13th National Conference of Emerging Researchers in Ageing
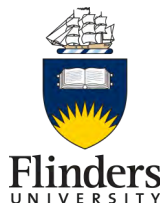
Adelaide 2014

Program & Proceedings
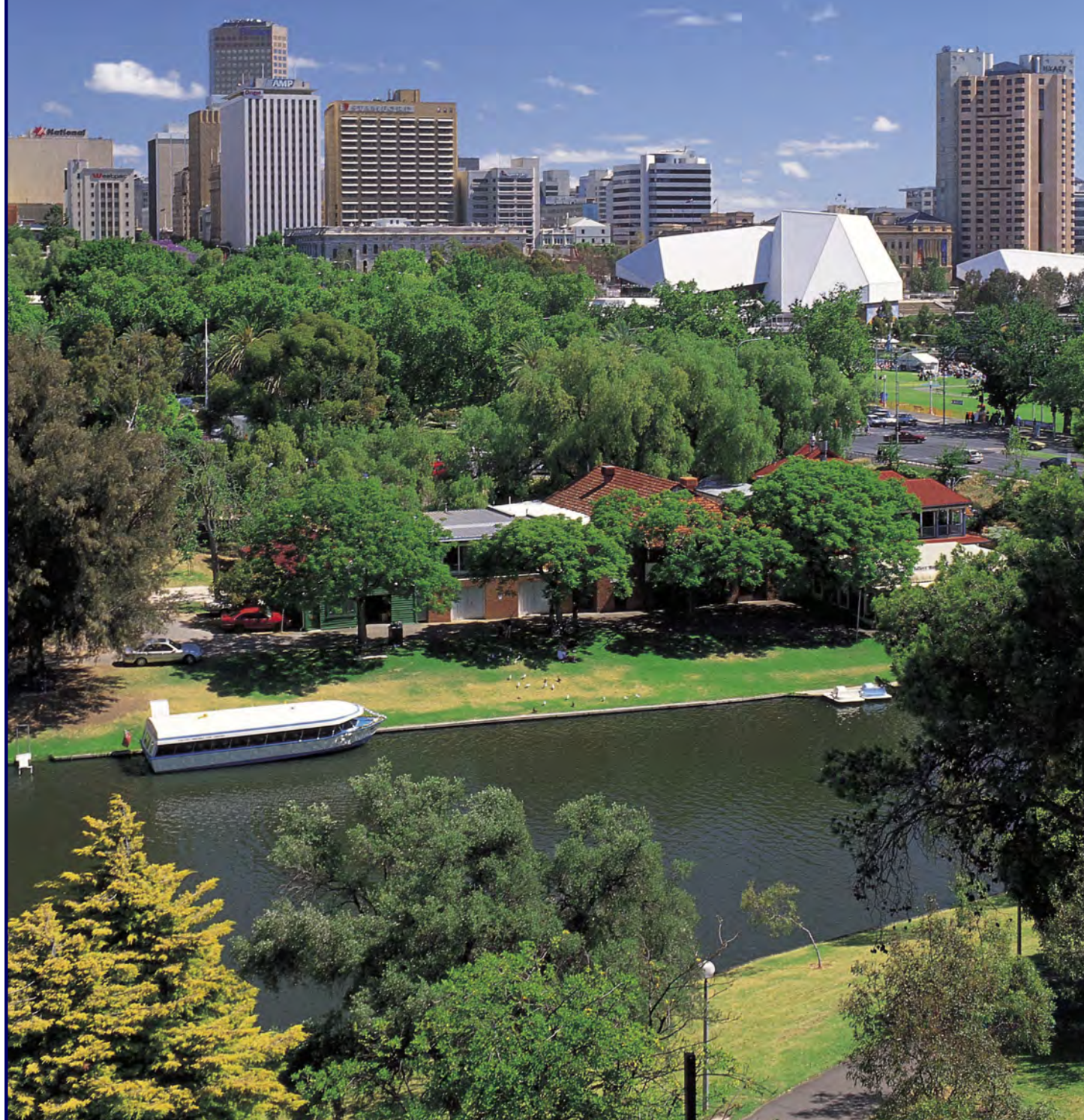
'Making Research Matter'

13th National Conference of Emerging Researchers in Ageing

24 - 25 November 2014
Flinders University City Campus, Victoria Square, Adelaide

Program & Proceedings

Contents

Welcome from the 2014 Convenor's

Professor Mary Luszcz

Dr Helen Feist

It is with great pleasure that we welcome you to the 13th *Emerging Researchers in Ageing (ERA) National Conference*. The Flinders Centre for Ageing Studies at Flinders University and the Australian Population and Migration Research Centre at the University of Adelaide are pleased to be jointly hosting this important event. *ERA* is the only national conference in Australia focusing exclusively on the work of higher degree students undertaking research in ageing across a range of disciplines. Now in its thirteenth year, the conference presents a unique opportunity for like-minded students to come together to share their research on ageing.

