with dementia was assessed for a total of 138 times using the Wisconsin Agitation Inventory. No statistical correlation was found between the introduction of the equipment into the room and an increase in agitation. This project is part of a broader study aiming to develop a deeper understanding of the specific impact of indoor environmental parameters on well-being of RACFs occupants. The methodology developed is being used to assess occupant's perceptions and expectations of their indoor environment and to determine the specific effect that some indoor environmental parameters have on well-being of residents with dementia. Findings will potentially have practical implications for the aged care sector, providing guidelines about how RACFs should be operated and designed to help residents to age well.

'REMEMBER, I LIVE WITH MY MOTHER': THE HOUSING CIRCUMSTANCES OF WOMEN BABY BOOMERS IN AUSTRALIA

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Aim: As the key to ageing well and fourth pillar of the Australian aged care system, the home provides ontological and financial security, as well as an important foundation for the delivery of community-based aged care services in later life. Limited qualitative research exists on the housing and living arrangements of older community-dwelling women. This qualitative study aimed to explore the housing and social circumstances of women baby boomers in Australia. Methods: Free-text survey comments from the Australian Longitudinal Study of Women's Health (ALSWH) surveys 1 (1996) through to survey 7 (2013) were purposively selected for analysis. The sample comprised 150 women born between 1946 and 1951, who were single, divorced, or widowed at Survey 7, and who had provided qualitatively 'rich' written comments regarding housing and living arrangements at >2 surveys. Results: This study highlights the social nature of the home in supporting relationships over time; or conversely, as a key site of tension. By survey 7 (2013), most women were living alone; however, sub-groups of women were found who were living with/ and or caring for ageing parents, and this influenced housing choices and expectations regarding ageing-in-place. Some women had relocated housing or built new homes in anticipation of caring for parents. Others were caring for adult children due to disability or terminal illness. These findings are in contrast to policy assumptions that assume women baby boomers will very likely be living alone and will downsize into smaller one-bedroom apartments as they age. The importance of pets for ageing well was also a key feature. Implications: Policy focused on downsizing the home as people age may not be congruent with the needs and choices of women baby boomers, particularly those who are providing care or where accommodation is not considered pet-friendly.

Session D
Pathways for the Psychosocial Dimensions of Ageing

AGEING WELL AS AN AUTISTIC ADULT IN AUSTRALIA

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The projected growth in the older population and its anticipated consequences has coincided with increased interest in scientific investigations of ageing. The most recent wave of interest has focused on positive conceptualisations of ageing, referred to in literature as 'ageing well' (AW). However, a key limitation of existing theories has been their lack of consideration for adults with disabilities. Autism spectrum disorder (autism) is a lifelong neurodevelopmental disorder with a substantial prevalence of 1%. Autistic adults are a heterogeneous population that commonly experiences a variety of health inequalities and challenges in social and community integration, which lead to considerable economic and societal costs. Therefore, ageing-related challenges facing autistic adults are complex and manifold. Despite this, there is a dearth of information regarding ageing as an autistic adult. There is an urgent need for a better understanding in this area both in order to prepare relevant policy and systems for these significant demographic changes and to maximise positive outcomes for this population. This presentation will draw on findings from a qualitative study that aimed to explore the meaning of AW for autistic adults. Twenty-four semi-structured interviews were conducted with autistic adults and carers from across six Australian states and territories. In response to the sensory and social-communication preferences of autistic adults, interviews were offered via email, telephone, skype and face to face. Thematic analysis revealed eight common themes across participants' responses: myself, autism, others, being supported, lifestyle and living well, life environment, relating to others and 'how the world perceives and receives us'. These findings will be presented in the context of extant literature on AW and on ageing with autism. Insights will be drawn from the data to contribute to the development of a theoretical framework for AW and importantly, key considerations for service development and delivery will be discussed.

DEPRESSIVE SYMPTOMS IN OLDER ADULTS AWAITING CATARACT SURGERY

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Vision impairment has been linked to increased rates of depression and anxiety in older adults. The causal pathway is likely multifactorial, with vision loss exhibiting negative impact on a person's visual and physical function, confidence, independence and socialisation. The prevalence of and contributors to depression have not been widely examined in people with cataract, the leading cause of reversible vision impairment in older Australians. This research describes the prevalence and predictors of depressive symptoms in a cohort of patients aged ≥65 years on Australian cataract surgery waiting lists and seeks to establish threshold vision at which depressive symptoms may emerge. A total of 329 participants completed assessment of visual disability, quality of life, social participation and exercise frequency at least one month prior to cataract surgery. High and low contrast habitual vision were examined and systemic comorbidities noted. Depressive symptoms were assessed by the 5-item Geriatric Depression Scale, where a score of ≥2 indicates possible depression. The prevalence of depressive symptoms was 28.9% (94/329). The presence of depressive symptoms was associated with a greater number of comorbidities and prescription medications, poorer habitual visual acuity, less hours of planned exercise per week, reduced quality of life and higher visual disability in univariate modelling. Comorbidity (rate ratio [RR] 1.10, 95% confidence interval [CI] 1.02-1.19; p=0.02), self-rated HRQoL (RR 0.94, 95%CI 0.90-0.98; p=0.003) and visual disability (RR 1.08, 95%CI 1.01-1.14; p=0.02) remained significantly associated with depressive symptoms on multivariate analysis. Depressive symptoms emerged at a visual acuity of 6/12. These findings demonstrate a high prevalence of depressive symptoms in older persons with cataract, emerging at modest levels of vision loss. Efficient referral processes, timely surgical management, and improved screening and coordinated treatment of depressive symptoms during the surgical wait may minimise the negative psychological effects of cataract in this already vulnerable population.

EFFECTIVENESS OF A COMBINATION OF TAI CHI PLUS THERA-BANDS ON STRESS, DEPRESSION, ANXIETY, PAIN, AND WELL-BEING IN OLDER SEDENTARY OFFICE WORKERS: A STUDY PROTOCOL FOR A PILOT STUDY

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Tai Chi exercise has been a popular exercise theme in the field of aged care. Tai chi exercise involves elements of breathing, movement, awareness exercises and meditation. Research has reported that Tai Chi exercise has significant benefits on psychological wellbeing and physical fitness and is suitable for use in an ageing population. Thera-bands have recently been added to Tai Chi exercise for resistance training. There are a paucity of studies that have examined the effects of Tai Chi plus Thera-bands. The aim of this pilot study is to determine the feasibility of a randomized controlled trial (RCT) design with an aging population in a university setting, and to test the hypothesis that a 12-week program of Tai Chi plus Thera-bands is more effective than Tai Chi only in improving the level of stress, depression, anxiety, pain, and physical fitness. Participants (n = 40) will be sedentary office workers (administration & academic staff) aged 55 years and older, working at Griffith University. Participants of the Tai Chi plus Thera-bands group (n = 20) will receive Tai Chi training while holding a Thera-band using both hands (the first 10 consistent movements of 24 simplified Tai Chi form) three times per week for 45 minutes per day for 12 weeks. The control group (n = 20) will attend Tai Chi sessions of the same length as the intervention group. Both psychological and physical health outcomes, including the Perceived Stress Scale (PSS10), Centre for Epidemiological Studies Depression Scale (CES-D10), Geriatric Anxiety Inventory (GAI). Visual Analogue Scale (VAS), 30-second chair stand test, grip strength test, functional reach test, and 2-minute walk test will be evaluated at baseline, week 6 mid-intervention, and week 12 post intervention. If the outcomes are positive, this project will provide an appropriate and economical method to improve psychological and physical health for sedentary office workers.

THE EVALUATION OF A SPIRITUAL REMINISCENCE THERAPY PROGRAM FOR OLDER MALAYSIAN ADULTS WITH LONELINESS, ANXIETY AND DEPRESSION

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Introduction: Loneliness, anxiety and depression may reduce quality of life and increase the risk of mortality for older adults living in residential aged care facilities. As pharmacological interventions can have adverse effects on older adults, non-pharmacological interventions such as spiritual reminiscence therapy may be a better option for them. Although the majority of the previous studies about spiritual reminiscence therapy examined the effectiveness, this current study additionally evaluated a spiritual reminiscence therapy program from the older adults' experiences of it. Furthermore, with the study being conducted in Malaysia it has a unique multi-cultural and multi-religious perspective. The research question was: 'What was the personal experience of a spiritual reminiscence therapy program for the treatment of loneliness, anxiety and depression? Method: Older Malaysian adults who took part in a spiritual reminiscence therapy program were invited to participate in a focus group discussion. The focus group was conducted one week after the six-week program's implementation. The group session was recorded and subsequently transcribed and coded using Nvivo 10. Results: There were seven participants aged 68 ± 3.46 years.

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Two key findings from the focus group were 1) the benefit participants found in having a dedicated time to indulge in personal feelings and reflections, and 2) the benefit participants found with engaging with others that they would not normally interact with, for example, other gender, cultural and religious backgrounds. Conclusion: With consideration of the positive evaluations from the participants, this study adds to the existing body of knowledge of spiritual reminiscence therapy and recommend this program for older adults with loneliness, anxiety and depression from a variety of different backgrounds.

LIFE SATISFACTION OF OLDER PEOPLE: THE CASE OF VIETNAM

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Rapid population ageing and social change in Vietnam are having significant impacts on older people's lives, which may include changes in culture and economic life, family relations, household arrangements and living conditions. Among several aspects, older people's life satisfaction has just been focused recently in Vietnam and becomes a controversial topic. This paper addresses how Vietnamese older people assess their lives and what social factors are shaping their assessments. It uses data from Vietnam National Ageing Survey (2011) and Regional Ageing Survey (1997) with 4,559 individual aged 60 years and older. The measurement of global life satisfaction is made by a single question: "overall, how satisfied would you say about your life?" which will be used as dependent variable, consists of three levels of satisfaction collapsed from a scale of five levels. The results indicate half of the sample are relatively satisfied with their life although the majority of them are in poor health condition and have insufficient income. Those with poor health, having worse financial situation or inadequate income, and/or still working are more likely to be dissatisfied with their life than their counterparts. Men are found more satisfied with life than women. Older people's life satisfaction is also varied by number of children, whether having a son, grandchildren or not and their independence status. Generally, older people in 2011 are more satisfied with life than those in 1997 due to improvements in living conditions. Getting better economic conditions and good health contribute to older people's positive assessment of their life satisfaction, which is consistent with the research literature. Future research should focus more on analysing domains of life satisfaction, for example, material and emotional well-being, productivity, safety, and community, which then may provide more specific insights and practical applications for improving older people's quality of life in Vietnam.

Session E
Neurological & Biological Pathways

AUSTRALIAN LONGITUDINAL STUDY OF OLDER PERSONS: HEARING IMPAIRMENT

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The ASPREE Longitudinal Study of Older Persons (ALSOP) is an Australian sub-study of the international clinical trial, ASPREE (ASPirin in Reducing Events on the Elderly), assessing the risks vs benefits of aspirin in those over 70 years. ASPREE is a 5 year randomised controlled trial of 100mg aspirin in healthy men and women aged over 70 years, excluding those with cardiovascular disease or cognitive impairment at baseline. The Australian ASPREE population of 16703 healthy, community-dwelling older participants was drawn from rural and metropolitan sites in Victoria, New South Wales, Tasmania, South Australia and the Australian Capital Territory. All participants were recruited 2010-2014. The questionnaire-based ALSOP sub-study collects medical and social information on topics of broad interest in healthy ageing. The baseline ALSOP medical questionnaire focuses on common health impairment, including hearing loss. Anticipating the risk of age-related hearing loss in the study population, a broad section of the questionnaire was dedicated to hearing. All participants randomised in the ASPREE trial had the opportunity to participate in the ALSOP sub-study. The 16-page baseline questionnaire booklet was delivered and returned by mail, with written consent. The questionnaire response rate was enthusiastic and 14907 were returned. The responses to the hearing questions are currently under data review, and promise to illustrate the percentage of the Australian ageing population which reports problems with hearing, deterioration of hearing over the previous 5 years, use of hearing aids, tinnitus experience, and the effect of hearing problems on daily activities. ALSOP represents a unique opportunity to explore the experience and perceptions of the common problem of hearing loss in a representative group of healthy older Australians. Although age-related hearing loss is a well-known global disability, illuminating the local Australian experience is an important step to assisting the development of strategies to detect, delay or endure hearing loss.

ASSOCIATIONS BETWEEN MYELINATION AND CARDIOVASCULAR HEALTH *IN VIVO*

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Pathways to ageing well depend on both the brain and heart health working in unison. Cardiovascular (CV) health has significant effects on normal ageing. High blood pressure (BP) and hypertension are significant risk factors for structural brain changes and neurodegeneration.

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Associations between CV health and ageing in the brain are relatively well understood, though they often ignore the role of white matter (WM) in brain ageing. Further, no studies have yet examined the effects of CV health on WM and specifically myelin within a community based population. This is in part due to practical methodologies of assessing myelination *in vivo*. To assess this lack in knowledge, a recently validated method of detecting myelination *in vivo* has be explored in an existing community dataset. This method, coined 'myelin mapping' from Glasser and Van Essen (2011) and modified by Ganzetti et al. (2014) provides a validated picture of myelin distribution. This technique uses MRI to calculate the ratio of T1w and T2w images, creating a myelin-enhanced image. From this measure, associations between myelination and CV health are explored over middle- and older aged individuals from a healthy population. MRI scans from an individual were taken four years apart, from 261 participants aged 48-54 and 236 participants aged 68-74 from a randomly chosen group of community-dwelling persons without neurological disorders. After validating the new T1/T2 ratio image, myelin mapping for participants and measures of CV health were investigated. CV health measures were correlated with myelination such that poorer CV (higher BP) were associated with lower levels of myelin ($r = .312$ $p < .05$), indicating CV health is associated with myelination. Comprehending this connection is necessary for identifying and ameliorating risk factors of ageing, and understanding how health factors interrelate. Understanding relationships between brain and heart health are important for pathways towards ageing well.

CEREBELLUM AND ALZHEIMER'S DISEASE

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This presentation discusses cerebellar shrinkage in Alzheimer's disease and mild cognitive impairment compared with normal ageing. While acceleration in age-related cerebral atrophy has been well documented in Alzheimer's disease, the cerebellar contributions to this effect – thought to be relatively small - have not been thoroughly investigated. The cerebellum compromises more than 50% of the total brain neurons, but surprisingly contributes to only 10% of the whole brain volume. This mismatch is a reflection of the difference in neural architecture. It is important to investigate if this difference in architecture may protect the cerebellum against AD neurodegeneration, which can help us to better understand the AD pathophysiology. This presentation reports the findings of a cross-sectional and a longitudinal morphometric analyses using structural magnetic resonance imaging and evaluating baseline cerebellar volumes and cerebellar volume changes for a period of 2 to 5 years in a large sample. The findings revealed that the cerebellum shrinks faster when Alzheimer's disease clinically full developed but not in the preclinical phase. However, the shrinkage was still lower than the average atrophy in the whole cerebrum, which demonstrates a partial protection. This partial protection may recommend the importance of neurohistology in vulnerability of brain areas to AD related neurodegeneration. Additionally, it suggests that the cerebellum can be a control brain area for clinical trial studies investigating structural impacts of AD therapeutic interventions.

MAPPING DIFFERENCES IN BRAIN MYELIN BETWEEN MIDLIFE AND EARLY-OLD AGE

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The highly myelinated nature of the human brain, as well as the vulnerability of myelin to degeneration, may underlie the exceptional vulnerability of our species to age-related disorders, including Alzheimer's disease (AD). For this reason, indicators of myelin integrity may be important for understanding age-related change in cognition as well as age-related disease. Indeed, white matter integrity was recently found to be more strongly associated with age-related differences in processing speed and executive function than other imaging measures. Here we used Glasser and Van Essen's (2011) method of combined T1-weighted and T2-weighted MRI scans to map brain myelin to investigate the age at which degradation of myelin begins. Two scans per individual were taken 4 years apart, from 261 midlife participants (aged 48-54) and 236 early old age participants (aged 68-74) from a randomly selected cohort of community-dwelling individuals without cognitive impairment or neurological disorders. The myelin map images were first compared to Diffusion Tensor Images (DTI) from the same participants. Linear mixed effects modelling was used to investigate the association between myelin and participant age within each group (midlife vs older), controlling for sex effects and hypertension. The myelin map images were positively correlated with DTI measures of high myelination (r=0.85) and negatively correlated with those of low myelination(r=-0.86). We found an age-related reduction in myelination corresponding to 1.2% at early old age, with no significant annual myelin reduction at midlife. Indicators of' myelin integrity may be important for the development of biomarkers for early identification of neurological disorders including AD.

THE ASSOCIATION BETWEEN KIDNEY FUNCTION, BRAIN STRUCTURE AND COGNITION IN A COMMUNITY-BASED POPULATION

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Background: With the population ageing globally, identifying dementia risk factors is of great importance. Poor kidney filtration capacity is a well-established risk factor for brain abnormalities and cognitive impairment. However, outside of clinical and older populations, little is known about how kidney function is related to brain structure and cognition. This study aimed to investigate whether kidney filtration capacity was associated with brain structure and cognition in a community-based population. Method: Adults in their 40s (N=328) and 60s (N=287) were drawn from the Personality and Total Health Through Life Project.

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The estimated glomerular filtration rate (eGFR) was used to determine kidney function. The eGFR was estimated with the Chronic Kidney Disease-Epidemiology Collaboration equation using fasting plasma creatinine. Volumetric brain structure including left and right cortical grey and white matter, and hippocampi were segmented from T1-weighted MRI images, using an automated algorithm. Executive function, processing speed, psychomotor response, verbal and working memory were examined using seven cognitive tests. Hierarchical multiple regression analyses were done. Biopsychosocial covariates were controlled for. Results: A positive trend between eGFR and left hippocampal volume (β =.289, *p*=.035) was found. Negative associations between eGFR and executive function tested by Trail Making Test B (β=.153, *p*=.046) , processing speed tested by Symbol Digits Modalities Test (SDMT) (β=-.112, *p*<.001), and psychomotor function tested by Choice Reaction Time (β=.244, *p*=.049) were found. Normal (eGFR≥90-104.99mL/min/1.73m^2, Est=-5.30, SE=1.83, *p*=.004) and High Filtration (eGFR≥105mL/min/1.73m^2, Est=-6.24, SE=2.123, *p*=.003) groups performed significantly poorer than the Clinical group (eGFR <60mL/min/1.73m^2) in processing speed, measured using SDMT. Conclusion: This study has demonstrated that kidney function was associated with cognition in a healthy community-based population. Results on the negative association between kidney function and cognition must be interpreted with caution, due to inconsistency with previous studies. Importantly, findings from this study question the definition of normal kidney function.

Session F
Practitioner Perspectives of Pathways

DEMENTIA CARE IN RADIOGRAPHY

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Background: When performing diagnostic imaging on patients with dementia, memory deficits, loss of executive functions and disruptive behaviours pose a unique challenge. There is abundant literature on the radiographic diagnosis of dementia; however, there is almost no research with a clinical focus on the needs of people with dementia as part of radiography practices.
Aim: To explore experiences of dementia patient care in the radiology department through the viewpoints of people with dementia, their carers and practicing radiographers. Methods: A cross-sectional qualitative design was used. Four people with dementia and six carers participated in semi-structured interviews where their experiences of radiography scans were elicited. Eight practicing radiographers participated in a focus group where their experiences in scanning people with dementia were discussed. Interviews and the focus group were transcribed and thematically analysed. Results: Participants described positive and negative experiences with radiography. Preliminary themes related to negative radiography encounters were stigma and stereotyping, poor communication, difficult physical environments, lack of education about dementia, time pressures, abuse and the exclusion of carers. Themes relating to positive radiography encounters were effective communication, carer partnership, patient focus, modifying the physical environment, flexibility, reduced waiting time and respecting personhood. Conclusion: People with dementia and their carers can experience poor care in radiology. Many themes were common across people with dementia, carers and radiographers. Findings suggest that increased knowledge about dementia and partnership with carers may reduce these negative experiences and improve patient care.

PREVENTION OF SUICIDE AMONG NURSING HOME RESIDENTS: RECOMMENDATIONS FROM EXPERT AND STAKEHOLDER PANELS

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Suicide among nursing home residents is a growing area of concern due to high rates of older adult suicide and increased demand on aged care services. The aim of this research was to develop recommendations for the prevention of suicide among nursing home residents based on scientific evidence and expert consensus. This research comprised two consultation meetings. In the first meeting, five experts in older adult psychiatry, aged care, suicide prevention and risk assessment were presented with narrative and statistical information from the coroner's investigation of suicides among nursing home residents in Australia, and asked to identify key problems and develop draft recommendations for prevention. In the second meeting, the five experts were joined by four stakeholder representatives from the Office of the Aged Care Commissioner, the Australian Aged Care Quality Agency, the Council on the Ageing, and the Royal Australian College of General Practitioners, and were asked to review the face validity and refine the draft recommendations. A total of 11 recommendations for primary (n=5), secondary (n=4), and tertiary (n=2) prevention strategies were developed. Recommendations for primary prevention aimed to address key issues such as improving nursing home life in general; transition and orientation support for new residents; management of physical health decline; the physical environment; and the use of technology. Recommendations for secondary prevention strategies included expansion of existing suicide prevention frameworks; regular depression screening for residents; staff education and training in suicide prevention; and access to mental health services. Recommendations for tertiary prevention strategies included a coordinated approach to identification, investigation and reporting of suicides; and appropriate support programs for family, staff and residents following the suicide of a resident. The information obtained from this research will help to inform priorities and action plans for the prevention of suicide among nursing home residents, and improve overall quality of life and quality of care for residents.

THE EXPERIENCE OF MORAL DISTRESS FOR AUSTRALIAN AGED CARE WORKERS: IMPLICATIONS FOR CARE DELIVERY

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Supporting the older person to age well within residential and community care environments requires a healthy and sustainable workforce. Moral distress negatively impacts on job satisfaction and worker retention; and whilst it has been investigated across a range of clinical contexts and countries, little research exploring moral distress in the Australian or the aged care contexts is evident. The aim of this mixed methods study was to explore the effect of moral distress on Australian aged care workers in residential and community aged care. Participants included Registered Nurses, Enrolled Nurses, and Personal Care Workers (Assistants in Nursing) from Queensland and Victoria. The Moral Distress Scale – Revised was amended, tested and validated (n=106) using exploratory factor analysis. Statistical testing returned a Cronbach's alpha for the amended instrument of 0.94, indicating strong reliability. Item mean scores indicated moral distress occurred with low frequency but moderate intensity within this population. Exploratory factor analysis identified three factors: *Quality of Care*, *Capacity of Team* and *Professional Practice*. Thematic analysis was applied to both interview (n=9) and written scenario (n=16) data; to further illuminate the experience of moral distress for this population. Qualitative data demonstrated nurses experiencing a range of feelings such as sadness, unhappiness, and extreme frustration; related to the impact on themselves, other workers, and the older person. The role of the nurse as central to resolution of these issues was highlighted. Moral distress is an issue for the Australian aged care worker, and causes a range of detrimental effects. Worker engagement with solutions is a key factor in reducing the occurrence and the intensity of the experience.

DON'T WORRY, BE HAPPY! THE SURPRISING ROLE THAT OPTIMISM AND HOPE HAS ON RETAINING WORKERS WTIHIN ORGANISATIONS

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As the aged care sector becomes increasingly characterised by high volatility and unstable labour markets, managers face numerous challenges associated with effective management of the people within their organisation. Retaining a highly skilled, committed, and productive workforce has become a critical factor of building and maintaining competitive advantage, leading to an increased focus in scholarly fields on factors influencing employee turnover and retention (Kang, 2012). While many of the studies examining this area are based primarily within the field of human resource management (HRM), this study draws on organisational behaviour theory, and addresses previous calls for further research examining the potential impact of positive psychological capital (PPC) on employee retention (Chapman & Radford, 2015). A total of 280 surveys were distributed to one large community care organisation based in one state of Australia. PPC was measured using the shorter version of the original 24-item Psychological Capital Questionnaire (PCQ-24) developed by Luthans, Youssef & Avolio (2007). This scale contained three items to measure hope, and two items to measure optimism (in addition to three items to measure resilience, and two items to measure self-efficacy). Job Satisfaction was measured using Taylor and Bowers' (1974) five item job satisfaction scale. Career satisfaction was measured using Greenhaus, Parasuraman, & Wormley's (1990) six item scale of career satisfaction. Intention to stay was measured using four items developed by Kim et al. (1996). This presentation reports the findings of the 67 participants who returned the survey (response rate: 23%). Two regression analyses were performed to explore the relationships between hope, optimism and career satisfaction; and hope, optimism, career satisfaction on intentions to stay. Two linear regressions were performed to examine the predicted relationships between age (control), hope, optimism, job satisfaction and career satisfaction (regression 1), and intention to stay (regression 2) further. The control variable of age was entered at step one, followed by the predictor variables, hope, optimism and job satisfaction at step 2. The model predicting career satisfaction explained 53.5% of the variance in career satisfaction, at $p < .001$. In contrast, the model predicting intention to stay explained only 17.7% in intention to stay, at $p < .001$. This study provides emerging empirical evidence that suggests hopeful, optimistic workers are satisfied workers. In addition, it seems that workers who are satisfied with their jobs and their careers have higher intentions to stay within their organisation. Along with the implications these findings have for academic fields, the study suggests that managers are likely to benefit from a focus on PPC resources, which may improve the quality of community care services provided to older adults, which ultimately may improve older adult wellbeing.

WORKING WELL WITH OLDER ADULTS AND THEIR SEXUAL EXPRESSION

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This presentation builds on empirical PhD findings on the experience of rural baby boomers in friends-with-benefits relationships. This qualitative, interpretive-descriptive study used in-depth, semi-structured interviews with 22 participants, 15 women and seven men. I will briefly report on the finding's themes: The influence of the relationship on wellbeing, the use of health services for sexual health, and approach to safe sex. Following on from this examination of changing approaches to relationships and sexual expression I will describe and discuss ways that health practitioners and aged care workers can support the wellbeing of older adults through a positive and well-informed approach to sexuality. Ageing well includes positive experiences of sexuality. Midlife and older adults are sexual beings and their expression of sexuality can change.

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Sometimes these changes are the result of reflection about wants and desires, with a deliberate no-time-to-lose pursuit of fulfilment. For other people changes in their options for sexual expression come as a result of life circumstances; loss of a partner, and changes in physical functioning. I will outline the possible range of presentations that might be experienced, including questioning gender and sexual orientation, and offer resources to support clients and workers. Changes in physical functioning can lead to assumptions that one's sex life is over, when some support for a different approach to sexual expression can mean the continuation of sexual intimacy and the physical and psychological benefits it brings. I will provide an example, and list strategies and resources to assist clients and workers. This overview is designed to raise awareness about ageing and sexual expression and advocate for excellence in supporting individuals to continue to enjoy sexual intimacy in a psychologically and physically safe environment.

Session G
Pathways through Dementia

A NOVEL TEST ASSESSING SOCIAL AGE-ILITY IN PEOPLE WITH DEMENTIA

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Social skills impairments are one of the most distressing of the behavioural and psychological symptoms of dementia. They are comprised of our abilities to read facial expressions, understand what another person may be thinking and respond in an appropriate way, thus it is no surprise how failures in these skills may lead to carer distress and relationship breakdown. Social skills impairment has been found to be a contributing factor in the consideration of iatrogenic treatments leading to excess disability and hastened disease progression. This study aimed to present evidence for the validity and reliability of the Brief Assessment of Social Skills (BASS) in a healthy group of older adults. The BASS is a screening test that uses pictures and simple text to examine emotion perception, theory of mind, empathy, social reasoning, disinhibition and face memory and is administrable bedside in 30 minutes. A group of 45 healthy older adults aged over 65 years with a mean age of 71.9 years, retirement age of 62.6 years and education of 14.36 years completed the BASS at two time points, along with a number of other measures designed to examine the concurrent validity of this task. We found a strong positive correlation using Pearson's Correlation Coefficient *r* for test-retest reliability (*r* = .747), moderate to strong positive correlations for concurrent validity (*r* = .41 to *r* = .68) with exception of social reasoning which indicated a weak though positive correlation (*r* = .19). Further work will establish evidence for sensitivity and predictive validity of BASS in a clinical group. Ultimately BASS will provide clinicians with a valid and reliable tool to quickly identify social skills impairment and take into account more completely the full social impact of dementia to improve rest-of-life care and support those impacted to engage in life and live well.

SUPPORTING A PERSON TO AGE WELL WHILE LIVING WITH DEMENTIA: A GROUNDED THEORY STUDY

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This paper presents the experiences and expectations of people diagnosed with dementia with a view to recommending support for ageing well while living with this condition. Existing research has shown that our risk of developing dementia increases as we age. Moreover, evidence suggests people with dementia feel services are not always responsive to their needs and that they wish to be included in their service planning. Pharmacological advances mean that people with dementia may have an increased quality of life for longer. However, little has been done to investigate how people with dementia wish to live their lives. An application of grounded theory methodology was used to explore the experiences and expectations of people with dementia which uncovered what it meant to age well for these people. Purposive and theoretical sampling were used to recruit 24 participants. Data were collected using semi structured interviews. The constant comparative method of analysis was used to analyse data. The core problem that emerged was losing control. This included loss of role function, uncertainty about the future and fear of being a burden. The core process that participants employed to manage the problem of losing control was finding meaning. This included seeking answers, giving back and staying connected to their pre-diagnosis life for as long as possible. These people with dementia found it difficult to establish what their future needs might be as they had little understanding of a possible dementia trajectory. Health care providers need to help establish pathways for people with dementia by empowering them with the knowledge they require to plan for the future and stay connected to their pre diagnosis life for as long as possible.

THE IMPACT OF THE MAXCOG INTERVENTION: THE VIEWS OF CLIENTS, SUPPORTERS AND COUNSELLORS

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Psychosocial interventions that address cognitive difficulties and their impact on day-to-day life have recently been trialed with older adults at a preclinical or early stage of dementia. Early evidence is emerging that such interventions have the potential to increase the duration of independence, improve quality of life and reduce healthcare costs. In order to further investigate this potential we developed a home-based four-session individualised face-to-face cognitive rehabilitation (MAXCOG) intervention for clients with mild cognitive impairment (MCI) or early dementia and their close supporters. A randomised controlled trial comparing the intervention group (MAXCOG) with treatment as usual (control) was undertaken in order to evaluation the efficacy of the intervention. A range of outcome measures, both quantitative and qualitative, was

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utilised. This paper focuses on findings from a 'method of most significant change' analysis undertaken using the transcribed narrative accounts of 9 clients, 8 supporters and 6 counsellors about what they saw as the most significant change that had occurred during the MAXCOG intervention. A panel made up of healthcare and counselling staff managers, senior clinicians, consumers and researchers read each story and collaboratively: 1) selected relevant subcategories, 2) selected exemplar stories from each subcategory, and 3) reviewed their relevance to MAXCOG intervention goals. Most of the stories were very positive accounts of their MAXCOG experience, with two subcategories: 1) "Goal achievement" – focus on goal and improvement in ability and confidence and 2) "Acceptance" – focus on adjustment issues. The categories identified mapped closely to the original goals outlined for the MAXCOG intervention. These findings add weight to the quantitative evidence from the RCT suggesting that MAXCOG is an effective intervention.

AGEING WELL THROUGH THE PREVENTION OF DEMENTIA: A PROTOCOL FOR AN MULTIDOMAIN MCI INTERVENTION

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The World Health Organisation has identified dementia as one of the largest challenges facing society. Currently there are more than 35 million people living with dementia world-wide, a figure which is set to double by 2030 and triple by 2050. Mild Cognitive Impairment (MCI) is a condition in which there are cognitive deficits which can be detected, however these are not severe enough to meet the classification of a diagnosis of probable dementia. While it is agreed that MCI is a strong risk factor for dementia, there is disagreement as to how to conceptualise the condition: A prodromal form of dementia, as suggested by long-term follow up (e.g. 80% conversion to dementia after six years) or as a reversible, modifiable condition (e.g. 30% reversion from MCI to normal cognition annually). This PhD project will add further knowledge to this promising area of research through a randomised controlled trial. The project adapts a previously developed dementia prevention program to a population with MCI. The program is a 12-week multidomain intervention encompassing: dementia literacy, risk factors, physical activity, nutrition, health management, cognitive engagement, social engagement, and mood. The intervention is conducted primarily through online tutorials, with the feasibility of practical components for physical activity, nutrition and cognitive engagement assessed. The specific research questions answered will be to evaluate the effectiveness of the intervention to: (i) Prevent cognitive decline in individuals with MCI, and (ii) Reduce overall risk of Alzheimer's disease. The strengths of this research are the testing of a knowledge gap identified by several authors, the cost-effectiveness of targeting prevention strategies at a high risk group and the utilisation of a robust experimental design. If successful, this program could be rolled out to the primary care setting as an intervention aimed at one of the groups at the highest risk of dementia.

GEO-SPATIAL MAPPING PROJECTED DEMENTIAS AND THEIR IMPLICATIONS FOR HEALTH AND AGED CARE SERVICES

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Population ageing and the dementias are unevenly distributed across space and our understanding of how dementia and its sub-types are distributed below the state level is poorly developed. This paper explores a spatial approach to modelling ageing, the dementias and their systemic effects. ABS population projections (2012-2027) were used to develop a population model for NSW using age and sex cohorts at this stage (severity and dementia sub-types were all modelled in the thesis). Then we applied AIHW Alzheimer's disease prevalence estimates to produce three different scenarios starting in 2020 – (1) no change to AIHW rates, (2) AIHW projected decline and (3) estimation of a treatment effect on prevalence. The results were mapped and analysed against existing health/aged care infrastructure to identify locations of emerging need across the frame of the study. The outputs are a series of map-based scenarios that illustrate how changes in dementia prevalence may impact on local demands for health and aged care services. These are illustrated at the SA2 level which permits aggregation upwards as well as more detailed small area model development. Very high demand SA2s were identified for 2027, such as Tweed Heads, Sylvania, St Georges Basin, Hornsby and Port Macquarie. Coping with the complexity of ageing into the medium term will be a challenge for existing policy and funding arrangements. This is a novel application of spatial methods to an enduring concern in ageing research – where will demand be higher and more problematic in terms of established service infrastructure?

Session H
Social Relationships & Participation Pathways

THE DEVIL'S IN THE DETAIL: TO WHAT EXTENT CAN A WRITTEN AGREEMENT PROTECT AN OLDER PERSON IN AN ASSETS FOR CARE ARRANGEMENT WITH THEIR CHILDREN?

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Family accommodation ('assets for care') arrangements are becoming increasingly popular amongst families looking for housing alternatives for parents as they age. These agreements generally involve the older person's family receiving a financial benefit in the form of money, transfer of assets, or improvements to property (ie 'granny flats') in exchange for a promise to provide accommodation for, and in some cases care, of the older person. These arrangements can prove mutually beneficial, as assets are kept 'within the family' and the older person is able to enjoy the companionship and support of their family as they age. However, if the arrangement breaks down or fails due to other circumstances, the legal position of the older

person is precarious. Arrangement between family members are rarely formalised or recorded; oftentimes the details concerning the terms of the arrangement are not contemplated, let alone written down. As such, the recovery of any assets transferred to the adult child can only be achieved through expensive, complex and lengthy litigation. To eliminate many of the problems associated with failed assets for care agreements, many commentators have proposed that parties should enter into a formal, written 'Family Accommodation Arrangement', thus having a binding contract to set out the various party's rights and responsibilities. This paper will look at some of the dangers associated with an older person entering into a formal written agreement, and explain cautioning against doing so without independent legal advice. In particular, it will explain how some of the basic doctrines of contract law may potentially prevent any orally agreed terms not specifically included in the document from being relied upon. As an example of the legal pitfalls that may occur, the recent Victorian Court of Appeal case of *Mainieri & Anor v Cirillo* [2014] VSCA 227 is discussed.