We have chosen the Flinders University Victoria Square Campus as the conference venue this year and hope you have the opportunity to visit local attractions and enjoy beautiful Adelaide. The *ERA* conference immediately precedes the 47th *Australian Association of Gerontology (AAG)* National Conference which will be held close by at the newly re-developed Adelaide Oval. We hope you take the opportunity to enjoy the entire week celebrating ageing research in Australia.

As in previous years the conference has an extensive program that brings together a diverse range of postgraduate students to share their interests in ageing and discuss the latest research. The theme for this year's conference is *Making Research Matter*. It highlights two key aims. On the one hand it highlights the fundamental process of knowledge production using a multitude of research approaches. Secondly, the theme captures the translational aim of undertaking research that will have application to policy and practice and that matters to the ageing sector in the broadest sense. Together, *Making Research Matter* highlights the need to do things that are significant (theoretically), sound (methodologically), and relevant (applicable to society and its older constituents in particular).   Our conference program is unique in that it showcases the work of higher degree research students across a range of disciplines and the impact that their research has on the field of ageing. This year we have 49 oral presentations, 7 posters and 10 full papers, including 3 international contributions. You are privileged to have the opportunity to hear from our Keynote Speaker, Professor Kaarin Anstey of the Australian National University. Her presentation, 'Developing your research career in ageing, focussing on scientific excellence and knowledge translation', will exemplify superbly the conference theme.

On the second day we present 3 workshops. For the first time, we are sharing conference workshops with the *AAG* national conference to increase the opportunities for *ERA* participants and promote greater inter-generational networking. All three workshops will be interactive and include open discussion. Participants will have the opportunity to work in small groups and build on the networking begun on the first day of the conference.

We would like to acknowledge and thank our sponsors, who appear in the program and throughout the conference venue. We appreciate the generous support of these organisations in helping to make this conference such a success.

So once again, welcome to *ERA* 2014. We hope your experience is enjoyable and valuable. We look forward to meeting the cohort of emerging researchers in ageing and sharing in your research development.

Professor Mary Luszcz
Conference Convenor
Matthew Flinders Distinguished Professor
Professor of Psychology and Gerontology
Flinders Centre for Ageing Studies
Flinders University

Dr Helen Feist
Conference Co-convenor
Deputy Director for the Australian Population and
Migration Research Centre
University of Adelaide

Acknowledgements

We appreciate the generous support of the following sponsors for ERA 2014:

Primary ERA Sponsor
CEPAR - ARC Centre for
Excellence in Population Ageing
Research

Platinum & Bursary Sponsor
Australian Government - Department
of Social Services (Ageing and Aged
Care Services)

Gold Sponsor
Helping Hand Aged Care

Silver Sponsor
The Australian Association
of Gerontology

Welcome Reception Sponsor
Alzheimer's Australia (SA)

Keynote Address Sponsor
University of Adelaide
School of Social Sciences

Session Sponsor
Office for the Ageing (SA Department of Health)

Acknowledgements

Session Sponsor
ACH Group

Conference Proceedings Sponsor
IRT Research Foundation

Bursary Sponsor
Adelaide Training and Geriatric Research
with Aged Care (G-TRAC) Centre

Promotional items and trade display sponsors
Anglicare SA and Council on the Ageing (COTA SA)

The Conference Organising Committee for ERA 2014 included:

* Mary Luszcz, Flinders University
* Helen Feist, University of Adelaide
* Kathryn Browne-Yung, Flinders University
* Matthew Carroll, Monash University/ERA
* Penny Edwards, Flinders University
* Susan Hunt, Monash University/ERA

* Linda Isherwood, Flinders University
* Georgia Panagiotopoulos, Flinders University
* Susannah Sage-Jacobson, Flinders University
* Ruth Walker, Flinders University
* Lynn Ward, University of Adelaide
* Tim Windsor, Flinders University

cepar

ARC CENTRE OF EXCELLENCE IN
POPULATION AGEING RESEARCH

CEPAR - the ARC Centre of Excellence in Population Ageing Research - is a unique collaboration bringing together academia, government and industry to address one of the major social challenges of the twenty first century.

Based at the University of New South Wales (UNSW) with nodes at the Australian National University (ANU) and The University of Sydney, CEPAR produces world-class research, provides global solutions to the economic and social challenges of population ageing, and builds a new generation of researchers with an appreciation of the multidisciplinary nature of population ageing.

UNSW
THE UNIVERSITY OF NEW SOUTH WALES

Australian National University

THE UNIVERSITY OF SYDNEY

"As I get older I want to have choice and control"

"You can with a bit of help from My Aged Care"

Let's talk about changes to aged care.

Aged care should be decided by the person who knows you best – you. That's why aged care changes from 1 July 2014 give you more choice, more control and more of the services you might need to help you stay independent. New financing arrangements also start. So if you're getting older and need help, or if you're caring for someone who does, call My Aged Care or visit the website to find out what you need to know to start planning and talking about aged care with your family and loved ones.

Because the sooner we all start talking about aged care and planning it, the better the outcome for you and your family.

For personalised assistance,
talk to a real person on
1800 200 422* or visit
myagedcare.gov.au

Australian Government

myaged**care**
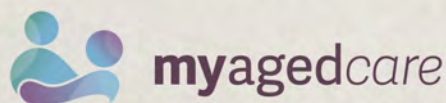
*1800 calls are free from land lines; calls from mobile phones may be charged.