"I'M GLAD YOU'RE HERE": STORIES FROM ABORIGINAL PEOPLE IN THE PASTORAL INDUSTRY

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The Stockman's Hall of Fame in Longreach commissioned an extensive oral history project to record the lives and contribution of Aboriginal men and women to the Australian Pastoral industry. The oral histories were intended to contribute to an exhibition, and as a collection to be held by an appropriate organisation. 210 oral histories were recorded during 2011-2013. Participants were mostly men and included younger and older people, although the majority were retired from the industry. Strict ethical guidelines were followed during the collection phase of the project, and ethics approval for the analysis phase was provided by ethics committees from two universities. This paper is based on my experiences of collecting these oral histories with older participants, and my subsequent PhD research into Aboriginal peoples' past experience of life in the pastoral industry using this extensive data base. "I'm glad you're here, now I can die" was the unexpected sentence I grew to dread yet heard many times", that was until its meaning and significance was explained to me in the context of ageing in the Aboriginal population. In my presentation I will discuss my experience of the implications of this project on the people whose stories and experiences were of a time in history that has changed forever. The telling of my story is of being welcomed into people's lives in remote, rural and regional towns across Australia, what I saw, what I heard and what I learnt. Key themes to be explored in the paper relate in particular to peoples' identifies and the need for cultural transmission of knowledge. The oral histories provide rich insights into how identities are forged, maintained and managed through a changing historical landscape in Aboriginal Australia, but also contribute to an understanding of the contributors to wellbeing for these older past pastoral workers. Relevance: experiences of ageing in diverse cultural contexts; how people reflect on and navigate rapidly changing social conditions as they age.

REACHING OUT TO TOUCH: COUPLES' COMPANIONSHIP NEEDS VS. INSTITUTIONAL INTERFERENCE

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Many partnered aged care residents experience institutional interference in their intimate relationships. In 2015, 51,444 married or de facto partners represented 30% of permanent residents. Annually, they constitute approximately 35% of new admissions, however insufficient amenities exist to cater for these numbers. While exact statistics are unavailable, anecdotal evidence suggests couples are often routinely separated into single beds or separate rooms. Deprived of loving touch, human beings can become withdrawn or display 'challenging behaviours'. Until couples' needs are adequately documented they will continue to be discriminated against. One question driving this study is 'how important is it for couples to share a bed'? This presentation reports on a phenomenological study conducted in 2016 using an online survey of 168 partnered Australian Baby Boomers (aged 50-70) recruited via volunteer sampling. The majority of participants were non-aboriginal (95.83%), opposite sex attracted (90.5%), female (84.5%), married (74.4%), living in non-metropolitan areas (55.4%), with a mean age of 62.5 years. This cohort represents the next generation of residents in care. The majority of respondents considered it vital to maintain their intimate relationship, expected to remain sexual throughout their lives, and considered physical intimacy with their partners essential to their wellbeing. For them, the companionship of sharing a bed and being able to reach out and touch each other was integral to ageing well. Recommendations for providers include (1) clear written policies regarding partnered residents'; (2) assessment of partnered residents' needs upon admission; (3) inclusion of companionship needs in resident care plans; and (4) creation of a culture that facilitates rapport and understanding between staff and residents. These recommendations would support needs-based outcomes for couples and enable new residents and their families to make informed aged care decisions. If implemented, this has the potential to improve resident and staff experiences, currently and in the future.

FACING LONELINESS DIRECTLY: AN EXISTENTIAL PERSPECTIVE OF THE CHINESE OLDER ADULTS

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Loneliness has been documented to be an integrated part of poor health for the frail older adults. Current research highlights the pervasiveness of loneliness and its debilitating effects. Loneliness and existential isolation produces a highly uncomfortable subjective state and, as in the case of profound uneasiness and dissatisfaction, is not tolerated by the older adults for long. A study conducted in Japan examined high rates of depression and suicide being associated with the existential suffering of the frail older adults. Given global population ageing is increasing rapidly and also changes in family structure occurs in China, the issue of the "empty-nest" elderly has gained increasing amounts of attention from individuals, families and the society. Yet although the potentially devastating impacts of the older

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adults in social and emotional isolation have been historically well documented within the gerontological and family caregiving literature, what we believe has been missing is to examine the experience of loneliness in existential context and, thus the "therapeutic" measures that can fill the void of loneliness may go unaddressed clinically. This presentation attempts to examine the experiences of existential loneliness (EL) of the Chinese frail older adults. Using a qualitative descriptive approach, two themes emerged to illuminate this complex human experience: experience of suffering and finding meaning despite of the inescapable fact of life of being lonely. The Chinese wisdom in searching for meaning is to face the state of loneliness directly. By balancing the suffering and finding meaning of the older adults' experiences of existential loneliness, it enables the old adults to sustain, extend and deepen their own understanding of their human needs, opening up new potential and paving the way for a more meaningful experience of ageing well.

COMING OUT LATER IN LIFE: EXPLORING THE EXPERIENCES OF OLDER LESBIAN AND BISEXUAL WOMEN

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Coming out has been identified as an important life adjustment for lesbian and bisexual (LB) women. The expression of essential identity and the psychosexual concept of coming out have been central themes in both formal and informal care settings. The process of coming out is considered as an important stage of identity formation, and is often associated with better well-being. However, most research on the experiences of coming out largely targeted young people; there is very little research focused exclusively on people coming out as LB later in life. Most studies neglect to understand heterogeneity between people coming out at an early stage of life and later in life. It is important that the conceptualisation of coming out of older sexual minorities should be reconstructed to better reflect the diverse experiences of coming out and its impact on life adjustments. This paper reports the early findings of a qualitative study that explores people's experiences of coming out as LB after they had turned 40. Qualitative data were obtained through semi-structured interviews with 21 participants ranging in age from 50 to 76 in Queensland, New South Wales, Victoria, and Western Australia, Australia in 2015. Only 1 participant was interviewed in early 2016. Two questions were central to this paper: what the facilitators of and barriers to people coming out as LB later in life are, and how the process of coming out impacts on their life and well-being. Findings suggest that the coming out experiences are often intersected with other social factors (e.g., age, civil status, and social context), and it has been identified as an important life trajectory by the majority of the participants. Recommendations for future research are offered that focus on the diverse coming out experiences at different life stages.

Session I
Nutrition & Diet Pathways

ASSOCIATIONS BETWEEN NUTRIENT INTAKE AND COMPOSITION OF FUNCTIONAL TOOTH UNITS IN OLDER MEN: THE CONCORD HEALTH AND AGEING IN MEN PROJECT

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Introduction. Inadequate nutrient intakes have been linked with poor dentition in older adults[1&2]. The aims of this study are to extend the research to investigate a novel area that examines associations between nutrient intakes and composition of functional tooth units (FTU) in older men. Method. Preliminary analysis of a standardized validated diet history assessment and comprehensive oral health examination in 410 community dwelling men (mean age: 84 years) participating in Concord Health and Ageing in Men Project. FTU was categorised as a) dentition type; (i) natural only (ii) mixed and (iii) replaced only and b) the number of FTU (natural or replaced): (i) 12 FTU (complete) (ii) 7- 11 FTU, and (iii) <7 FTU. Attainment of Nutrient Reference Values (NRVs) for total energy and key nutrients (protein, Fe, Zn, riboflavin, Ca and vitamin D) were incorporated into a 'key nutrients' variable dichotomised 'good' (≥5) or 'poor' (≤4). Results/Conclusion. 43.2% (n=177) had 'replaced' only FTUs, 31.7%(n=130) had natural only FTUs, 36.8% (n=151) had <7 FTUs and 29.5% (n=121) had 12 FTU. Most men met their NRVs, however only 27% met their NRVs for fibre, 26% for potassium, 13% for calcium and < 1%, for vitamin D. In adjusted logistic regression analysis, 'replaced' only FTUs, compared to 'natural only' FTUs, were associated with intakes below the recommendations for folate OR: 1.95(95%CI: 1.16–3.29), riboflavin, 2.23(1.03–4.83), magnesium 2.22(1.32–3.74) and fibre 1.81(1.06–3.10). Adjusted analysis also showed that men with <7 FTUs, compared to complete FTUs (OR:2.28(95%CI: 1.19, 4.41)) and those with 'replaced' only FTUs, compared to 'natural' only FTUs (2.00(1.09, 3.66)) were more likely to have poor nutritional intake of key nutrients. Our study shows significant relationships between composition and numbers of FTU with inadequate nutrient intakes. Maintaining natural FTU may be as important to nutrition in older men as numbers of FTU.

MALNUTRITION SCREENING OF COMMUNITY LIVING OLDER ADULTS: A CONTENT ANALYSIS OF ENABLERS AND BARRIERS TO SCREENING PRACTICE

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The wellbeing of community living older adults (CLOAs) can be influenced by diet. Although many older people can maintain a reasonable diet, those who do not are at nutritional risk. Left unaddressed, nutritional risk can lead to the state of malnutrition, a harmful condition that is difficult to treat. Malnutrition screening can lead to improved nutritional status by identifying and addressing risk factors. However, malnutrition is often overlooked in this population as indicated by an estimated prevalence of 10-30%. Accredited Practising Dietitians were invited to complete an online survey regarding screening practices. At the end of the survey, dietitians were presented with two open questions asking them to specify perceived enablers and barriers to malnutrition screening within their organisation. Responses to these questions yielded considerable data that warranted separate reporting which is presented here. Ninety-two dietitians provided written comments to the open-ended survey questions. Textual data were analysed and reviewed by two authors using content analysis, resulting in four key categories of organisational, staff, screening and CLOA factors. Although the majority of dietitians (80%) indicated screening occurred within their organisation, a higher proportion of responses related to barriers. Organisational factors of screening policy and procedures and the provision of education and training emerged as the strongest enablers. Insufficient time to screen and lack of knowledge by non-dietetic staff and CLOAs about malnutrition were identified as the strongest barriers. The findings from this study indicate knowledge about nutrition risk, malnutrition and the associated outcomes could be improved amongst healthcare professionals and CLOAs. Further research into perceptions about malnutrition from the perspective of non-dietetic healthcare professionals and CLOAs is warranted.

WHO EATS WELL? THE MEAL PATTERNS OF OLDER AUSTRALIANS LIVING IN ONE-PERSON HOUSEHOLDS IN THE AUSTRALIAN CAPITAL TERRITORY (ACT)

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The link between good nutrition and quality of life in older persons is well established. With the population of ageing Australians increasing, government policy currently supports keeping older Australians in their homes for as long as possible. The aim of this study was to explore how the lived experiences of community-dwelling elderly living in one-person households in the ACT influences dietary patterns, choices and perceptions around food. The participants (n=23) were interviewed in three focus groups, held in the ACT, using pre-determined questions. Two focus groups comprised the primary participants (n=17) with the third comprising family members/carers (n=6). Primary participants ranged in age from 65 – 93 years (median age 84.2 years) with 13 women and 4 men participating. Preliminary analysis suggests there was a disciplined pattern in eating driven by a strongly held perception that eating well maintains good health. This perception was coupled with the importance of being connected to community which provided both a sense of purpose and opportunity to contribute, as well as an avenue for mutual support beyond family and carers. Food choices, while varied, were mainly driven by taste, familiarity, ease of availability and capacity to prepare. Frozen vegetables and frozen meals (supplemented with additional vegetables) were most commonly used for convenience. Some modifications due to physiological changes were reported (stronger flavours, smaller portions, dentition issues). Support with shopping and food preparation was important for participants with mobility issues. Although not a preferred source of food, government provided meal deliveries were considered an essential service for times of ill-health. Information obtained in this study will set the stage for future nutritional intervention projects and development of evidence-based strategies and policies allowing community-dwelling elderly to continue active, independent lives at home and to support the role of family and carers.

DECONSTRUCTING DIET – INVESTIGATING THE LINK BETWEEN DIET AND BODY WEIGHT IN AGEING

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Overweight and obesity are major public health concerns. In Australia. In 2011-12, 35% of Australians adults aged over 18 were overweight, and 28% were obese. As obesity rates rise, so do health complications implicated in unhealthy ageing, such as raised risk of blood sugar and cholesterol, and even cognitive decline and dementia. Understanding the association between dietary intake and body weight is key in promoting healthy pathways in ageing. Alongside the amount of food people consume, the *type* of foods we consume is associated body weight. What do we mean by "type" of food? Researchers commonly summarize diet in terms of sugar, salt, fat, protein and carbohydrates (just like the nutritional information you see on packaging in the super market). However, many foods contain some or all of these components, and they are consumed in combination. Another way of thinking about diet is dietary pattern analysis, which looks at the combinations of food we consume. This talk will discuss the strengths and weaknesses of both of these approaches to thinking about diet. It will demonstrate how using both approaches together can provide particular insight into the association between diet and body weight at different points across the life span.

Posters Abstracts

* RAPID FIRE ORAL PRESENTATIONS

GENDER DIFFERETIALS IN COGNITION AMONG OLDER ADULTS IN INDIA AND CHINA: ROLE OF HEIGHT, CHILDHOOD SOCIOECONOMIC STATUS AND EDUCATION

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Higher gender disparities in educational attainment and nutrition continue to play a larger impact on various outcomes mainly in developing countries. How these gender discrimination in education and nutrition play role in later life outcomes is less understood in developing countries. Using height as a proxy of childhood health and parental education as an indicator of childhood SES and level of educational attainment, this study examines their association with cognitive ability in India and China using WHO-SAGE data. A composite cognitive index was created using four measures of cognition; verbal fluency, verbal recall, and forward and backward digit span. Descriptive statistics were used to assess the differentials in mean cognitive score by education and age group. Multivariate OLS regression models were used to examine the association between stature, childhood socioeconomic status and current socioeconomic status and cognition. Further, I predicted adjusted mean cognition to show the gender and country level differences in cognition by sex. Analysis has been carried out separately for men and women. Results show that Men and Women in China scored higher in cognitive ability than men and women in India. The gender gap in China is lower than in India. Increase in height is associated with better cognition In India and China. Also, this study found a strong and significant association of parental education and cognitive ability. These finding suggest that differentials in cognition are originated from childhood as taller individual are smarter and better childhood circumstances enhance better cognitive abilities in later years. Education play important role as the age associated decline in cognition is concentrated among older adults with low education. Also, gender differentials in cognition suggest the lower educational attainment and discrimination among women in India found to be an important factor for lower cognitive ability among women in India.

DEFAULT ATTENTIONAL STRATEGIES ACROSS THE ADULT LIFESPAN

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The capacity to spatially distribute attention is associated with a variety of cognitive functions, essential for successful ageing. However, a clear consensus in experimental research on adult age differences in attentional breath is not yet apparent, with some research suggesting that older adults adopt a focal spread of attention, and other evidence proposing the opposite. The aim of the current study is to resolve this central discrepancy by implementing an alternative methodological approach to that used in previous research. Rather than experimentally manipulating attentional breadth, to index default age differences in attention, the spatial distribution of inhibition of return will be measured. Inhibition of return occurs when a slower response time to target detection is made surrounding a cued location, more than 300ms after the cue has appeared. Critically, as the distance between a cue and target increases, response time to target detection decreases, and thus, can be attributed to default differences in attentional breadth. By utilising this distinct method, it is hoped that following data collection, the results will provide insight into the potentially different strategies healthy older adults may adopt to navigate the external world. As a consequence of this, it is hoped that specialised training programs, based on improving default attentional strategies can be developed to improve functional outcomes in cognitively related areas including working memory and visual perception.

*** VOLUNTEERING BENEFITS LIFE SATISFACTION AND COGNITIVE FUNCTIONING IN OLDER ADULTHOOD: THE ROLE OF SOCIAL NETWORK SIZE**

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Purpose of the study. Using volunteering as an indicator of social engagement, we examined whether volunteering would be longitudinally beneficial to life satisfaction and cognitive functioning in older adulthood, and the moderating role of changes on social network size. In order to promote more volunteering in older adulthood, we investigated the motivations of volunteering. Design and Methods. A sample of 1591 older participants from the PATH Through Life Study (PATH) was assessed at two measurement occasions with a four-year interval (Age: Mean = 66.54 years, *SD* = 1.50 years, 48% female). Results. We found that longer volunteering time was associated with a higher level of increase in life satisfaction and a lower level of cognitive decline during the four-year interval. Life satisfaction increased more in participants who lost more friends than those who lost fewer friends. However, cognitive functioning decreased less in participants who gained more friends. Consistent with the Socioemotional Selectivity Theory, emotional goals, not knowledge goals, were positively associated with longer volunteering time per week. Implications. These findings provide scientific understanding to the mechanisms and the motives of the positive effects of volunteering on cognitive decline and life satisfaction in old age.

REVIEW: IMPROVING CARE FOR PEOPLE WITH DEMENTIA IN ACUTE SETTINGS THROUGH 'PERSON-CENTRED' APPROACHES

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This paper outlines findings of a scoping review aiming to understand the features of person-centred or 'dementia friendly' hospital interventions leading to effective care of people with dementia in acute settings. Hospitalisations for people with dementia result in high cost of care, high mortality, long hospital stays, and high likelihood of readmission. As such, the experience of people with dementia is often adversely affected when acute settings fail to provide appropriate services, care, and ongoing support. This is a result of limited staff knowledge, lack of recognition of dementia, management of challenging behaviours, and the hospital environment. Until changes in care are made, however, people with dementia will continue to encounter inadequate care and poor outcomes as a result of hospital admission. This review of 38 grey and academic articles revealed that 'dementia friendly' initiatives integrated into care settings focused on the characteristics of health care staff, training programs, and hospital environments. Research aligned 'dementia friendly' care with person-centred care; with an understanding and awareness of dementia shown to promote rapport and facilitate interactions between care staff and patients. Studies focusing on the empowerment and positive care experiences of people with dementia also demonstrated increased engagement, comfort, and inclusion when staff adopted person-centred care. Such studies show that whilst developing high quality dementia care is complex, it is not impossible within clinical practice. It is, however, in the minority, with many studies indicating hospital care workers often fail to take up opportunities for person-centred care. This review thus highlights that more active involvement of both hospital staff and people with dementia may be what is needed to improve acute care standards, and to assist individuals on a pathway to ageing well through enhanced quality of life as a result of better hospital care and outcomes.

*** MAKING STRIDES IN AGED CARE**

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Residential aged care (RAC) adults have been reported to have very low gait speeds, with this linked to higher risks of disability, cognitive impairment, falls, and mortality. This paper discusses the gait spatio-temporal parameters (e.g. step length, step rate) of RAC adults and whether these parameters could determine gait speed. A total of 100 RAC adults (85.6 ± 6.7 years, range 66-99 years, 66 females) provided informed consent. Participants completed three trials at their habitual gait speed over a 3.66 m long pressure mat system that allowed calculation of gait speed as well as many spatio-temporal gait parameters. Participants were characterised by a habitual gait speed of 0.63 ± 0.19 m/s, stride length of 0.83 ± 0.15 m, support base of 0.15 ± 0.06 m and step time of 0.66 ± 0.12 s. Multivariable linear regression revealed stride length, support base and step time predicted gait speed (R^2 = 0.89, P<0.05). Step time contributed to the largest change in gait speed with each 0.1 s decrease resulting in a 0.09 m/s (95% CI 0.08 – 0.10) faster habitual gait speed. As our data suggest that step time, stride length and support base are the strongest spatio-temporal predictors of gait speed in RAC adults, interventions focusing on improving these parameters may better improve mobility and wider reaching benefits for adults in end of life care.

*** CROSSING THE RIVER: LEARNING EXPERIENCES OF THAI ELDERS WITH HYPERTENSION WHEN RECEIVING HEALTH EDUCATION**

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Aim: This study aimed to explore the learning experiences of hypertensive Thai elders in relation to health education. Material and methods: An insight into the learning experiences of hypertensive Thai elderly receiving health education was obtained using semi structured interviews. Twenty - five narrative interviews were conducted from five Primary Care Units in metropolitan Thailand. The participants were aged between 60-89 years old and mostly were female (88%). The data was analysed using thematic interpretation. Results: "Crossing the river" analogy describes where the journey that the elders undertook when receiving education about their chronic disease, hypertension. Within this journey five themes were identified and these were: "This was not my boat", "Finding a way to cross the river", "I am on my own", "I would like to get to the other side", and "Staying afloat". These themes demonstrate that Thai elders found this journey difficult and challenging. Conclusions: Health education is an important aspect of health promotion of elders with chronic diseases. This study found that hypertensive Thai elder's experiences with health education was not supportive. This understanding of elders' learning experiences will facilitate improvements in health education and lead to better health outcomes for Thai elders.

ASSOCIATION BETWEEN MRI-DETECTED OSTEOPHYTES AND CHANGES IN KNEE STRUCTURES AND PAIN IN OLDER ADULTS: A COHORT STUDY

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Background: Osteoarthritis (OA) is the most common type of arthritis, with prevalence estimates expected to increase dramatically worldwide due to ageing populations. Although magnetic resonance imaging has been widely used to evaluate knee OA changes, longitudinal studies

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examined relationships between MRI-detected osteophytes (OPs) and clinical features are rare. Objectives: To describe cross-sectional and longitudinal associations between MRI-detected OPs and knee structural abnormalities as well as knee pain in older adults. Method: Prospective population-based cohort study of 895 participants aged 50-80 years (mean age 62 years, 50% female) were performed. T1- or T2-weighted fat suppressed MRI was used to assess knee OPs, cartilage volume, cartilage defects and bone marrow lesions (BMLs) at baseline and after 2.6 years. Radiographic OPs were scored at baseline according to the Osteoarthritis Research Society International atlas. Knee pain was assessed by self-administered Western Ontario and McMaster Osteoarthritis (WOMAC) Index questionnaire at baseline and after 5 years. Analyses were performed using linear regression models and log-binominal regression models. Results: 85% participants had MRI-detected OPs at baseline, while 10% of participants had radiographic OPs. Cross-sectionally, MRI-detected OPs at medial tibiofemoral, lateral tibiofemoral and/or patellar compartments were significantly and site-specifically associated with a higher prevalence of cartilage defects ($p<0.01$), BMLs ($p<0.01$), lower cartilage volume ($p<0.01$) and higher prevalence of knee pain ($p<0.01$) after adjustment for common covariates. Longitudinally, baseline MRI-detected OPs site-specifically predicted increases in cartilage defects ($p<0.01$) and BMLs ($p<0.01$), and loss of cartilage volume ($p<0.01$) over 2.6 years in multivariable analyses. Medial tibiofemoral and total OP scores were dose-dependently associated with increases in total knee pain over 5 years, before and after adjustment for relevant covariates. Conclusions: MRI-detected OPs were associated with knee structural abnormalities and knee pain cross-sectionally and longitudinally, suggesting MRI-detected OPs may have a predictive value of structural and symptomatic changes in OA.

PROMOTING ACTIVE AGEING IN OLDER PEOPLE WITH MENTAL DISORDERS IN THAI PRIMARY CARE UNITS: FINDINGS FROM FOCUS GROUPS WITH HEALTH CARE WORKERS

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This qualitative study investigates the promotion of active ageing in older people living with mental disorders in rural Thailand. There is little evidence around the promotion of active ageing in older people and less still in older people with mental disorders living in communities. Primary care providers play a pivotal role in promoting healthy ageing. Two focus groups were conducted with 14 Thai primary health care workers. Interview transcripts were analysed using content analysis. Findings showed that most of the participants were unfamiliar with the term active ageing despite the World Health Organisation (WHO) promoting this concept since 2002. While participants already used some aspects, not all components of the WHO model were addressed. Older people with mental disorders were not part of the focus for active ageing. Several barriers were highlighted, including lack of knowledge of the concept and resources to support promotion activities such as human resources, budget, media and technology. To conclude: promotion of active ageing in older people with mental disorders in communities is an important issue that requires urgent attention. Please note: these findings are part of a mixed methods study that aims to develop a survey instrument for exploring the promotion of active ageing in Thai primary care units.

*** HIPPOCAMPUS AND BASAL FOREBRAIN DEGENERATION PRECEDES COGNITIVE DECLINE IN OBSTRUCTIVE SLEEP APNEA PATIENTS**

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Elderly patients with Obstructive Sleep Apnea (OSA) are more likely to display cognitive decline resulting in Mild Cognitive Impairment (MCI) and Alzheimer's disease (AD) over a 5 year period. OSA patients are also more likely to develop MCI/AD at an earlier age than the general population. The mechanism linking OSA and neurocognitive decline is not clearly understood. We examined longitudinal volumetric brain changes of healthy controls and untreated OSA patients, in brain regions commonly identified as severely atrophied in post-mortem Alzheimer's disease brains, namely the basal forebrain and hippocampus, in order to identify a possible mechanism by which OSA patients are more likely to develop MCI/AD. We applied a previously established mask to obtain a volumetric measure of the entire, or sub regions of the basal forebrain and hippocampus (Kerbler et al., 2014). Consistent with previous research (Kerbler et al., 2014), participants that developed AD (*n=21*) had basal forebrain and hippocampal volumes that were smaller than that of healthy controls (*n=23*) at their initial (baseline) assessment ($p = .005$, $p = .001$ respectively). Similarly, when analyzing only the OSA cohort, patients that displayed cognitive decline (*n=19*) had significantly smaller basal forebrain and hippocampal volumes at their baseline assessment compared to cognitively stable (*n=29*) OSA participants ($p = .002$, $p = .003$ respectively). Interestingly, our results show that in the OSA cohort, the amount of decrease in volume of the basal forebrain ($p = .046$) and hippocampus ($p = .007$) over a 36 month period in subjects in the group exhibiting cognitive decline was significantly more than volume decreases measured in subjects from the stable group.
Our results suggest that decreased basal forebrain and hippocampus volumes contribute to the increased likelihood of OSA patients developing MCI or AD. We are now investigating possible explanations of why a portion of OSA patients display cognitive decline, while others remain stable. Future studies aim to provide insight into causality by investigating specific characteristics of OSA, such as hypoxia and arousal index, on basal forebrain and hippocampal function.

*** ENACTING CDC FOR PEOPLE WITH DEMENTIA LIVING IN THE COMMUNITY AND THEIR CARERS: A SITUATIONAL ANALYSIS**

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To meet the rising demands of an ageing population the Australian Government has in recent years increased community funding to help older Australians, including those with dementia, to support them to remain in their homes for as long as possible. Subsequent to this funding increase, as of July 2015 all home care packages are being delivered on a Consumer-Directed Care (CDC) basis. The aim of CDC is to provide community-dwelling older people with greater choice and control over the services they receive. Research is being undertaken which aims to explore how CDC has become settled as the dominant approach for aged care services. By means of Situational Analysis methodology, the study will focus on 1) how the CDC policy came to take the specific form that it did, 2) how CDC has become embedded into the network of community-based age care services and 3) how CDC is enacted by people with dementia and their carers, identifying the benefits and challenges that greater choice and self-direction brings. This paper will justify and describe the selection of research methodology and issues associated with data collection, particularly strategies to recruit participants with dementia and from within the aged care industry. Data collected to date includes an integrative literature review, interviews with four carers of a person with dementia, one person with younger onset dementia and a representative of a national advocacy body. The research being undertaken will provide important insight into CDC for people with dementia and inform government and service providers as they negotiate and adapt policies and procedures to the CDC model of care. Importantly, this research aims to inform a new and creative approach to community aged care for people with dementia under the CDC model of care.

BOTANICAL SUPPLEMENTS FOR THE BEHAVIOURAL AND PSYCHOLOGICAL SYMPTOMS OF DEMENTIA: A META-ANALYSIS OF CLINICAL TRIALS

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Behavioural and psychological symptoms of dementia (BPSD) represent a heterogeneous group of non-cognitive symptoms. While dementia is primarily diagnosed by the presence of cognitive symptoms, BPSD constitute a significant component of the dementia syndrome and include agitation, depression, anxiety, irritability, apathy, sleep and appetite disturbances, delusions and hallucinations. BPSD affect up to 90% of people with dementia at some stage of their illness and dementias with BPSD are associated with a greater level of caregiver distress and more rapid deterioration in health and independence. Treatment options for BPSD are limited and overuse of sedatives and antipsychotics is a widespread problem in aged-care facilities. Consequently, alternate efficacious and safe approaches are needed for treating BPSD. Plant-derived compounds such as galantamine and physostigmine have provided sources of drugs used to treat Alzheimer's disease symptoms. Botanical supplements may play a role in the development of new pharmacological interventions. This poster reports findings of a recent systematic review. To determine the effects of botanical supplements for management of BPSD, a meta-analysis was conducted of 31 controlled clinical trials published from 1997 to 2015. Primary outcomes were BPSD assessed using the Neuropsychiatric Inventory (NPI), the Alzheimer's disease Assessment scale-noncognitive section or BEHAVE-AD. Secondary outcomes included changes in cognitive symptoms as well as safety and tolerability assessed by reported adverse effects and dropouts. Meta-analysis was divided into groups and subgroups based on different interventions and trial designs. These findings have implications for clinical practice and research. Recommendations are made for further research into developing new pharmacological options for BPSD management. Such interventions could lead to improved outcomes and reduced distress for people with dementia and their communities.

Full Papers

REMEMBER, I LIVE WITH MY MOTHER: THE HOUSING CIRCUMSTANCES OF WOMEN BABY BOOMERS IN AUSTRALIA.

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As the key to ageing well, the home provides ontological and financial security, as well as an important foundation for delivery of community-based aged care services in later life. Limited qualitative research exists on the housing and living arrangements of older women. This qualitative study aims to explore the housing and social circumstances of women baby boomers in Australia. Free-text survey comments from the Australian Longitudinal Study of Women's Health (ALSWH) surveys 1 (1996) through to survey 7 (2013) were purposively selected for analysis. The sample comprised 150 women born between 1946 and 1951, who were single, divorced or widowed at Survey 7, and who had provided qualitatively 'rich' written comments regarding housing and living arrangements at >2 surveys. The study found that across surveys and for varying periods of time, many women were living with/and caring for ageing parents, and this influenced housing choices and expectations regarding ageing-in-place. The importance of pets for ageing well was also a key feature. Hence, policy focused on downsizing the home as people age may not be congruent with the needs and choices of women baby boomers, particularly those providing care or where accommodation is not pet-friendly.

Rationale

As the key to ageing well, and fourth pillar of the Australian aged care system, the home provides a sense of security, and is an important foundation for health, community participation, and engagement (Productivity Commission, 2015). Having suitable, stable, and affordable housing (Byles, Mackenzie, Redman, Parkinson, Leigh, & Curryer, 2014; Morris, 2009), combined with adequate social support (Sixsmith and Sixsmith, 2008) and home and community-based aged care services is important for ageing well. This increasingly means ageing-in-place (i.e., remaining in the home for as long as is possible). However, population ageing - and women's increased participation in the workforce - means the possibility of significant gaps in social support and informal care as people age (Gray and Heinsch, 2009). There is little qualitative research on women's housing and living arrangements in later life. This paper reports on preliminary findings from an exploratory qualitative study of women born during the post-Second World War baby boom. The key question guiding this research is: what are the housing and social circumstances of women baby boomers in Australia?

Method

The sample comprised 150 participants from the 1946-1951 cohort of the Australian Longitudinal Study on Women's Health (ALSWH) [http://www.alswh.org.au/]. Women who had completed surveys S1 (1996) (aged 45-50 years) through to Survey 7 (2013) (aged 62-67 years); provided information about parental status at Survey 1 and 4, wrote free-text comments at ≥2 surveys, and who were single, divorced/separated, or widowed at Survey 7 (2013) were purposively selected. To achieve manageable and relevant data samples, preference was given to women who had made data rich written comments across multiple surveys. Survey comments were imported into NVivo (version 11) for data management, coding, and thematic analysis. Comments were coded using both emergent and apriori codes (such as housing and living arrangements). This paper presents some early findings from the study.

Ethics

The study employed secondary qualitative analysis of de-identified data from the ALSWH. Study approval was granted by the University of Queensland and University of Newcastle (as custodians of the ALSWH).

Results

Free-text written comments for 150 women (With Children [WWC] n=75; No Children [WNoC] n=75) from surveys 1 to 7 were individually read and thematically analysed. Not all women wrote comments at all surveys. Nevertheless, women's comments provided rich insights on a number of themes, including housing, living and social arrangements, and relationships with pets. Participants are distinguished by the code [WNoC] or [WWC], and numbered in sequence of appearance.

Housing

Few comments were explicit about the type of house in which the women were living. Seventeen women indicated they lived in rural areas. One woman had relocated from the city:

> I have moved from a suburban house in a large town to 10 acres of peace and privacy… have taken a step backward in terms of the nice house & being close to shops entertainment, but a huge leap forward in contentment and personal achievement [WWC1].

Not all comments were positive however. Two women

wrote about the stress and isolation of rural living. Others wrote about lack of services. One woman commented:

> I live in the country, we have a good hospital but not enough doctors, the nurses are brilliant & overloaded with work. Health care facilities are an on-going issue in this part of the country, daresay it is fairly typical for rural folk [WNoC1].

As women aged, some wrote about having to relocate due to health concerns or difficulty managing the home:

> I'm on a GP management plan & team care arrangements are about to start. I've moved to QLD to be closer to family & my health problems are nearly sorted. All is now starting to look good [WNoC2].
>
> It is hard to get everything done now I'm older & so cold. Doing the best I can & have my dogs for company. Will have to sell up one day - 21 acres & a huge 3 bedroom house plus gardens everywhere is a chore to me now [WNoC3].

Social and living arrangements

Living arrangements varied over time (for example, due to bereavement), however, by survey 7 (2013), most women (n=122) were living alone. Many were widowed (n=44) or single (n=34). Across surveys and for varying lengths of time, at least 25 women wrote that they were living with and/or caring for ageing parents, and this often influenced choices relating to housing and life plans:

> During the last 18 months, my life and thus my health, has been affected by my parents deteriorating health ... I would like to change my job and move to the city but feel I should be there for my parents [WNoC4].

Some had relocated to new housing or moved interstate in anticipation of caring for parents. Three women were caring for adult children due to disability or terminal illness. Women were mostly caring for others, rather than receiving care themselves:

> Main change for me is my husband died [date given] after 41 years of marriage. I gave up work to look after him… Now getting back on my feet, slowly!! [WWC2].
>
> I live with my 85 year old mother, who is moderately frail. She manages her own personal washing, dressing, etc., and also cooks. I do all her other house and yard work, with some help from Health and Community care people, sometimes from a family member. I am my mother's unofficial carer [WNoC5].

Caring was often provided over considerable periods of time and, in a few cases, without other family support. Some relationships were a source of ongoing distress. At least 14 women wrote about the effects of domestic violence on their lives:

> The biggest impact on my health were the injuries and stress caused by a violent and abusive marriage…[the] enormous stress during the past 5 years due to the abuse and sheer malevolence of my ex-husband has resulted in cancer, depression, hormonal problems, therapy [WWC3].

A few women described moving onto more positive relationships. While women with children tended to write about their children and grandchildren, women without children wrote more often about their mothers.

Relationships with pets

Many women (whether they had children or not) wrote about the importance of pets for ageing well, particularly women living alone:

> A huge impact on my physical, emotional, social, and financial states has been buying a Golden Retriever pup two and half years ago. [She] is now my constant little friend …surrogate daughter. I have met so many people (especially women) who have also welcomed a pet (mostly a dog) into their lives. A dog can be a girl's best friend!! [WNoC6].
>
> Most of my friends are older women who live alone (single, separated, divorced or widowed). All of their lives are enhanced - in different ways - by the cats and/or dogs who share it. Sometimes these creatures even provide a reason to go on living [WNoC7].

However, owning pets could have its downside, such as constraining housing choices (Power, 2016). In this study, one woman described wanting, but not being able to, move into other accommodation (for example, a retirement village) because she had not wanted to give up her dog.

Implications for policy and practice

This study highlighted the social nature of the home as a site for caregiving and sustaining relationships (Sixsmith and Sixsmith, 2008). Most often decisions regarding housing were made within the context of family relationships and caregiving, as well as having pets. Rabiee's (2013) study of choice in aged care services found many decisions on services use were influenced by the interdependence of care and social networks. In this study, housing decisions were similarly made within the context of family and social relationships.

Litwak and Longino (1987) contended that older people relocated to new housing on seeking help. This study found women also moved to fulfil family member's support needs. Likewise, Ewen and Chahal (2013) found that one in four women moved to provide care to another person. These findings suggest that caring commitments play a significant role in decisions regarding downsizing and relocation. Indeed, Byles et al. (2016) found only a small proportion of women downsized over time.

An Australian study on housing downsizing found barriers to downsizing included financial reasons (housing unaffordability, potential loss of pension entitlements), and lack of suitable housing (Judd, Liu, Easthope, Davy, & Bridge, 2014). Being (or having) a co-resident carer and/or owning pets might also be a discouraging factor. Women may opt to live in poorly maintained or unsuitable housing rather than give up pet ownership (Power, 2016). Hence, policies focused on

downsizing the home may not be congruent with the needs of caregivers and pet owners.