Authorised by the Australian Government, Capital Hill, Canberra.

The Australian Association of Gerontology (AAG) is proud to once again be sponsoring the Emerging Researchers in Ageing Conference.

The AAG is the peak national body supporting gerontologists and those with a fervent interest in ageing research. With around 1,000 members across Australia, we run a series of events at the local and national level, including an annual national conference. Many of the events are free for members, or are offered at a significantly discounted rate. The AAG also supports a raft of Special Interest Groups, as well as networking activities with research centres around Australia.

Through AAG's vibrant Student and Early Career Group, students and early career researchers and practitioners engage in a range of collegial activities throughout the year. This assists them to develop their professional skills in research and practice, while providing them with networks to grow their careers in gerontology. Activities include workshops, seminars, symposia and webinars, all designed with professional development in mind.

If you are new to the area of ageing research, we encourage you to consider joining the AAG. It will open up a world of opportunities in gerontology and support you in your passion for ageing research.

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.

Clinical A/Prof Briony Dow
President
Australian Association of Gerontology
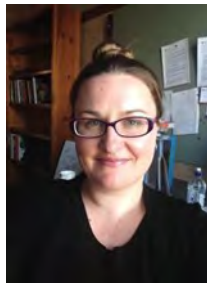
Belinda Cash
President, Student and Early Career Group
Australian Association of Gerontology

SAVE THE DATE

48th Australian Association of Gerontology National Conference
"Place, Spirit, Heart: Exploring Experiences of Ageing"
4th to 6th November 2015

Speaker Profiles

Keynote Speaker: Professor Kaarin Anstey, BA Hons (USyd), PhD (UQ)

Professor Anstey is Director of the Centre for Research on Ageing, Health and Wellbeing and Director of the Dementia Collaborative Research Centre, Early Diagnosis and Prevention at the Australian National University and is a Chief Investigator in the ARC Centre of Excellence in Population Ageing Research (CEPAR).

Professor Anstey has successfully mentored many PhD students and Postdoctoral fellows who have progressed to become independent academics in Australia and the United States, or taken up leading policy related roles in non-government organisations. Her substantive research interests focus on optimising cognitive function through adulthood to promote productivity, social engagement, and prevent impairment. Kaarin works on epidemiological studies and interventions and also conducts a research program in older driver safety.

Opening Speaker: Professor Michael N. Barber, BSc NSW, PhD Cornell, FAA, FTSE, FAICD

Professor Michael Barber has been Vice-Chancellor of Flinders University since January 2008 and before that spent 5 years as an Executive Team member in CSIRO.

He is a Fellow of the Australian Academy of Science, the Australian Institute of Company Directors and the Australian Academy of Technological Sciences and Engineering and has served on the Australian Research Council, the Council of the Australian Academy of Science and was Secretary, Science Policy for the Academy of Science from 2001 to 2005.

Professor Barber contributes to policy development at a state and federal level including chairing the Program Steering Committee for a $10million research project: *Securing Australia's Future*, managed by the Australian Council of Learned Academies (ACOLA). He is a director of the South Australian Health and Medical Research Institute (SAHMRI) and a member of the South Australian Advisory Committee of Committee for Economic Development of Australia (CEDA).

Platinum Sponsor Address: Dr Susan Hunt, RN, FACN
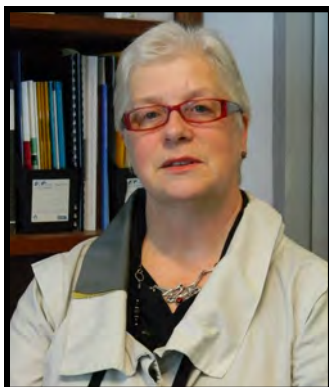
Susan Hunt is the Senior Nurse Advisor providing clinical advice in the Commonwealth Department of Social Services. With a background in both community and residential aged care, Susan's clinical interests include quality use of medicines, promotion of continence and management of incontinence, and the care needs of those with impaired cognition. Her current research is the recognition of delirium in acute care assessment units and the language used by nurses to describe delirium.

Susan has held several training, academic and research appointments, and as an independent nurse consultant, Susan worked with aged care services interested in practice change. She has researched and published in the area of continence promotion, quality use of medicines, and care of older people. Susan continues to build on her clinical experience by working with the Centre of Nursing and Midwifery Research Practice Development at the Canberra Hospital, and contributes to postgraduate education and research as adjunct Associate Professor with Australian National University and with the University of South Australia.

Prizes

Helen Bartlett Prize for Innovation in Ageing Research ($250),
presented by Dr Helen Feist, Conference Co-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.

ERA Best Oral Presentation ($250),
presented by Dr Helen Feist, Conference Co-Convenor

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 Dr Helen Feist, Conference Co-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 Dr Helen Feist, Conference Co-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.

Best presentation by an AAG student member ($250),
presented by Dr Tony Coles, CEO - AAG, Silver Sponsor

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 AAG National prize will be awarded to the best presentation by an AAG student member as considered by an AAG judging panel.

Best presentation by an AAG Victoria student member ($250),
presented by Dr Tony Coles, AAG, CEO - AAG, Silver Sponsor

The Victorian Division of the AAG has a close association with ERA and is keen to support its student members as they present their work at the ERA National conference. The AAG Victoria prize will be awarded to the best AAG Victoria student member presentation as considered by an AAG judging panel.

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 2014 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.

The 2014 ERA Bursary recipients are:

Sponsored by the Emerging Researchers in Ageing initiative:

Mark Bigland	University of Newcastle
Benjamin Hsu	University of Sydney
Suze Jarrad	Flinders University
Alice Kane	University of Sydney
Pilar Maria Rioseco Lopez	Australian National University
Lily O'Donoughue Jenkins	Australian National University
Federico Tartarini	University of Wollongong
Mengyi Xu	University of NSW

Sponsored by the Australian Government – Department of Social Services

Briony Campbell	University of Tasmania
Daniel Hoyle	University of Tasmania
Jane Kellett	University of Canberra
Lisa Kouladjian	University of Sydney
Naomi Noguchi	University of Sydney
Ilona Pappne Demecs	Queensland University of Technology
Anna Radowiecka	University of Sydney
Mina Stevenson	University of Melbourne
Margaret MacAndrew	Queensland University of Technology
Da Jiang	University of Hong Kong

Sponsored by the Adelaide Training and Geriatric Research with Aged Care (G-TRAC) Centre, University of Adelaide

Katherine Caldwell	University of Wollongong
Dorothy Dudley	University of Sydney
Harry Hallock	University of Sydney
Nicole Milne	University of Western Australia

The AAG (SA Division) have generously agreed to reimburse the full registration costs of AAG SA student members who have an abstract accepted fr the ERA conference.

Conference Program

Monday 24th November 2014

8:00 – 9:00	**Registration** Foyer, Level 1
9:00 – 10:10	**Opening Plenary** Room 1, Level 1

Welcome & Acknowledgement
Professor Mary Luszcz
Conference Convenor, Director of Flinders Centre for Ageing Studies

Opening
Professor Michael Barber
Vice-Chancellor, Flinders University

Message from our Platinum Sponsor
Dr Sue Hunt
Senior Nurse Advisor, Department of Social Services

Message from our Gold Sponsor
Megan Corlis
Director, Research & Development, Helping Hand

ERA welcome and introduction to Keynote
Dr Matthew Carroll
ERA National Convenor

Keynote Address
Sponsored by the University of Adelaide, School of Social Sciences

THE UNIVERSITY
of ADELAIDE

'Developing your research career in ageing,
focussing on scientific excellence and knowledge translation'
Professor Kaarin Anstey
Director of the Centre for Research on Ageing, Health and Wellbeing
Director of the Dementia Collaborative Research Centre, Early Diagnosis and Prevention
Chief Investigator in the ARC Centre of Excellence in Population Ageing Research
Australian National University

Keynote Response
Professor David Day
Deputy Vice-Chancellor (Research), Flinders University

10:10 – 10:40	**Morning Tea and Poster Viewing** Room 1 Breakout Area, Level 1

Conference Program

	Session A	Session B	Session C
10:40 – 12:00	**Cognition and Psychological Ageing** Room 1, Level 1 **Chair: Mary Luszcz**	**Perspectives of Care** Room 2.1, Level 2 **Chair: Matthew Carroll**	**Nutrition and Health Conditions** Room 2.2, Level 2 **Chair: Sue Hunt**
	A meta-analysis of computerised cognitive training in healthy older adults. *Hariharan Hallock* *University of Sydney* Cognitive predictors of prospective memory in the fourth age: Evidence from the ADuLTS study. *Mydair Hunter* *Flinders University* The relation between future time perspective and ideal affect. *Da Jiang* *Chinese University of Hong Kong* Level and change in cognitive function in later life and principal life-time career: The role of occupational complexity. *Anna Lane* *Flinders University* Predicting cognitive decline in Type 2 Diabetes. *Nicole Milne* *University of Western Australia* Real-time spatial tracking in humans: Translating animal research methods into the study of cognitive change. *Anna Radowiecka* *University of Sydney*	The capacity conundrum – what the files say. *Lise Barry* *Macquarie University* Using multiple methods to contextualise ageing research. *Belinda Cash* *Charles Sturt University* Healthcare practitioner perspectives on prescribing anticholinergic and sedative medicines in older adults. *Lisa Kouladjian* *University of Sydney* Building a precepting team in a regional aged-care facility. *Fiona McCook* *Monash University* Predictors of sense of competence in dementia care staff. *Margaret Mullan* *Queensland University of Technology* The tacit knowledge in activities of daily living: Knowing by doing care. *Angela Zhang* *University of Adelaide*	Development of a quantitative food frequency questionnaire to measure flavonoid intake in older Australians. *Katherine Caldwell* *University of Wollongong* A validated mouse frailty index: Impact of factors that affect lifespan. *Alice Kane* *University of Sydney* Malnutrition prevalence and nutrition issues in five Australian residential aged care facilities. *Jane Kellett* *University of Canberra* Transitions in health over time in Australian, German, Italian and Greek born South Australians aged 50 - 79. *Constance Kourbelis* *University of Adelaide* Evaluation of food-based Chinese Food Pagoda for older people in nine provinces. *Xiaoyue Xu (Luna)* *University of Newcastle*
12:00 – 1:00	**Lunch and Poster Viewing** Room 1 Breakout Area, Level 1		