Limitations

The ALSWH data was not specifically collected for this study. Not all women wrote explicit comments about their housing or living arrangements. However, potential limitations were offset by selecting qualitatively rich (Rich, Chojenta, & Loxton, 2013) and topic-relevant comments for analysis. Hence, this exploratory study provides some fruitful preliminary insights on women's housing arrangements in later life.

Conclusion

Across surveys and for varying lengths of time, a sub-group of women baby boomers were caring for and/or living with ageing parents, and this influenced decisions regarding housing and ageing-in-place. Moreover, women stressed the importance of pets for ageing well. Housing policies need to consider the influence of caring commitments and pet ownership in designing age-friendly and supportive housing.

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WORKNG WELL WITH OLDER ADULTS AND THEIR SEXUAL EXPRESSION

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Looking after the wellbeing of older adults includes being respectful of their relationships, sexuality and gender. Relationships make a major contribution to wellbeing (Wrzus, Wagner, & Neyer, 2012). Some people's relationships, or sexual and gender expression, will be outside mainstream expectations, and may not be apparent. Avoiding assumptions and being supportive of the older person's needs can make an important contribution to their wellbeing. A detailed description of the relationship behaviours of older adults is outside the scope of this paper; suffice to say that older adults continue to be sexual, and practice that sexuality in diverse ways. For more detail on ageing and sexuality please refer to Kirkman, Fox and Dickson-Swift (2016). In this paper I build on empirical PhD findings about the experience of rural baby boomers in friends-with-benefits relationships (FWBR). I briefly report on the finding's themes: The influence of the relationship on wellbeing, the use of health services for sexual health, and approach to safe sex. Following on from this examination of changing approaches to relationships and sexual expression I explain key concepts around relationships, sexuality and gender. I offer practical strategies and resources that health practitioners and aged care workers can use to support the wellbeing of older adults through a positive and well-informed approach to sexuality.

PhD findings: key themes of wellbeing; health service use; safe sex practices

My PhD research explored the question: What is the experience of rural baby boomers in FWBR? This qualitative, interpretive-descriptive study used in-depth, semi-structured interviews with 22 participants, 15 women and seven men born between 1946 and 1965. Using purposive sampling participants were recruited via a radio interview, snowball sampling and personal networking. Using purposive sampling participants were recruited via a radio interview, snowball sampling and personal networking. A FWBR is when people are friends, have a sexual relationship, yet do not consider themselves to be a couple. I found people were practicing FWBR in different ways. These included heterosexual monogamy, same-sex monogamy, and multiple partners in both consensual non-monogamy and secret non-monogamy. The diverse approach to the relationship configuration was for many a change, after a lifetime of co-habiting monogamy. For details of cases from the research see Kirkman, Fox, & Dickson-Swift, (2015). All but one of the participants wanted to be in a FWBR; the person who was an exception settled for what was offered. This outlier had less overall wellbeing benefit from the relationship, while still enjoying the intimacy and companionship. The relationship had a positive effect on the wellbeing of the rest, who valued the intimacy with independence, the companionship and support, and the sexual pleasure. Some considered safe sex to be important and practised it; others who did not consider it to be of concern to them did not. Findings regarding health service use for sexual health were mixed; those who did not consider sexual health to be important did not access health services, while others had to argue for their need to be tested for STIs, despite meeting RACGP guidelines for this (RACGP, 2013). Some had supportive general practitioners, while those who attended a specialist sexual health service received a positive response (Kirkman et al., 2015). Stigma about sex, and stigma from being in an unconventional relationship were identified as concerns (Kirkman et al., 2015), however growing personal autonomy and deliberate acquisition of assertiveness and communication skills enabled many to have the confidence to seek and conduct relationships outside conventional structures.

The rest of this paper moves beyond immediate findings from the research described above and explains key concepts around the expression of sexuality, relationships and gender. I suggest ways that people who work with older adults can support positive sexual expression.

Expression of relationships, sexuality and gender

There is a shift in the way midlife and older people are constructing personal relationships, and a growing popular media awareness and acceptance of this social change (Price, 2012). The expectation that an intimate relationship is one man and one woman who live together, are sexually exclusive, and share resources does not reflect everyone's experience, despite it being widely perceived as a desirable expectation for relationships (Jones, 2011). Many older people who appear single are, in fact, in a relationship, which could be a FWBR or living-apart-together (LAT) (Malta & Farquharson, 2014). They may have more than one partner, some with negotiated non-monogamy agreements, as one percent of Australians do, including those aged 50-64 (Richters, Heywood, et al., 2014).

The majority of the population could be described as bisexual (Barker et al., 2012). This applies if bisexuality is defined as being attracted to more than one gender, including the concepts of being mostly, but not exclusively attracted to one gender, seeing attraction as being related to the person regardless of gender, experiencing sexual identities as fluid and changeable, and disputing "the idea that there are only two genders and that people are attracted to one, the other, or both" (Barker et al., 2012, p. 3). From this

perspective assuming a fixed, opposite sex attraction will lead to errors. Older people who may have defaulted to conventional expectations can be seeking to fulfil hitherto unexplored desires (Malta & Farquharson, 2014).

Gender is not binary, nor is it necessarily fixed. Being outside the binary, or having a transgender experience (Ansara, 2015) can lead to "marginalisation, bullying, harassment and violence" (Australian Human Rights Commission, 2015, p. 2). For someone whose gender is non-binary, or has a transgender experience, and is living with dementia, managing the expectations of others around their gender can be particularly distressing and difficult (Ansara, 2015).

If you work with people, including older people, you will encounter diverse expression of sexuality, relationships and gender (Richters, Altman, et al., 2014). Such experience of diversity might be outside your experience or value sets. If you appear to the client to be potentially disapproving or unsafe with your attitude, then they are unlikely to disclose their circumstances or needs. This means a missed opportunity to support the client's wellbeing through fostering a sense of safety which comes with being seen and respected for who they are. It could mean the potential exclusion of social and support networks (Barrett, Crameri, Lambourne, Latham, & Whyte, 2015). Attitudes can be subtle and powerful so it is worth reflecting on how you appear, and accessing professional development to increase cultural competency as required.

In Australia it is illegal to discriminate on the grounds of marital status, sexuality or gender expression (Australian Human Rights Commission, 2015). A way to support positive sexuality and ageing is inclusive policy, and workplace procedures that consider the detail of a client's experience, such as the questions and options on intake forms.

Sexual functioning: strategies

Ageing changes the sexual functioning of bodies; desire reduces, arousal is slower, vulval and vaginal skin becomes less elastic, erectile functioning can diminish (Connaughton & McCabe, 2015), and conditions such as arthritis can cause pain when in favourite positions or doing repetitive actions (Price, 2014). Ongoing or acquired disabilities can make sexual intimacy more difficult. Psychological factors affect functioning too, including cultural attitudes to ageing and sexuality, negative body image, performance anxiety, and 'comorbid anxiety and mood disorders' (Connaughton & McCabe, 2015, p. 6). Relationship and social factors that can lead to sexual dysfunction include long relationship duration, dysfunction in one partner, life transitions, and moving to an aged care facility (Connaughton & McCabe, 2015). There are ways to work well with clients to support their sexual expression.

Practical strategies for enjoying sexual intimacy, based on the work of Price (2014):

- Let go of expectations of a particular outcome such as orgasm or penetration. This applies to solo sex as well as partnered sex.
- Enjoy what is, instead of what might not be.
- Build communication around sexuality; this might be awkward or difficult initially if conversation about sex has not been a usual practice.
- Plan for sexual intimacy, as anticipation can be part of the pleasure, and timing can be helpful.
- To maximise blood flow to the genitals, have sex before a meal, not after, when blood flow is directed to digestion.
- If chronic pain is a problem, plan sexual activity after pain medications have taken effect.
- Think beyond the usual pattern of youthful sexual encounters and explore new ways of enjoying sensuality; this is especially important if there is erectile dysfunction or vaginal atrophy.
- Introduce sex toys to the sexual repertoire. (For sex toy reviews from a senior perspective, see http://betterthanieverexpected.blogspot.com.au/)
- Use quality, appropriate lubrication to enhance pleasure (not KY jelly).
- With a new partner, or non-exclusive partner, safe sex is essential.
- Make an advanced care plan that includes your wishes and expectations around relationships, sexuality and gender, and let people know about it.

There are many health and allied health professionals who can assist, depending on the circumstances. An occupational therapist who has an interest in sexual functioning can assist with ways to enable comfortable interactions. A General Practitioner can advise on side effects of medications that might affect sexual functioning, and sometimes offer alternatives without those side effects. A sex therapist or sex-positive counsellor can help with building sexual communication skills. Nurses can advise on and support many aspects of sexuality. It is important that the request for a sex-positive service is respected, and that if the request is not respected that referral to another practitioner is offered.

This brief paper was written as a resource for those who work with older people to assist them with understanding clients' expression of relationships, sexuality and gender. It builds on original PhD research on rural baby boomers in FWBR, and describes key gender and sexuality concepts before offering practical strategies for enjoying sexual intimacy, and suggests ways in which health and allied professionals can work well to support clients with sexual expression.

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COMING OUT IN LATER LIFE: EXPLORING THE EXPERIENCES OF OLDER LESBIAN AND BISEXUAL WOMEN

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Coming out has been identified as an important life transition for lesbian and bisexual (LB) women. The essentialist models of sexual identity formation and the psychosexual concept of coming out have been central themes in both formal and informal care settings. The process of coming out is considered as an important stage of identity formation, and is often associated with better well-being. However, most research on the experiences of coming out largely targeted young people; there is very little research focused exclusively on people coming out as LB later in life. Most studies neglect to understand heterogeneity between people coming out at an early stage of life and later in life. It is important that the conceptualisation of coming out of older sexual marginalised groups should be reconstructed to better reflect the diverse experiences of coming out and its impact on life transition. This paper reports the early findings of a qualitative study that explores people's experiences of coming out as LB after they had turned 40. Qualitative data were obtained through semi-structured interviews with 21 participants ranging in age from 50 to 76 in Queensland, New South Wales, Victoria, and Western Australia, Australia in 2015. Only 1 participant was interviewed in early 2016. Two questions were central to this paper: what the facilitators of and barriers to people coming out as LB later in life are, and how the process of coming out impacts on their life and well-being. Preliminary findings suggest that coming out experiences are often intersected with other social factors (e.g., age and social context), and it influences the life trajectory of the participants. Recommendations for future research are offered that focus on the diverse coming out experiences at different life stages.

Rationale

From an essentialist perspective, the process of coming out has important influences on both sexual identity formation and mental health. Responses to coming out, positive or negative, are strongly related to the formation of sexual identity (Cass, 1984). The most commonly used model of sexual identity formation was conceptualised by Cass (1984). The model includes six stages: "identity confusion (questioning about sexual identity), identity comparison (feeling of alienation), identity tolerance (a tolerance of their sexual identity), identity acceptance (engagement with homosexual community), identity pride (proud of their sexual identity), and identity synthesis (completion of identity formation)" (Cass, 1984, pp. 147-152). Incomplete identity formation and concealment of identity in public may impact on mental health (Corrigan & Matthews, 2003). Corrigan and Matthews (2003) summarised the disadvantages of coming out of the closet: physical harm, social avoidance by others, social disapproval, and self-consciousness. They also identified some advantages: increasing self-esteem and facilitating interpersonal relations (Corrigan & Matthews, 2003). Thus, the coming out process is related to positive psychological well-being and sexual identity formation.

On the other hand, there are some critiques of the above essentialist models of sexual identity formation. Firstly, they are critiqued as being based on a linear progression. Research has shown that identity formation can be a fluid process, and can depend on individuals' experiences (e.g., Averett, Yoon, & Jenkins, 2012). It has also been argued that those models reinforce heterosexist privilege and/or heteronormative life-styles (Ross, 2005; Sullivan, 2003). For example, heterosexual people do not need to come out, however, homosexual people need to come out to complete sexual identity formation. The essentialist models of sexual identity formation empower heteronormative values, and view other non-heteronormative identities as opposed to mainstream culture.

Queer theory provides a critique of identity and political identity by deconstructing the heterosexual-homosexual binary and understanding how people frame categories of identities (Gamson, 2000). Some people may not label themselves as LGB and are comfortable with multiple identities. Moreover, essentialist models fail to discuss other concealable stigmatized identities among LGB people. Concealable stigmatized identities are those "that can be hidden from others and that are socially devalued and negatively stereotyped" (Quinn & Earnshaw, 2013, p. 40). Identity development may intersect with race, gender, and sexuality (Ross, 2005; Sullivan, 2003). For example, Sullivan (2003) argued that lesbians of colour may experience choosing a single identity to fit in the community while other identities (e.g., racial) may be ignored. Thus, other dimensions of identities should be considered when addressing issues of sexual identity in the research.

Despite the critique of being essentialist models of identity formation, coming out is still a process that people need to negotiate. It is renegotiated with every new encounter. It is a life-long process rather than a single one-off event. Experiences of coming out may be influenced by their co-occurrence with other life events (e.g., after marriage or during marriage) (Muraco, LeBlanc, & Russell, 2007). Some older LGB people come out after a death of a spouse, retirement, or divorce (Altman, 1999). Some LGB seniors have come out at an early stage of life; for some, coming out later in life has meant different life trajectories.

Regarding individual factors, responses from family members play a crucial role in the life adjustment of coming out

as LGB (Muraco et al., 2007). Fear of societal ageism and the lack of information about LGB community and the positive LGB role models also restrict LGB seniors to acquire positive support, and it may impact on the acceptance of their sexual identity in the coming out process (Altman, 1999). Regarding institutional factors, historical and social contexts may impact on LGB people's perspectives of the coming out process. The growing visibility of older LGB people who came out later in life may have resulted from the increasing public acceptance of LGB people (Heaphy, Yip, & Thompson, 2004; Muraco et al., 2007). Intersectionality has been used to discuss multiple disadvantages and/or identities that impact on people's coming out experiences. The intersection of sexuality, age, history context, and other social factors should be explored in relation to coming out later in life.

Coming out is important to sexual identity formation. The process has been described in terms of stages. However, critiques of essentialist identity reveal the coming out is more complex than this and influenced by the intersection of other social factors. Thus, this study explored people's experiences of coming out as LB later in life are, and how the process of coming out impacts on their life and well-being.

Methods

A qualitative methodology was utilized in this study to explore LB people's experiences of coming out. This method is appropriate for an interpretivist inquiry exploring a social or human problem and understanding of phenomena and meanings/interpretations in individuals' behaviours (Creswell, 1998; Hansen, 2006). It is important to explore in-depth meanings of the participants' perspectives in examining their life experiences, and how the values of society (e.g., heteronormativity) impacts their decision-making. Thus, qualitative research was an appropriate method to study LB people's experiences of coming out and their perspectives in making this life transition.

This research utilised a nonprobability purposive sampling strategy. The main strategy employed was snowball sampling, which is the most common method to recruit marginalised populations (Hansen, 2006). The information about the research was circulated via emails, advertisements, and visits to social groups and community organisations. The age of definition of "later in life" was 40 and over. Only LB seniors who came out at age 40 or later and who were currently aged 50 or over were recruited.

Semi-structured interviews were conducted face-to-face, by phone, or Skype. 21 participants ranging in age from 50 to 76 in Queensland, New South Wales, Victoria, and Western Australia, Australia were interviewed between 2015 and early 2016. The demographic characteristics of this study population are shown in Table 1. Interviews were analysed through a thematic analysis.

Table 1. Demographic characteristics of the study participants (n = 21).

Characteristics	*N* (%)
Age groups	
50-54	3 (14.3)
55-59	7 (33.3)
60-64	6 (28.6)
65-69	2 (9.5)
70 or older	3 (14.3)
Long-standing heterosexual relationship(s)	
Yes	19 (90.5)
No	2 (9.5)
Children	
Yes	18 (85.7)
No	3 (14.3)
Gender	
Female	19 (90.5)
Others (transgender & genderqueer)	2 (9.5)

Results to date

Preliminary survey of the data was analysed through initial observations of the data and identifying tentative codes and themes. Initial themes are emerging:

Certain point of life transition

The decision to come out was often instigated by the need to face it themselves at a certain point in their life. Many participants identified that the decision to come out was made due to their age. They expressed that it was the time to come out to accept themselves as same-sex attracted. As one participant said:

> *"Because it was a massive burden that I was carrying around, and I felt I was lying, I felt I was living in a, whole life is a lie. So, by pretending I was attracted to all these guys, really I wasn't, I felt like they were good friends, but that was about it… So, I just decided as reach 42, as 40 as well, I thought: 'I can't keep going on like this. I am 40 now, so I have to live my life the way I need it.' So that's why." (58 year-old participant)*

Another reason given for coming out to others included having a same-sex partner.

> *"I think it's because I found a partner. I'd found a partner, and we were living together. Cause you gonna take your parents to come around to the house, and friends and that. And… I supposed if I hadn't found a partner, I probably wouldn't pop that up, come out or anything. So it was just…: 'yeah, I got this girlfriend now, this is it, we are living together, we gonna share our*

life together.' … So, they have to know sooner or later." (60 year-old participant)

Importance of other identities

The importance of other identities (e.g., work identities) was also identified by many of the participants in relation to coming out. Some participants mentioned that when they were young, their work identity was more important than sexual identity. To maintain their work relationships and employment, they could not come out at the time.

Multiple identities and sexual fluidity were also identified:

"… I was actually happy in the heterosexual relationship. No problem with that. I wouldn't necessary say I'm a bisexual as such. Because I don't identity as bisexual. Because I was living in a heterosexual woman in that situation. … I didn't label myself. It's only in relationship to my all partners finding it too genderqueer, so I got out. … I'm quite multi-dimensional in my identities. So, I kind thought not fitting in was more of personal issue than a gender issue. … I didn't identify as strictly lesbian either. Because in some ways, I actually feel like I'm a gay boy in the women's body. But the thing is I don't experience gender dysmorphia, because I love in a female body… The only problem with being female, I wouldn't wanna transition that doesn't excite me either. But I am really gender fluid, I am not a lesbian… Can't fit in anywhere." (57 year-old participant)

Impact on life trajectory

The majority of the participants identified that the experiences of coming out impacted on their life trajectory. Most of the participants expressed that they were concerned about family relationships, particularly with their children, after coming out. Most participants who were married reported that they came out to their husband and children first. Some of them received positive reactions, and maintained great relationships with their ex-husband/husband and children. However, some of them experienced negative reactions from their family. A few participants also explained the reactions from family that have changed over a period of time from rejected to being accepted. The participants anticipated diverse responses to coming out, ranging from family support to homophobic attitudes. It was noted by a majority of participants that the process of coming out was ongoing and not just a one-off event.