Conference Program

	Session D	Session E	Session F
1:00 – 2:20	**Ageing and the Process of Change** Room 1, Level 1 **Chair: Helen Feist**	**Health Service Use, Aged Care & Policy** Room 2.1, Level 2 **Chair: Matthew Carroll**	**Workforce Participation and Retirement** Room 2.2, Level 2 **Chair: Susannah Sage-Jacobson**
	Molecular changes of the inner ear with ageing. *Mark Bigland* *University of Newcastle* Change in testosterone is associated with decline in sexual function in community-dwelling older men: The Concord Health and Ageing in Men Project. *Benjumin Hsu* *University of Sydney* Incidence of geriatric syndromes and frailty in community-dwelling older men. *Naomi Noguchi* *University of Sydney* Understanding risk factors for injuries amongst the older population in long-term nursing care facilities and shelter homes in the Klang Valley area, in Malaysia. *Saraswathy Venkataraman* *Monash University Malaysia* Construct validity of four frailty measures in an older Australian population: A Rasch analysis. *Imaina Widagdo* *University of South Australia* Modelling the mortality of heterogeneous populations. *Mengyi Xu* *University of New South Wales*	Information management in aged care: Identifying what we need. *Jenny Davis* *Monash University* Invisibility of the older person as a partner in care. *Anna Gregory* *University of South Australia* Epidemiology of disease, medication use and health service utilisation in Australian residential aged care. Implications for evaluating medication-related quality of care. *Jodie Hillen* *University of South Australia* Why 'RedUSe'? Rationale for studying the clinical outcomes of sedative reduction in the residential aged care setting. *Daniel Hoyle* *University of Tasmania* Building capacity, promoting partnerships and enabling change to support healthy ageing in Victoria - The effect of a holistic healthy ageing funding model. *Mina Stevenson* *University of Melbourne* Enhancing quality and performance of aged care facilities: Retrofitting for thermal comfort and dementia-friendly design. *Federico Tartarini* *University of Wollongong*	How do older farming couples negotiate retirement decision making together? *Heather Downey* *La Trobe University* Greener pastures? A portrait of life satisfaction among older Australians. *Dorothy Dudley* *University of Sydney* Baby boomer women and labour force participation – old perspectives and new opportunities. *Judith Andrea Lewis* *University of Adelaide* Social connectedness and retirement status in Australia: Results from SNAP. *Pilar Rioseco* *The Australian National University* Retiree welfare: The impact of the 2009 age pension increase. *Serena Yu* *University of Sydney* *Sponsored by Office for the Ageing—SA Health* Government of South Australia SA Health

Conference Program

2:20 – 2:50	**Afternoon Tea and Poster Viewing** Room 1 Breakout Area, Level 1		
	Session G	Session H	Session I
2:50 – 4:00	**Dementia and Cognitive Impairment** Room 1, Level 1 **Chair: Kaarin Anstey**	**Decision-making and Community Participation** Room 2.1, Level 2 **Chair: Susannah Sage-Jacobson**	**Social Relationships** Room 2.2, Level 2 **Chair: Matthew Carroll**
	Accessing dementia care and support services in rural communities. *Marita Chisholm* *Monash University* Semantic memory function in subtypes of Mild Cognitive Impairment (MCI). *Shannon Klekociuk* *University of Tasmania* Does cognitive reserve predict emotional memory performance in older adults? *Louise Lavrencic* *University of South Australia* Describing the characteristics of wandering-related boundary transgression in people with severe dementia: The clinical implications. *Margaret MacAndrew* *Queensland University of Technology* Mild cognitive disorder and general practitioner use: A longitudinal analysis. *Lily O'Donoughue Jenkins* *The Australians National University* Postoperative cognitive dysfunction, depression/anxiety, and delirium after total joint replacement in the elderly: The findings from three meta-analyses. *Julia Scott* *University of Adelaide*	Participation in action: From methodological ideal to lived experience. *Steven Baker* *La Trobe University* Emergency preparedness and resilience: An older person's perspective. *Victoria Cornell* *University of Adelaide* Perceived control moderates the effects of functional disability on older adults' social activity. *Rachel Curtis* *Flinders University* Bringing the oldest-old into the digital age: Overcoming challenges of mobility, literacy, and learning. *Gillian Harvie* *Charles Sturt University* Towards decision-making practices that enhance the autonomy and personhood of vulnerable older persons. *Sue Jarrad* *Flinders University*	As time goes by: A longitudinal thematic analysis of the evolution of widowed women's life experiences. *Robyn Kennaugh* *University of Newcastle* The Enabling Niche: How can frail older people flourish in constraining circumstances? *Vanessa Leane* *University of South Australia* Love and intimacy in later life: Experiences of couples in residential aged care. *Katherine Anne Radoslovich* *University of Adelaide* Social capital in retirement & ageing services of the Brotherhood of St Laurence (BSL). *Seuwandi Wickramasinghe* *Brotherhood of St Laurence* *Sponsored by ACH Group* ACH GROUP Good Lives for Older People

Conference Program

4:00 - 4:20	**Break**

4:20 – 5:00	**Closing Plenary** Room 1, Level 1

	CEPAR Address **Dr. Tim Windsor** CEPAR representative, Deputy Director of Flinders Centre for Ageing Studies **Restorative Ageing—Flinders University in association with ViTA Development** Mr. Jeff Fiebig (Chair) Manager, Program Development ACH Group Inc. **Announcement of Prizes** **Dr Helen Feist** Conference Co-convenor Deputy Director, Australian Population and Migration Research Centre, University of Adelaide **Message from our Silver Sponsor and announcement of AAG prizes** **Dr Tony Coles** Chief Executive Officer, Australian Association of Gerontology **Introduction to the ERA 2015 Conference** **Dr Matthew Carroll** ERA National Convenor **Closing** **Professor Mary Luszcz** Conference Convenor, Director of Flinders Centre for Ageing Studies
5:00–7:00	**Conference Reception** Room 1 Breakout Area, Level 1 **Sponsored by Alzheimer's Australia - SA** FIGHT ALZHEIMER'S SAVE AUSTRALIA FIGHTDEMENTIA.ORG.AU **Opening** **Kathryn Cunningham** Chief Executive Officer, Alzheimer's Australia - SA

Posters

Posters will be displayed throughout Monday 24th November in Room 1 Breakout Area, Level 1. Delegates are encouraged to take time during tea and lunch breaks to view the posters and meet the authors.

No	Title	Authors
1	Daily stress and emotion regulation in younger and older adults: An intensive micro-longitudinal study.	Victoria Allen *Flinders University*
2	Transition to emergency department from residential aged care.	Briony Campbell, Christine Stirling, Elizabeth Cummings *University of Tasmania*
3	A qualitative investigation of the impact of migration and culture on the social and emotional well-being of 1st generation Greek immigrants in Australia.	Panagiota (Peggy) Grypma *University of Adelaide*
4	Beyond family satisfaction: Family-perceived involvement in residential care.	Justine Irving *Flinders University*
5	Towards a decision-making framework for behavioural problems in residential dementia-care facilities.	Catherine Kubel, Richard Fleming, Lyn Phillipson *University of Wollongong*
6	The use of creative activities in dementia care in residential aged care facilities. An Australian cross-sectional descriptive study.	Ilona Pappne Demecs, Elizabeth Beattie, Elaine Fielding, Maria O'Reilly *Queensland University of Technology*
7	Emerging community-based program of elderly care.	Rina Kusumaratna *Trisakti University*

Conference Workshops

Tuesday 25th November 2014		

	Conference Workshops	
9:00 - 10:30	**Contemporary Methods for Analysing Longitudinal Data** presented by Dr Tim Windsor Room 2.1, Level 2	**Writing for Publication** presented by the Australasian Journal on Ageing Room 2.2, Level 2
10:30 - 11:00	**Morning Tea** Room 2.1 & Room 2.2, Level 2	
11:00 - 12:30	**Contemporary Methods for Analysing Longitudinal Data** presented by Dr Tim Windsor Room 2.1, Level 2	**Writing for Publication** presented by the Australasian Journal on Ageing Room 2.2, Level 2
12.30	**Conclusion of Morning Workshops**	
1:30 - 5:30	A joint afternoon workshop on *Navigating the Media Jungle: Your Guide to Staying Relevant* is being presented by the Australian Association of Gerontology (AAG), in collaboration with ERA and the Australian Ageing Agenda. The workshop will take place from 1:30-5:30pm at the AAG Conference venue, Adelaide Oval, War Memorial Drive, North Adelaide.	

The first workshop *Writing for Publication* (presented by the Australasian Journal on Ageing) recognises that scholarly writing is an essential academic skill, and can be useful for practitioners and others who want to share achievements in practice or debate change in policy. This workshop will cover some simple tips that can assist authors to improve the quality of manuscripts and increase publication chances.

The second workshop *Contemporary Methods for Analysing Longitudinal Data* presented by Dr Tim Windsor, ARC Future Fellow, and Deputy Director of the Flinders Centre for Ageing Studies, Flinders University, Adelaide, will introduce fundamental aspects of contemporary methods for longitudinal analysis, focusing on (1) multilevel modeling, and (2) latent growth curve modeling in the Structural Equation Modelling context.

The Tuesday afternoon workshop on *Navigating the Media Jungle* will be held at the AAG conference venue at the Adelaide Oval. This workshop recognises that increasingly academics and researchers are expected to proactively engage with the mainstream media to help disseminate their research findings, contribute to the community's understanding on key issues and help inform public opinion and public policy. The aim of this workshop is to give you the necessary skills and confidence to work confidently with different media.