Implications for policy and practice

This study will explore the diverse coming out experiences. The sources of informal and formal support should be tailored to different sexual marginalised groups. Policy makers and practitioners should be aware of diverse experiences in relation to coming out.

Summary

Previous research has identified that coming out is an important life transition. This research will contribute to further understanding about the intersection of sexual identity, age, and other social factors in relation to coming out later in life. This study reports on preliminary findings.

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MEASURED MOBILITY STATUS IS STRONGLY ASSOCIATED WITH FUNCTIONAL INDEPENDENCE IN COMMUNITY DWELLING OLDER PEOPLE: AN OBSERVATIONAL CROSS-SECTIONAL STUDY

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For most older people ageing well would include maintaining mobility independence and living at home. It is assumed that if an older person has poor mobility they will require supportive services. Most literature in this area uses self-report measures of Activities of Daily Living to stratify people's levels of disability rather than actual measurement of mobility capacity. This leaves clinicians and public health professionals without clear targets for interventions at a patient or population level. **Objective**: To investigate the relationship between objectively-measured mobility of community-dwelling older people and their use of formal and informal services. **Methods**: An observational cross-sectional study (n = 70). Service use data and other information were collected during a single interview followed by an objective assessment of physical functioning. Study outcomes were total hours/month of services (analysed with negative binomial regression), and service use dichotomised at the median (5 hours, analysed with logistic regression). Predictor variables were: Usual gait speed over 4 metres, Four Square Step Test, Short Physical Performance Battery and de Morton Mobility Index. **Results**: In univariable analyses each predictor variable was highly associated ($p<0.01$) with service use as a continuous or dichotomous variable. In multivariable analyses after adjusting for likely confounders including age, gender, nutritional risk status, cognition and negative affect all predictor variables retained significant relationships ($p<0.05$) with the outcome variable of total hours per month of service use, and Usual gait speed and the Short Physical Performance Battery retained significant relationships ($p<0.05$) with the dichotomised outcome variable. **Conclusion**: This study provides strong evidence that the worse an older person's objectively-measured mobility scores the greater their use of assistance. The impact of service use on strategies that enhance older people's mobility warrants investigation. A positive impact may maximise mobility independence while minimising financial and care demands on government and society.

Rationale

Retaining mobility-related independence to remain living in their own homes is a critical issue for older people (Mollenkopf, Hieber, & Wahl, 2011). Formal aged care community services currently cost $3.8 billion a year in Australia while informal support by family members is also common and often exceeds levels of formal support (Productivity Commission, 2016).

Health professionals are commonly required to provide advice or make decisions on the mobility capacity of older people, and how that capacity relates to the older person's ability to continue to live safely in their place of residence and community, or whether the older person will require some degree of compensatory assistance (Department of Social Services, 2015). Surprisingly, research into the specific relationship between mobility limitation and use of formal and informal services is largely absent from the literature. One study of care recipients found an inverse relationship between gait speed and hours of allocated services (Danilovich, Corcos, Marquez, Eisenstein, & Hughes, 2015). While many studies have reported the objectively-measured balance and mobility performance of community-dwelling older people, (Downs, Marquez, & Chiarelli, 2014; Tiedemann, Shimada, Sherrington, Murray, & Lord, 2008) no published research has explored the discrete relationship between objectively-measured mobility status and compensatory service use. Subsequently there is little evidence-based guidance to assist health professionals making decisions on the types and amount of supportive services relevant for older people who are living at home and have personal mobility limitations.

Better understanding of the relationship between measured mobility status and service use would enable better service planning. The collection of data from a community-dwelling population rather than a clinical or care recipient cohort is needed to assess the broader relationship between mobility and service use.

Therefore, our study aimed to answer the question: what is the relationship between the objectively-measured mobility status of community-dwelling people aged 80 years or older and the extent of their use of formal and informal support services?

Methods

We conducted an observational, cross-sectional study of 70 people aged 80 years and older who resided within the Bellingen Shire, New South Wales (NSW), Australia and not high care residents of an aged care facility. Exclusion criteria were recent major surgery of the lower limb or spine, or fulltime reliance on motorised methods of mobility. Recruitment occurred via media articles and direct invitation by treating medical practitioners and nurses. Each participant was assessed once by a physiotherapist experienced in mobility assessment among older people (DL).

The verbal questionnaire gathered demographic and medical information as well as self-report data including success in living at home. Data for the outcome variable of formal and informal service use was gathered from the participant. Formal services were defined as Government funded in-home services and transport. Informal services were defined as contributions from family, friends and volunteers plus services organised and paid for by the participant. Self-report instruments assessed falls risk, nutritional status,

affect, plus general and mobility specific disability.

The physical assessment included body mass index (BMI), vision and grip strength. The predictor variable assessments included the Short Physical Performance Battery (J. M. Guralnik et al., 1994) (SPPB) which involved timed standing balance, sit to stand and usual gait speed over four metres (gait speed); the de Morton Mobility Index (de Morton et al., 2011) (DeMMI) which is a fifteen item test assessing bed, transfer and walking mobility and static and dynamic balance; and the Four Square Step Test (Langford, 2015) (FSST) which assesses dynamic balance.

All variables were summarised using descriptive statistics. The sum of formal and informal services, the outcome variable, was expressed as hours per month and as a dichotomous variable with the median score (five hours per month) as the cut-off point. Predictor variables were the performance-based measures of mobility: SPPB, FSST, gait speed and DeMMI. SPPB results were analysed with both the standardised ordinal scoring format (J. M. Guralnik et al., 2000), as well as a continuous re-scaled score using the methodology described by Onder et al. (Onder et al., 2002). Potentially confounding variables included in analysis were age, gender, years of education, living alone, cognition, pain, BMI, vision, nutrition status and affect.

Negative binomial regression models were used to explore the relationship between the continuous outcome variable and the predictor variables and potentially confounding variables. Logistic regression models were used for the dichotomised outcome variable. Predictor variables were separately included in a multivariable model with all potentially confounding variables ($p<0.2$) in the univariate analyses.

Results

The participant characteristics are summarised in Table 1. Over half the group lived in a house, received no formal services, or had less than five comorbidities. Nearly half reported that they had experienced a fall in the past year. A third of participants lived alone and two thirds did not use a mobility aid. Despite generally neutral responses to self-report questions about health and balance, the group was strongly positive about their perception of their level of success in living at home. Service use data is summarised in Table 1. Forty-three percent of participants received some type of formal subsidised services. There was greater than twice the amount of informal services used compared to formal services. In response to the question "why do you use these services?" the categories of pain, balance, mobility or fatigue / cardiac issues were nominated by 50 of the 59 participants who received some form of services.

Each of the proposed predictor variables was found to be significantly associated with the outcome variable in the univariate analyses (Table 2). These associations were equally as strong ($p<0.004$) if the outcome was expressed as total hours per month of formal and informal service use (continuous variable), or as five or more hours of services per month (dichotomous variable). The strongest associations as indicated by p values were with gait speed, FSST, and the re-scaled continuous score for the SPPB. Examination of the standardised x axis co-efficients indicated that gait speed, SPPB continuous data and SPPB ordinal data had the strongest associations with the outcome. Of the potential confounders the negative sub-scale of the PANAS reached statistical significance ($p<0.05$) when individually associated with the outcome.

Table 1: *Participant characteristics and Service Use data.*

Age (yrs), mean (SD)	85 (4)	
Gender female, n (%)	39 (56)	
Lives alone, n (%)	27 (39)	
Lives in house, n (%)	59 (84)	
Mobility aid used, n (%)	33 (47)	
Fall past year, n (%)	32 (46)	
BMI, mean (SD)	26 (5)	
Vision, mean (SD)	9 (8)	
Pain affects mobility, n (%)	20 (28)	
SR balance poor / fair, n (%)	24 (35)	
SR Health poor / fair, n (%)	15 (22)	
SR success living at home as good / very good, n (%)	63 (91)	
Reason for services		
no services	11 (16)	
pain	15 (21)	
balance	13 (19)	
vision	4 (6)	
Cognition/social	2 (3)	
fatigue/cardiac	10 (14)	
don't know	3 (4)	
Service Use	Mean (SD)	Median (IQR)
Package, n (%)	30 (43)	
Formal (*hrs pcm*)	6 (10)	0 (0 to 7.4)
Informal (*hrs pcm*)	14 (26)	3 (0.5 to 12)
All (*hrs pcm*)	20 (32)	5 (2 to 22)

Note. SD = Standard Deviation, IQR = Interquartile Range, pcm = per calendar month.

Table 2: Relationship of predictor variables and service use in univariate analyses.

Predictor variable	Mean (SD)	IRR (95% CI), p value	bStdX	AUC
Gait speed	0.9 (0.3)	0.05 (0.01 to 0.18), <0.001		
FSST	0.7 (0.3)	0.11 (0.04 to 0.31), <0.001		
SPPB cont.	2.1 (0.6)	0.29 (0.15 to 0.56), <0.001		
SPPB ordinal	8.0 (2.7)	0.76 (0.67 to 0.87), <0.001		
DEMMI	75.2 (13.2)	0.96 (0.93 to 0.98), 0.002		
		OR (95% CI), p value		
Gait speed	0.7 (0.3)	0.005 (0.0003 to 0.07) <0.001	-1.68	0.84
FSST	0.5 (0.3)	0.08 (0.01 to 0.41), 0.003	-0.83	0.73
SPPB cont.	1.9 (0.6)	0.09 (0.02 to 0.37), 0.001	-1.34	0.77
SPPB ordinal	6.7 (2.9)	0.64 (0.50 to 0.82), <0.001	-1.22	0.77
DEMMI	70.4 (14.8)	0.94 (0.90 to 0.98), 0.004	-0.87	0.69

Note. IRR = Incidence Rate Ratio, from negative binomial regression, CI = Confidence Interval, OR = Odds Ratio, from logistic regression, bStdX = x-axis standardised co-efficient, AUC = Area under the receiver-operated characteristic curve with outcome dichotomised,

Table 3: Relationship of predictor variables and service use in multivariable analyses after adjusting for possible confounders.

Predictor variable	IRR (95% CI), p value	OR (95% CI), p value, bStdX, AUC
Gait speed	0.06 (0.2 to 0.19), <0.001	0.006 (0.0 to 0.12), 0.001, -1.61, 0.87
FSST	0.18 (0.05 to 0.57), 0.004	0.15 (0.02 to 1.06), 0.06, -0.61, 0.81
SPPB Cont.	0.32 (0.16 to 0.64), 0.001	0.10 (0.02 to 0.60), 0.01, -1.28, 0.83
SPPB ordinal	0.79 (0.69 to 0.90), 0.001	0.66 (0.48 to 0.91), 0.01, -1.12, 0.83
DEMMI	0.96 (0.93 to 0.98), 0.003	0.96 (0.91 to 1.01), 0.15, -0.55, 0.80

Note, IRR = Incidence Rate Ratio, from negative binomial regression, CI=Confidence Interval, OR = Odds Ratio, from logistic regression, bStdX = x-axis standardised co-efficient, AUC = Area under the receiver-operated characteristic curve with outcome dichotomised.

Each predictor variable (mobility tests) retained a significant association (p<0.005) with the outcome variable of total hours per month of service use in multivariable analyses (Table 3) after adjusting for the potential confounders retained from the univariate analyses. Usual gait speed (p=0.001), and both the continuous SPPB (p=0.01) and ordinal SPPB (p=0.01) retained a significant association with the dichotomised outcome variable of use of five or more hours per month of services in multivariable analyses after adjusting for the potential confounders retained from the univariate analyses of the dichotomised variable. The PANAS negative sub-scale was the only potentially confounding variable to retain a significant association (p<0.05) with total hours per month of service use in each multivariable model. No potentially confounding variable reached statistical significance (p<0.05) in the multivariable models for five or more hours of services per month.

Implications

The results of this study provide evidence of a strong association between the objectively-measured mobility status of people aged 80 years and over and their total hours of use of formal and informal services. We found that the worse a person's mobility scores the greater their use of compensatory assistance. Furthermore, the study provides evidence of a strong association between participant's objectively-measured mobility status and their risk of receiving more than the basic level of support, nominated in this study as the median of five hours or more per month. The finding that each of the separate predictor variables (mobility measures) all exhibited strong associations with the use of services further strengthens the evidence of a general association between mobility limitation and use of compensatory services.

Our finding of a strong relationship between objectively-measured mobility and service use may seem self-evident. However, the authors are unable to identify in the literature any objectively-measured data collected from a community dwelling population giving direct evidence to support what many health professionals and policy makers have assumed to be the case. Therefore, this study provides a surprisingly novel perspective on an issue of great importance to older people and the broader community.

This study has both limitations and strengths. The results should be treated with some caution due to the study's cross-sectional design and relatively low number of participants (n = 70). However, the study used standardised objective mobility measures rather than self-report activities of daily living measures and all participants were drawn from the community not a clinical or care setting. Service use data were acquired from the participants and not cross-checked in any way. A larger prospective cohort study utilis-

ing objective measures of mobility status and linked service use data would enhance our knowledge of these associations.

Investigation of the impact of maintenance or re-attainment of normal gait speed, lower limb strength and balance on maintaining independence while continuing to live at home is warranted. A positive impact would minimise financial and care demands on government and society while optimising mobility-related independence for older people (Fairhall, Sherrington, Lord, Susan, & Cameron, 2015). Health professionals may improve the rigor of their decision making around service provision to older people in the community by the use of the types of objective mobility measures applied in this study. In particular, the use of usual gait speed over 4 metres as a screening tool for older people with significant mobility limitation is supported, a finding that parallels other research findings (Donoghue, Savva, Cronin, Kenny, & Horgan, 2014).

Summary

This study provides the first direct evidence of an association between an older person's objectively-measured mobility status and the services they may use to remain living independently in their community. Every measure of mobility proved to be strongly associated with the outcome variable of hours of formal and informal service use. This objective evidence supports the existing assumptions of health professionals and policy makers about the links between mobility and service use, and has the potential to improve the rigour with which decisions are made regarding provision of compensatory services. The impact of strategies that enhance older people's mobility on the care demands placed on individuals and governments warrants investigation.

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GEO-SPATIAL MAPPING OF PROJECTED DEMENTIAS AND THEIR IMPLICATIONS FOR HEALTH AND AGED CARE SERVICES

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This paper explores a detailed spatial approach to modelling ageing, the dementias and their potential systemic effects. It focuses on three key elements: projected population data from the Australian Bureau of Statistics (ABS); dementia sub-type estimations from the Australian Institute of Health and Welfare (AIHW); and the inclusion of a selection of health and aged care service providers. The results include estimations for the period 2012-2027 of people with major dementia sub-types, including Alzheimer's disease, disease severity and a basic per-capita costing estimation. These data were mapped and analysed against a selection of current health and aged care infrastructure to identify locations of emerging need across the timeframe of the study as well as measuring the spatial accessibility to ageing services. The outputs include a series of map-based scenarios that illustrate how changes in dementia prevalence are likely to impact on local communities, populations and potential demands for particular health and aged care services. The model supports local through to state-level approaches to the potential impacts of population ageing and the dementias.

Rationale

The research focus for this research is: what will be the geographic variations in population change, dementia prevalence and service demand in New South Wales as population ageing progresses? Population ageing is an increasingly global phenomenon that has major implications for health and aged care systems (e.g. Suzman et al, 2015). Big picture analyses may provide a general picture of changes over time but the implications of the dementias extend down to communities, families and individuals. This requires a more informed geographic understanding of population change, dementia prevalence and potential changes over time and place (Robertson et al, 2013; Skinner et al, 2015). Knowing the *where* of population ageing and its consequences is the key rationale for this research. This is because population, epidemiology and health and aged care services are all unevenly distributed in space. Consequently, a geographic analysis of these factors has the potential to inform our responses to population ageing, ranging from major policy decisions down to local community-level reactions and adaptations.

Methods

ABS population projections (2012-2027) were used to develop a population model for NSW using age and sex cohorts at this stage (severity and dementia sub-types were all modelled in the thesis). Then we applied AIHW Alzheimer's disease prevalence estimates to produce three different scenarios starting in 2020 – (1) no change to AIHW rates, (2) AIHW projected decline and (3) estimation of a treatment effect on prevalence. The maps are illustrated at the SA2 level, the smallest level for which the Australian Bureau of Statistics released the population projections used in this modelling. This permits aggregation upwards (e.g. SA3, SA4) as well as, potentially, more detailed small area model development.

Results

The modelling process produced a variety of useful outputs which can only be briefly described here. These included estimations of dementia sub-type populations for the 2012-2027 timeframe at the Statistical Area (SA2) for all of New South Wales. These data included estimates of severity by age and sex; the potential formal care costs of changes in prevalence; and the development of a spatial measure of aged care service accessibility – for the services included in the model. These scenarios were integrated into a geographic information system software environment to permit a variety of different scenarios to be easily mapped and compared. The result is a pilot approach to more sophisticated spatial strategies for addressing population ageing and its consequences.

The modelling process provides estimates for the major dementia sub-types but with an emphasis in the analysis on Alzheimer's disease as the major condition with the highest probable number of people affected. The chart below (Figure 1) shows the projected figures using the AIHW rates and categories. The results are all *able* to be mapped in the system but for limitations of space we provide an illustrative map of AD for New South Wales at the SA2 level.

The prevalence, severity and progression of dementia sub-types can vary considerably between individuals and population groups. In addition, we know that co-morbidities are common for people with any dementia sub-type diagnosis. Consequently, we have included a component in the modelling to estimate severity by age and sex based on the AIHW estimations used throughout this modelling process. This is significant for a variety of reasons including the fact that women have longer life expectancies than men, higher overall disability rates as they age and may therefore be more medically unwell and have higher care needs as they advance in age. Having some measure of probable severity and its distribution means that funding and resource allocation can more accurately reflect actual need as compared to more generalised measures.