Abstracts

Oral Presentation Abstracts

Session A

Cognition and Psychological Ageing

A meta-analysis of computerised cognitive training in healthy older adults.
Hariharan Hallock
University of Sydney

Cognitive predictors of prospective memory in the fourth age: Evidence from the ADuLTS study.
Mydair Hunter
Flinders University

The relation between future time perspective and ideal affect.
Da Jiang
Chinese University of Hong Kong

Level and change in cognitive function in later life and principal life-time career: The role of occupational complexity.
Anna Lane
Flinders University

Predicting cognitive decline in Type 2 Diabetes.
Nicole Milne
University of Western Australia

Real-time spatial tracking in humans: Translating animal research methods into the study of cognitive change.
Anna Radowiecka
University of Sydney

A META-ANALYSIS OF COMPUTERIZED COGNITIVE TRAINING IN HEALTHY OLDER ADULTS

LAMPIT Amit[1], HALLOCK Hariharan[1], and VALENZUELA Michael[1]

[1]Regenerative Neuroscience Group, Brain and Mind Research Institute, University of Sydney

Given the forward estimates of dementia prevalence in the near future, developing effective interventions to attenuate age-related cognitive decline is a global priority. Delaying the onset of dementia by five years could reduce its prevalence by 50%, thus early intervention may be critical in disease prevention. Computerised Cognitive Training (CCT) is a safe and inexpensive intervention, but its efficacy on cognitive performance in healthy older adults has yet to be systematically analysed, nor has the impact of design factors on training efficacy. We therefore aimed to quantitatively assess whether CCT programs can enhance cognition in healthy older adults and discover the most salient design factors. We systematically searched Medline, Embase, and Psych INFO for randomised controlled trials investigating the effects of CCT ($\geq$4 hours) on performance in neuropsychological tests in older persons without any major neuropsychiatric disorders or cognitive impairment. Forty-four studies encompassing 4,525 participants were eligible. Intervention designs varied considerably, but heterogeneity across studies was small ($I2$=19.77%). There was no consistent evidence for publication bias. The effect size (Hedges' g, random effects model) between CCT and control on overall cognitive outcomes was small and statistically significant, g=0.20(95% CI 0.12–0.28). Small to moderate effect sizes were found on non-verbal memory, g=0.17 (0.02–0.32), working memory, g=0.18 (0.04–0.31), processing speed, g=0.31(0.17–0.44), and visuospatial skills, g=0.30 (0.07–0.54). No significant effects were found on verbal memory, executive function and attention. Subgroup analyses revealed that CCT was most effective when delivered in group format, in sessions longer than 30 minutes, and not more than three times per week. Thus, CCT is modestly effective at enhancing cognition in healthy elderly, but efficacy varies across cognitive domains and by design factors. Future research is required to assess long-term effects of CCT on dementia onset, and to optimize methods for clinical implementation.

COGNITIVE PREDICTORS OF PROSPECTIVE MEMORY IN THE FOURTH AGE: EVIDENCE FROM THE ADuLTS STUDY

HUNTER Mydair[1] LUSZCZ Mary[1], WINDSOR Tim[1]

[1]Flinders University

Prospective memory (PM) is defined as remembering a future delayed intention, for instance, remembering to take medication at the appropriate time. As such PM supports day-to-day functioning and is critical for maintenance of independence into older age. In light of mixed findings from laboratory based studies as to the nature and direction of age-related changes in PM, this study investigated PM performance in oldest-old adults in naturalistic environments, and examined the effect of cognitive predictors on performance during a 7-day micro-longitudinal diary study. Seventy-four participants from the Australian Longitudinal Study of Ageing (ALSA) or a community sample aged between 84 and 102 years completed six self-report questionnaires daily over seven days. PM was examined in terms of task characteristics and target cue focality. A time-based PM task, and focal and non-focal event-based PM tasks were presented across the week. Performance on event-based tasks was better relative to performance on time-based PM. Overall proficiency was slightly higher for non-focal PM than for focal PM. Attentional cognitive processes were found to be significant predictors of prospective memory. Regression analyses indicated performance on focal event-based PM was strongly related to higher executive functioning, with working memory predicting performance on non-focal tasks, after controlling for speed of perceptual processing. Retrospective memory predicted focal task recovery ratios and non-focal task forgetting ratios. However, time-based PM showed no association with the three cognitive measures. These findings indicate that event-based PM is relatively spared in healthy oldest-old adults tested in real-world environments, in contrast to marked impairment in time-based PM. Challenging predicted outcomes, performance on focal event-based tasks was generally poorer than on non-focal tasks and more vulnerable to inter-individual differences in cognition. Results are discussed in terms of dual-task processing and interference effects, and recommendations to support PM performance in advanced age presented.