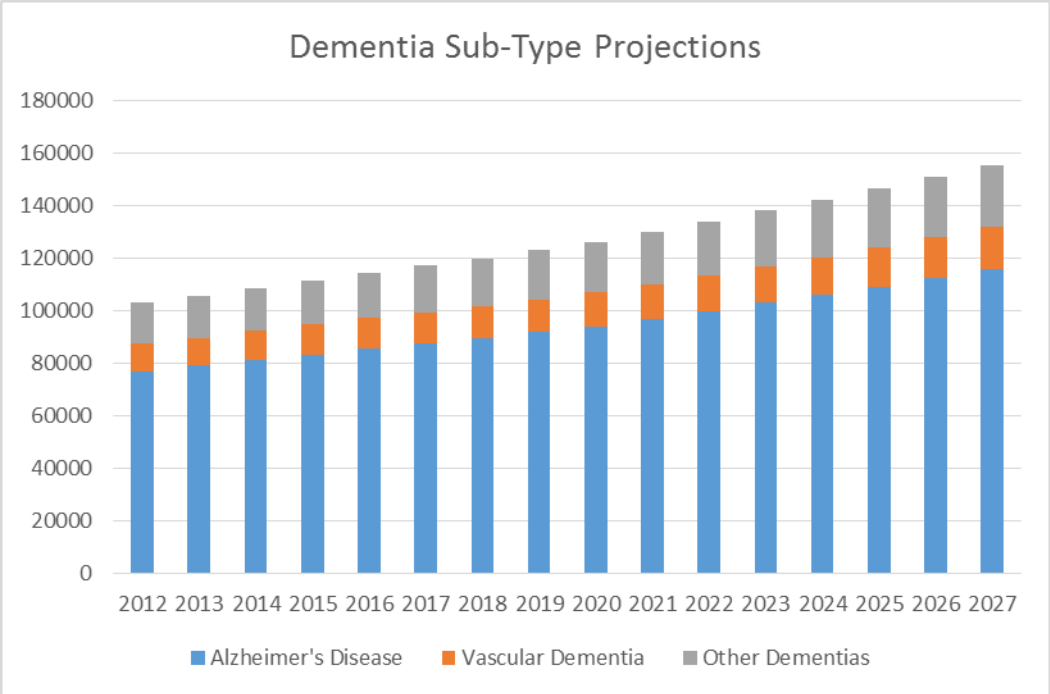
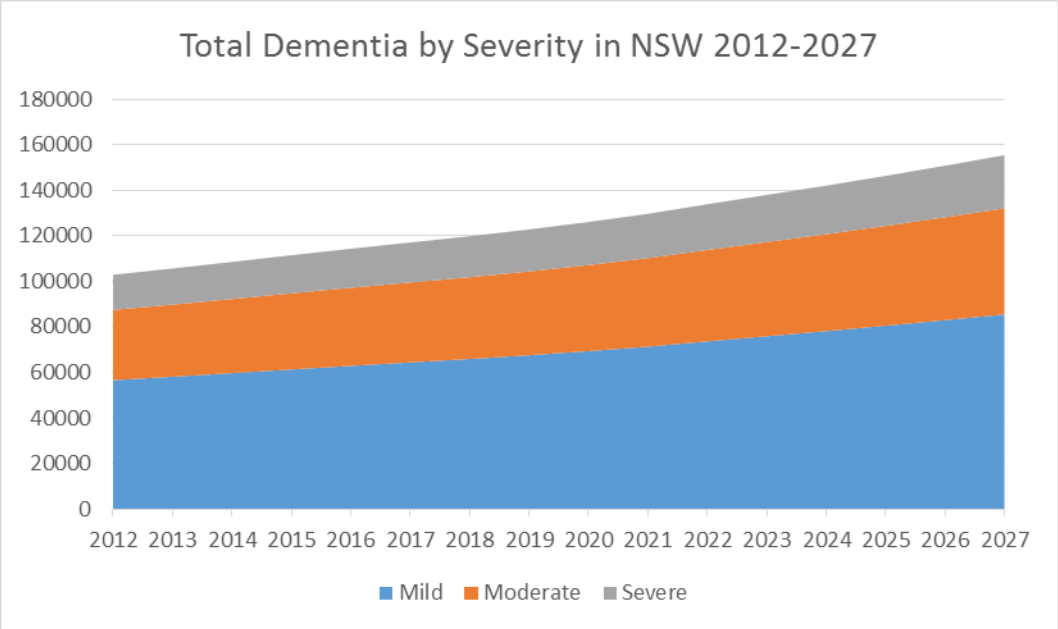
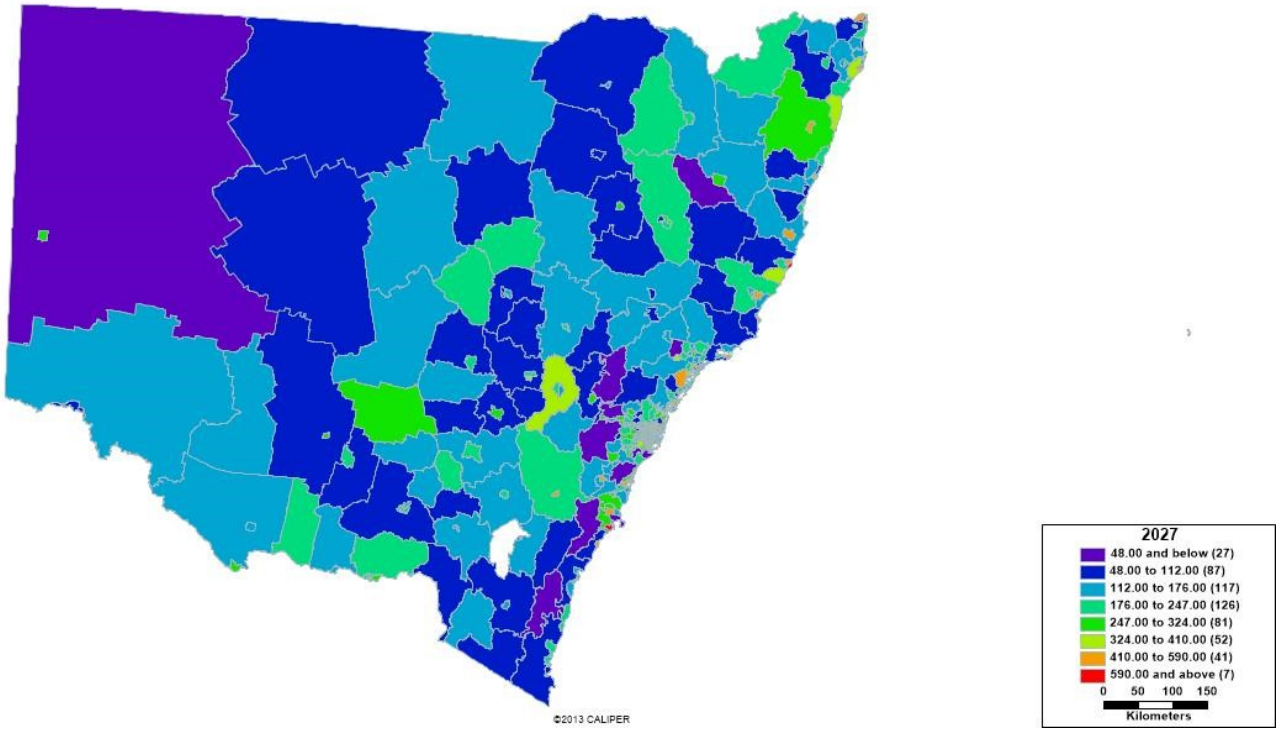


Figure 1. Chart: Dementia Sub-Type Category Prevalence Estimations Using AIHW Rates 2012

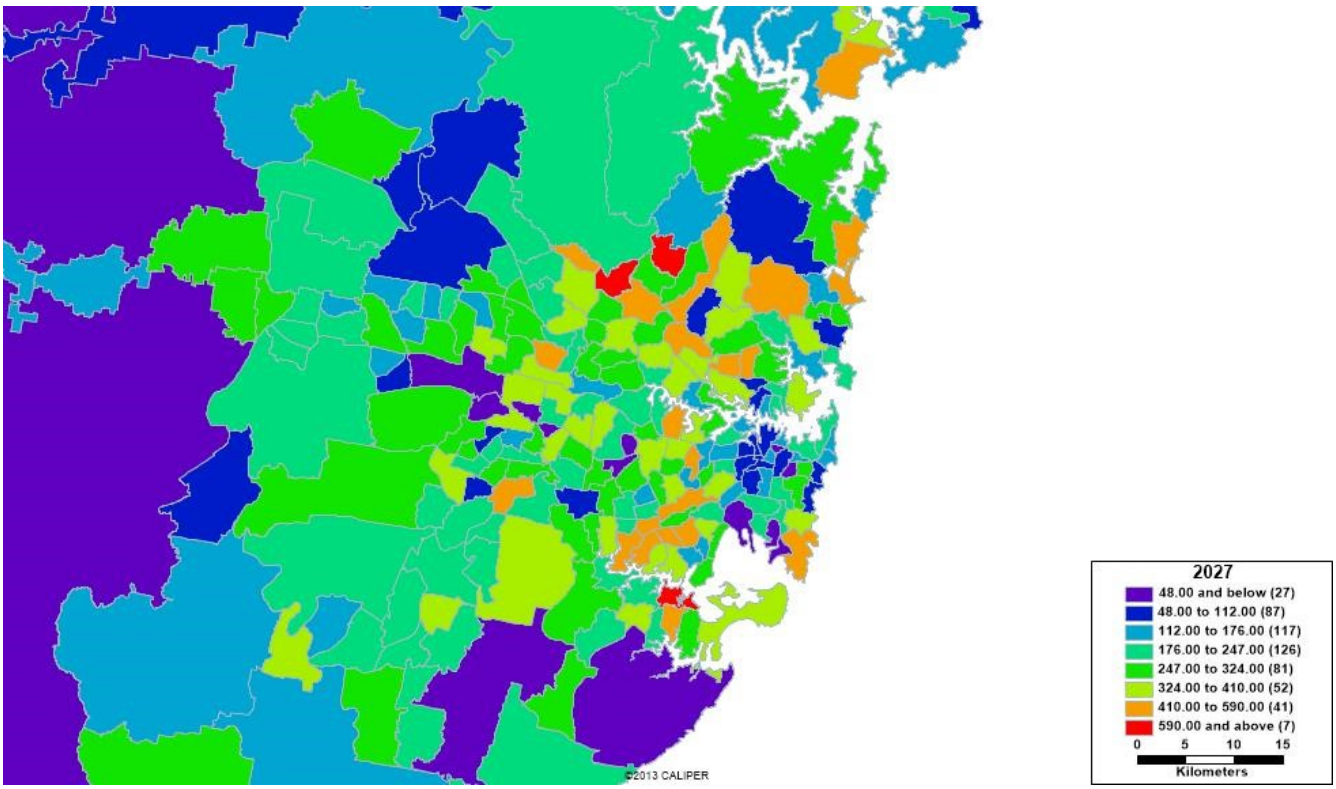


Three scenarios for Alzheimer's disease prevalence were produced to allow for the probability of change across the projected period including (1) a base-level, no change scenario; (2) a small reduction from 39.1% to 37.6% 2020-2027 and; (3) a treatment intervention with a 15% reduction effect on prevalence for 2020-2027. The AIHW's own estimates place 2020 as the year for modelling a change in prevalence rates and we followed this format for consistency. It should be noted that the maps below are for the 'no change' scenario because this would have the highest prevalence outcomes of those modelled and, consequently, the greatest resource demands.

Maps were produced for each of the three scenarios and the capacity exits in the model to generate other variations to explore the potential consequences of changes over the modelled timeframe. We add both a state-level map and a metropolitan Sydney area map for convenience as scale issues are difficult to resolve external to the GIS software. In the mapping software, zooming and panning are more easily carried out making the complete data picture much more accessible.



Map of Scenario 1 in NSW – No Change to AIHW Rates in the Year 2027



Map of Scenario 1 in Metropolitan Sydney – No Change to AIHW Rates in the Year 2027

To examine the potential service demand and allocation implications of the modelled population disease work done here, a selection of health and aged care service providers were also included in the analysis. The aim here was to investigate aspects of spatial accessibility' to those services and to produce an overall measure of spatial accessibility. The current services included were: public hospitals; Aged Care Assessment Teams; ambulance stations; residential aged care facilities; general practitioners; pharmacies; and lastly, Meals on Wheels providers. This list obviously does not cover the *whole* of the aged care services sector. It does, however, provide a picture that goes beyond a single service provider type and aims at testing the potential for measuring the *degree* of resourcing available to different geographical regions in the context of the levels of ageing they are projected to experience. An additional component in this mix would be taking the current gaps in service infrastructure and mapping out opportunities for future service providers by type (e.g. this area needs more GPs, this one a pharmacy and so on).

Mapping patterns of disease and infrastructure can be used to generate a variety of useful outputs for communities, service providers and planners. One of the items we included on this project was a composite measure of the spatial accessibility to some form of aged care service provider (as mentioned above) for every SA2 in the model. This means that we can contrast and compare individual SA2s for their individual and aggregate aged care service accessibility illustrating which SA2s are better or less prepared for population ageing and its consequences.

Implications for Policy and Practice

This paper very briefly examines a number of key elements of a more extensive doctoral research program and some implications for postdoctoral research. The focus of the work is on one the major health and social care issues of our time, population ageing. This is clearly an issue for decades to come and the implications for specific communities can only be fully understood by including a geographic or spatial perspective. In addition, taking into account factors such as dementia sub-types, severity, cost and the complexity of existing service providers, and their current distribution, make this a beneficial addition to current approaches.

Some obvious limitations exist in our understanding of the dementias more generally and these have their correlate sin population modelling activities such as this. For example, prevalence rates for some groups, such as Aboriginal communities, are known to be much higher than the population average. Some cohorts or locations may produce higher incidence than estimated due to specific factors. Ultimately, these can be modelled if the data is available and the spatial approach supports more localised efforts without sacrificing the larger policy picture.

Summary

This approach pilots a developmental process for mapping complex health and aged care concerns across existing population and service provision silos. Coping with the complexity of ageing into the medium term will be a challenge for existing policy and funding arrangements. This is a novel application of spatial methods to a number of problems in ageing research including understanding where will demand be higher and more problematic in terms of established service infrastructure and how accessible are services for emerging groups with dementia-related health problems and their correlates? Geographic concepts and methods have a role to play and this research illustrates an example of how ageing policy can be supported by spatially informed strategies. Future developments of this work are already in planning including the incorporation of 2016 Census data, once available, and the development of more localised dementia prevalence rates.

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LIFE SATISFACTION OF OLDER PEOPLE: THE CASE OF VIETNAM

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Life satisfaction is one of the most important indicators of quality of life. This paper addresses how Vietnamese older people assess their lives and what social factors are shaping their assessments in the context of rapid population ageing and social change. The sample consists of 4,559 individuals aged 60 years old and older (Mean: 72 years) drawn from the Vietnam National Ageing Survey (2011) and the Regional Ageing Survey (1997). Half of the sample were found to be relatively satisfied with their lives. Those in poor health and those with a perceived inadequacy of income were relatively more dissatisfied with their lives. Life satisfaction also varied by living arrangements, number of children, and whether or not they had a son. Future research should analyse domains of life satisfaction in order to provide specific insights and practical applications for improving older people's quality of life in Vietnam.

Introduction

Life satisfaction is one of the core research areas in ageing studies which thus far has concentrated on in Western countries (Kooshiar et al., 2012). The topic has recently received more attention in developing countries as rapid population ageing is raising various concerns and challenges for socio-economic development, human capital, care and pension systems and other age-related issues. Life satisfaction is a subjective measure of well-being that needs to be understood in the context of older people's lives, inclusive of physical and mental health, social participation, family relationships, living arrangements, and socio-economic situations, as well as age and gender structure, social variations within cultural and economic environments (Chaonan Chen, 2001).

Vietnam is experiencing an extremely rapid population ageing process, which is believed that within only 20 years it will become an "aged population" country. By 2049, it is projected that 26% of the population will be 60 years old or older (UNFPA, 2011). Socioeconomic and demographic change is underway in social and family structures, living condition and arrangements, values and norms on family relationship, and care systems. Vietnamese older people will soon be faced with challenges from these societal as well as individual transitions (Huong et al., 2012). Thus, it is crucial to study Vietnamese older people's life satisfaction as an important indicator of quality of life (Meggiolaro & Ongaro, 2015) in order to inform constructive policy development. The fundamental questions concern how do Vietnamese older people assess their changing lives? And, what social factors are shaping their assessments? In addressing these questions it is essential to explore social variations to better understand the social determinants of well-being and inequalities, including opportunities for enhancing capacities as well as vulnerabilities.

Methods

Analyses are based on secondary data from two surveys on older people in Vietnam: Vietnam National Ageing Survey (2011) and Regional Ageing Survey (1997). The sample contains 4,559 individuals aged 60 years and older (mean: 71.8; SD: 8.5); 42.5% are males, and 57.5% are females; 64.7% of them live in a rural area. Slightly more than half of the sample are married, 40% are divorced/separated or widowed and 2% are never married. One-third of the sample have no schooling at all while 43.2% have primary or below education, 23.3% are with secondary or higher education.

Multinomial regression was employed to investigate the major determinants of life satisfaction. The reference group consists of older people who are satisfied with their life.

Measures

Global life satisfaction was measured by a single question: "Overall how satisfied would you say about your life?". The dependent variable consists of three levels of satisfaction collapsed from a response set of five levels. These levels include "satisfied", "neither satisfied nor dissatisfied" and "dissatisfied".

The living arrangements of older people are categorised as (1) living alone; (2) living only with a spouse; (3) living only with children; (4) living with spouse and children, and (5) living in multi-generational households. Other independent variables included demographic information, health status, individual income, working status, household size, and whether or not they have a son and/or grandchildren.

Results

Demographic characteristics and life satisfaction

Finding in this paper on married older people showing that 59% were found to be satisfied with life, compared to 32% of divorced/separated people, 46% of widows and 46% of those who had never married. These findings are consistent with the Western and the US literature (Botha & Booysen, 2012) in that divorced or separated older people are the least satisfied with life and express more feelings of loneliness than the never married who seem to be "not especially lonely" (Gubrium, 1974) possibly because they have developed coping strategies (Hank & Wagner, 2012). Widows are even found more satisfied with life than divorced/ separated older people in this analysis.

Table 1.

Correlations between selected characteristics and life satisfaction.

	Selected characteristics	Dissatisfied	Not dissatisfied nor satisfied	Satisfied
Age	60-69	12.7	32.9	54.4
	70-79	14.8	34.7	50.5
	80+	13.7	32.5	53.7
Gender***	Man	9.6	32.8	57.6
	Woman	16.6	33.8	49.6
Marriage***	Single	25.3	28.9	45.8
	Divorced/Separated	36.4	31.8	31.8
	Widowed	18.3	36.2	45.5
	Married	9.7	31.8	58.5
Living Area	Rural	15.0	30.9	54.1
	Urban	11.2	37.8	51.0
Education***	No schooling	19.6	44.8	23.4
	Primary and below	12.0	30.0	58.0
	Secondary and higher	8.3	23.4	68.2
Health status***	Poor	17.8	33.3	48.9
	Not poor nor good	8.1	33.2	33.6
	Good	6.3	33.6	60.0
Household size***	1 member	22.5	27.5	50.0
	2-4 members	11.0	22.6	66.4
	5-7 members	8.3	20.4	71.3
	8 members	8.4	15.1	76.5
No. of children***	No child	33.6	28.1	38.4
	1-3	22.6	40.4	37.0
	4-7	12.0	38.3	49.7
	8-10	10.4	28.9	60.8
	11 and more	9.9	23.9	66.2
Having son(s)***	No	26.6	31.2	42.1
	Yes	11.9	33.7	54.4
Living arrangements***	Alone	27.8	29.1	43.1
	Spouse	9.5	25.6	64.9
	Children or Children and others	19.6	37.8	42.7
	Spouse and children/others	12.1	35.9	52.0
	Multigenerational house-holds	11.3	35.1	53.6
	With others	27.4	29.7	42.9

***p<0.000

An interesting finding is that although the majority of older people are in poor health condition (60%) and have insufficient income (61%), 53% of them are still satisfied with their lives, which suggests that they accept their fate and draw life satisfaction from other aspects of their lives. Overall, older people with poor health, having a worse financial situation or inadequate income seem to be more dissatisfied with their life than their counterparts. Older men are found more satisfied with life than women. The potential resources of higher education, larger households, more children, and having a son were also significantly correlated with life satisfaction. No differences of any note were reported among age groups within this older population nor between rural and urban area (Table 1).

Living arrangements and life satisfaction

The correlation between living arrangements and life satisfaction among older people is relatively obvious in Vietnam. Older people who are living alone or with non-relatives are less satisfied with their life than others. Those who live alone are considered as the most vulnerable regarding immediate support and care, lack of intimate relationship with family members and social isolation. Compared to other living arrangements, the highest proportion of those who are satisfied with life is found among older people who live with a spouse (64.9%), followed by living in multigenerational households (53.6%), and live with spouse and children or with others (52%). This strengthens the above finding on the relationship between marital status and life satisfaction which have proved that married older people are more satisfied with life than others.

Major determinants of life satisfaction of Vietnamese older people

Findings on determinants toward life satisfaction of Vietnamese older people are relatively consistent with previous studies in the region as well as internationally. The main factors are income, health and marital status. Specifically, older people with inadequate income are six times more likely to be dissatisfied with their life than those who have adequate income. This finding clearly reflects their expectations of having better financial condition. Divorced/ separated elderly are four times and widows are 1.8 times more likely to negatively assess their life satisfaction than married one. People with poor health are 1.8 times more likely to be dissatisfied with life than their counterparts.

Traditional son preference and filial norms explain why older people who have fewer children or do not have any son are more likely to be dissatisfied with life than those who have more than two children. In contrast to findings from the West, living arrangements turn out not to be a major factor. Those who live with a spouse are less likely to be dissatisfied with life than their counterparts. Living in multigenerational households is also found significantly facilitating positive assessment of satisfaction with life. Gender and area of residence are no longer determinants towards older people's assessment of their life.

Table 2. Determinants of Life satisfaction

Dissatisfied	B (S.E)	OR
Poor health [1]	.574 (.221)	1.775**
Neither poor nor good health[1]	.038 (.234)	1.039
Never married[2]	-.293 (.399)	.746
Divorced/Separated[2]	1.448 (.351)	4.255***
Widowed[2]	.592 (.141)	1.807***
Inadequate income[3]	1.879 (.143)	6.548***
Living alone	-.066 (.201)	.936
Living only with a spouse	-.662 (.182)	.516***
Living only with child	-.052 (.221)	.949
Living in multigenerational HHs	-.529 (.138)	.589***
Do not have grandchild	-.234 (.303)	.792
Do not have any son	.441 (.178)	1.555*
Have no child[4]	.991 (.375)	2.693**
Have 1-2 children[4]	.373 (.147)	1.452*

Note: Reference group: (a) Satisfied; (1) good health; (2) married; (3) adequate income; (4) three or more children.

Implications for policy and practice

The preliminary results from this study suggest the value of older people in paid labour force, generating income and social involvement as well as contributing in the informal sector. The fact is that Vietnamese older people are actively involving in economic activities (Giang Thanh Long & Pfau, 2007; Knodel & Truong Si Anh, 2002; Unicef et al., 2008; Vietnam Women's Union, 2011), however, government policies are relatively inadequate in encouraging and supporting older people to participate in the labour force. The reasons for them to keep actively working could be to contribute to household income and their own livings, or just to remain physically and mentally healthy. Insufficient income, the main determinant of negative assessment towards life satisfaction, provides evidence for considering improvements in policies related to retirement, elderly employment, pension as well as health care to ensure fulfilling the minimum needs of older people, especially those who are not able to work.

Summary

Vietnamese older people and the society will soon face challenges in their later life due to rapid changes in socioeconomic conditions. Although their lives are not really favourable in terms of income and health, they seem to be satisfied with life and it varied among subgroups. Having better economic conditions, good health, living with a spouse or in multigenerational household definitely contribute to older people's positive assessment of their life satisfaction, which is consistent with the western research literature. Cultural norms and values have been also changed but still have an important role in influencing their assessment. Future research should focus more on analysing domains of life satisfaction, for example, material and emotional well-being, productivity, safety, and community, which then may provide more specific insights and practical applications for improving older people's quality of life in Vietnam.

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THE DEVIL'S IN THE DETAIL: TO WHAT EXTENT CAN A WRITTEN AGREEMENT PROTECT AN OLDER PERSON IN AN ASSETS FOR CARE ARRANGEMENT WITH THEIR CHILDREN?

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Assets for care, or family accommodation agreements, are increasing in number and in kind. As the arrangement commonly involves the transfer of significant assets, it is advisable the parties have the agreement recorded in writing. In doing so, however, parties need to be aware of common law rules that presume the entirety of the agreement is recorded in the written document, and as such the agreement when enforced generally will not include any 'understandings' or oral agreements made between family members. This paper uses the recent case of *Mainieri & Anor v Cirillo* to demonstrate the operation of the common law rules and the difficulties that may arise when family members engage in contractual bargains. It goes on to recommend that both parties, but in particular the older party, receive independent legal advice from a practitioner who will appreciate and protect the vulnerable position of the older party.

Background

One of the most pressing challenges facing Australia's elderly population is obtaining accommodation that provides housing security in an environment that is appropriate for their physical, emotional and financial circumstances. Families are a primary source of support for older people and intergenerational living arrangements can and do provide financial and lifestyle benefits. Consequently, many families are turning to "assets for care" or "family accommodation arrangements" as a mutually beneficial solution. These arrangements involve a transfer of assets, either property or money from the parent to their adult child in exchange for accommodation, often with a promise that the child will care for the parent. The arrangement is seen as advantageous as it enables elderly parents to be cared for within the family environment, and provides a method of preserving family assets rather than funds being dissipated in aged care. On its face, this is a mutually beneficial arrangement for both parties, and in many cases the arrangement proceeds unremarkably. However, in the event of the relationship breaking down, the status and terms of the agreement becomes crucial; most often, the agreements are informal and imprecise as to their terms, despite involving the transfer of major assets. There is often no record of an agreement that is binding on either party. Rarely have the parties sought any legal advice prior to the commencement of the arrangement, nor do parties anticipate or foresee the relationship breaking down and as such are not prepared for the consequences. There can be exacerbating factors such as the possibility of the older party being subject to unconscionable influence or pressure, either consciously or not, by their children. What is common to each scenario is that assets have been transferred from the older party to the child, and the older party no longer has any legal claim to the assets. Although the older party may commence legal proceedings to regain some assets, the litigation is time consuming, expensive and emotionally draining. As such they are rarely pursued.

In light of this, it is generally recommended that prior to entering into an asset for care arrangement, the parties formalise their agreement in writing in order to protect the respective contributions, and specify the extent of their responsibilities. When preparing the agreement, decisions can be made regarding the outcome on the occurrence of certain events, such as the adult child predeceasing the parent, the older person needing care beyond that which can be provided by the adult child, the breakdown of the relationship or divorce of any of the parties to the agreement.

The aim of this article is not to dispute that recommendation; rather, it seeks to warn of the pitfalls that may occur should the parties be unaware of common law rules concerning written contractual undertakings, in particular the parol evidence rule. In view of the risks associated with written formal agreements, I make two further suggestions. First, that parties, and most importantly the older party, are strongly encouraged to seek *independent* legal advice (preferably in the absence of the adult child) before entering into a family accommodation arrangement. Secondly, that the legal profession take more steps to educate and train legal practitioners so they are sensitive to needs and potential vulnerability of the older client, and are aware of potential elder abuse scenarios that may arise.

Written Agreements and the Parole Evidence Rule

The parol (or 'oral') evidence rule provides that generally, evidence will not be admitted which seeks to add, vary or contradict the terms of a written contract.

The purpose of the rule is to prevent uncertainty in contracts, and its development occurred primarily in the context of commercial dealings. The reasoning being that parties deciding to reduce an agreement to writing would not omit to record all the terms. In the context of a family accommodation agreement, the rule works to prevent any informal conversations or 'understandings' between family members supplementing the terms of the written contract unless the court is able to determine that the contract is *not* the sole repository of a legally binding agreement. Even when reduced to a written contract, an agreement between family members, particularly those planning to share accommodation, is not at arms length, nor analogous to a

commercial contract. It is therefore likely that parties have between themselves presumed certain outcomes, but failed to document each contingency. The onus however of proving the agreement included those understandings or unwritten terms, is on the person attempting to rely on them. An example of the application of the rule and arguments regarding exceptions to the rule can be seen in the case below.

A Cautionary Tale: the case of *Mainieri & Anor v Cirillo*

In this case the parties entered into an oral agreement whereby Mrs Cirillo provided $240,000 from the sale of her home to reduce her son's mortgage, in exchange for accommodation with her son and his partner indefinitely. Mrs Cirillo's son and his partner were suffering financial stress and according to Mrs Cirillo, had conversations with her, saying "Look Mum, if you don't sell the unit the bank will take our house". She said she felt "very bad about that". In another conversation, she was alleged to have been told "Mum, we're not going to buy this larger house any more. Mum, let's take the money and put that straight in our mortgage and we promise you that we will look after you for the rest of your life."

At a later stage, a written agreement was entered into between Mrs Cirillo, her son and his partner. The agreement stated that Mrs Cirillo agreed to make a gift of $240,000, in exchange for being looked after "for the rest of her lifetime in a manner that is just and appropriate in all the circumstances".

Unfortunately, a short time later the relationship broke down, and Mrs Cirillo felt she was unable to remain in the home.

Mrs Cirillo commenced proceedings, and the matter was heard at first instance in the Commercial and Equity division of the Victorian Supreme Court. Randall AsJ found for the plaintiff Mrs Cirillo. Her son then appealed to the Victorian Court of Appeal.

Mrs Cirillo wanted the return of her money. To secure the payment, she argued that she was entitled to a proprietary interest in her son's house (a constructive trust) in an amount reflecting her $240,000 contribution. Alternatively, she argued she was entitled to use the house as security for the $240,000 (an equitable lien). In response, her son alleged the money provided to him was a gift, and therefore he was under no obligation to repay it. He gave evidence saying that:

> All she said to me, she wanted to sell, she wanted to give a share – she wanted to give me my share because she had given a share to my brother of $250,000 and she wanted to give me the same amount of share.

The appellant further alleged that his mother was not entitled to any proprietary interest in the property. He argued the intention of the parties was that the written document was to encompass the entirety of their agreement, and that document omitted to state that the money was to be applied in reduction of the mortgage. In doing so he relied on the parol evidence rule. Mrs Cirillo had to convice the court that the written agreement did not reflect the entirety of their agreement, and that their oral agreement that the money be applied to reduce the mortgage, constituted a collateral warranty.

Fortunately for Mrs Cirillo, the Court of Appeal dismissed the appeal and were prepared to find that the agreement was partly oral and partly written. That the money be used to reduce the appellants mortgage was considered to be a contractual promise, rather than a mere statement of intention. The court stated that:

> Statements of intention can be treated as promises where, as here, they are precise, relate to a critical matter, and upon examination of all the circumstances are seen to have induced a party to enter into a principal agreement.

As well as being admissible at common law, the oral arrangement was admissible in equity as proof of facts that rendered the retention of the benefit of payment of the mortgage, without accounting to Mrs Cirillo for the 'gift', unconscionable. The Court of Appeal however denied the award of a proprietary interest in the house, but ordered her son to repay the $240,000, with the house used as security for the payment.

Matters Arising from the Case

Despite Mrs Cirillo's victory, the admission of oral evidence is determined objectively on the facts of the case. Parties entering into a formal asset for care agreement need to be aware that prima facie, the document encompasses the whole agreement, and does not include informal conversations that 'supplement' the written agreement. To establish otherwise would require a contested hearing, usually at great emotional and financial expense. With respect to this case, it is worth noting that the respondent, Mrs Cirillo, an elderly Italian woman, was represented under a pro bono scheme. Therefore her liability to pay her solicitors was contingent on a costs order being made in her favour. Had this not been the case, Mrs Cirillo would not have been able to afford to commence the action, and would have lost the money she transferred to her son.

Despite the financial burden of running the case being removed, the legal burden still remained with the respondent. The onus was entirely on Mrs Cirillo to establish evidence that the oral agreement was admissible. If the court had not ruled in her favour, she would have no claim over the property. This was critical, as, Mrs Cirillo was unable to sue at common law for breach of contract. A breach of contract on the part of her son would have allowed Mrs Cirillo to claim damages for the money she contributed. However, the court found there was no breach of the contract by her son. Evidence revealed that she had left the accommodation she shared with her son because of disharmony in the relationship. Her son had not refused to comply with the terms, namely looking after her and allowing her to live in the

house, and the actions causing the disharmony were not enough to constitute a breach by him.

A further aspect that arose from the case was the observation by the court concerning the solicitor responsible for drafting the contract. In response to an argument raised by the appellant, the court noted that the solicitor was in fact acting for the appellant, and not Mrs Cirillo. As such, Mrs Cirillo was not given any independent legal advice concerning this transaction. Had she done so, it is likely that the essential term would have been included, along with a more comprehensive investigation of the obligations of each party. In all likelihood, litigation would have been avoided. It would certainly appear extraordinary in any other context outside of a family arrangement, for a party to transfer considerable (and sometimes their sole) assets in the absence of legal advice. Yet older people in particular are doing so on a regular basis – sometimes consensually, sometimes, as in the present case, feeling a sense of obligation, and other times pursuant to the undue influence or pressure from a family member. In any situation, it is imperative that the older person is able to speak to a legal practitioner who is acting on their behalf and in their best interest.

Lastly, it is imperative that practitioners are trained not only to develop expertise in elder law issues, but also possess sensitivity to the particular circumstances of each elderly client. Issues concerning capacity, mobility, sight impairment, hearing or even apprehension concerning the legal process should be observed and dealt with so that older people are able to have appropriate legal advice and access to justice.

Conclusion

With housing affordability declining and an ageing population, family arrangements involving shared property and/or pooled resources are commonplace and will become more so. This is not to be discouraged; the benefits of multi-generational living arrangements are many and include the provision of companionship, mutual support, and financial and housing security. However, an older party must ensure their assets are protected in the event of the relationship deteriorating or their circumstances changing. A written family accomodation agreement that records the wishes of each party with respect to obligations and property will offer protection, provided the document is a comprehensive reflection of *all* the agreed terms. To prevent the circumstances of the Cirillo case being repeated, it is imperative that older people seek independent legal advice from a practitioner well versed in the pitfalls of asset for care arrangements. A solicitor acting on behalf of the older person should ensure all crucial terms are included within the four corners of the contract, and that the consequences of the agreement are carefully and comprehensively explained. These measures will go a long way towards protecting an older person should the arrangement break down, and provide them with a degree of financial security and peace of mind.

1. [2014] VSCA 227.
2. National Seniors Australia Productive Ageing Centre, *It's not just about money: Intergenerational transfers of time and money to and from mature age Australians,* October 2012, ii.
3. This arrangement is often seen as a means by which an adult child can tap into an "early inheritance".
4. Accommodation arrangements may vary; they include the 'granny flat', the renovation or extension to an existing home, the purchase of a new property, or simply the occupation of a room in an existing dwelling.
5. See Teresa Somes and Eileen Webb, 'What Role for the Law in Regulating Older Peoples' Property and Financial Arrangements with Adult Children? The Case of Family Accommodation Arrangements' (2015) 33(2) *Law In Context* 24.
6. A sample family accommodation agreement is provided by Seniors Rights Victoria: https://assetsforcare.seniorsrights.org.au/resources/sample-family-agreement-2/
7. [2014] VSCA 227.
8. Ibid [22].
9. Ibid [13].

ERA 2017 National Conference

The ERA 2017 National Conference which will be taking place in Perth on the 6th and 7th of November. The conference will be chaired by Professor Keith Hill from Curtin University. Professor Hill is Head of the School of Physiotherapy and Exercise Science and has an extensive background in ageing research including falls prevention and exercise programs.

Keith is committed to building ageing research capacity in Australia and connections with our international neighbours, and is the current President of the Asia / Oceania Regional Council for the International Association of Geriatrics and Gerontology. Keith is excited about the ERA 2017 conference and looks forward to welcoming you to Perth in November next year.

Like this year, ERA 2017 will be immediately prior to the Australian Association of Gerontology conference to make it easy for people to transition between our two ageing conferences.

Curtin University

Professor Keith Hill

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Save the dates

16th ERA National Conference, Perth, 6 - 7 November 2017

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