THE RELATION BETWEEN FUTURE TIME PERSPECTIVE AND IDEAL AFFECT

JIANG Da[1], FUNG Helene[1]

[1]Chinese University of Hong Kong

Socioemotional selectivity theory suggests that when people perceive their time as limited (e.g., at an advanced ages), they prioritize emotional meaningful goals. The present research aims at testing the influence of future time perspective on ideal affect (the affective states that people ideally want to feel). Two types of ideal affect were tested in the present research, i.e. low arousal positive affect (LAP; e.g., calm, relaxed, and peaceful) and high arousal positive affect (HAP; e.g., enthusiastic, excited, and elated). Across three studies using different methods (survey, experience sampling, and experiment), we observed that the more limited participants' future time perspective, the more they ideally desired LAP over HAP states and the more likely they were to choose a LAP physician. These findings broaden our scientific understanding of the emotional goals under different future time perception by suggesting a limited future time increases the value of low arousal positive states, such as calm, relaxed, and peaceful.

LEVEL AND CHANGE IN COGNITIVE FUNCTIONING IN LATER LIFE AND PRINCIPAL LIFE-TIME CAREER: THE ROLE OF OCCUPATIONAL COMPLEXITY

LANE Anna[1], LUSZCZ Mary[1], WINDSOR Tim[1]

[1]School of Psychology and Flinders Centre for Ageing Studies, Flinders University

Some studies suggest complex occupational activity is associated with enhanced cognitive functioning among workers and a reduced risk of dementia among former workers. Very little is known of the long-term protective association between previous occupational activity and age-related cognitive decline. In the present study, data from the Australian Longitudinal Study of Ageing (ALSA; n = 1,059) were used to examine whether and how complex occupational activities (involving data, people, and things) were associated with levels and rates of change in cognitive functioning (perceptual speed, verbal reasoning, and immediate and delayed memory) over an 11-year interval among retirees aged 65 to 98 (M = 78.09) at baseline. Multilevel models adjusted for age, gender, education, medical conditions, smoking status, alcohol consumption, and time-varying measures of depression and activity engagement, showed occupational complexity was related to levels of cognitive functioning but unrelated to rates of cognitive change. Specifically, higher occupational complexity with data and with people were associated with higher levels of perceptual speed and verbal reasoning, whereas higher occupational complexity with things was associated with lower levels of perceptual speed and delayed memory. The results suggest the late life relations of occupational complexity and cognitive functioning reflect long-term individual differences in average levels of cognitive ability. The results do not preclude the possibility that workplace interventions, such as the provision of vocational training opportunities, may be effective in providing a temporary boost to cognition function. Such interventions may benefit older workers seeking to remain active in the workplace for longer.

PREDICTING COGNITIVE DECLINE IN TYPE 2 DIABETES

MILNE Nicole[1], BUCKS Romola[1], STARKSTEIN Sergio[1], NELSON Melinda[1], DAVIS Wendy[1], PIERSON Ronald[2], BRUCE David[1]

[1]The University of Western Australia
[2]University of Iowa

There is continuing growth in the prevalence of Type 2 diabetes worldwide. Complications of Type 2 diabetes include changes to the structure and function of the brain, leading to an increased risk of cognitive impairment and dementia. The hippocampus, an area of the brain related to memory and learning, appears to be particularly sensitive to the effects of Type 2 diabetes and poor glycaemic control. Previous research suggests adults with Type 2 diabetes have reduced hippocampal volume, which has been associated with compromised cognitive function in cross-sectional studies. However, it is not yet known whether hippocampal measures can be used to predict future cognitive decline in this population. The Cognition and Neuroimaging: Dementia in Diabetes (CANDID) study is currently investigating cognitive functioning and MRI-derived brain volumes in dementia-free adults, aged 60 years and older, with long-standing Type 2 diabetes. This paper reports longitudinal results from the CANDID study, with a focus on the neurocognitive performance and hippocampal volumes of participants whose dementia status subsequently declined. Neuroimaging was conducted at the start of the study. The Clinical Dementia Rating (CDR) scale and a neurocognitive test battery were each administered on two occasions, 17.9±2.9 months apart. The analyses include group comparisons between participants who declined, improved, or remained stable, based on the change in their CDR score from initial assessment to 18 month follow-up. In older adults with Type 2 diabetes, cognitive impairment increases the challenges of effective glycaemic control for patients and their families. As consistent self-care behaviour is an important part of diabetes management, this study discusses early indicators of clinically-rated cognitive decline, and highlights the need to develop cognitively appropriate self-care plans for older adults with Type 2 diabetes.

REAL-TIME SPATIAL TRACKING IN HUMANS: TRANSLATING ANIMAL RESEARCH METHODS INTO THE STUDY OF COGNITIVE CHANGE.

RADOWIECKA Anna[1], LAMPIT Amit[1], VALENZUELA, Michael[1]

[1]Regenerative Neuroscience Group, Brain And Mind Research Institute, University of Sydney

The increasing global incidence of dementia has prompted a substantial shift in focus from treatment of overt disease to detection intervention of pre-clinical symptoms. Functional impairments that occur hand-in-hand with cognitive decline are often overlooked by current neuropsychological and clinical assessments. Moreover, older persons experiencing mild cognitive disturbances may be unaware of progressing decline and reluctant to seek medical evaluation. Combining these issues underlines the necessity to search for alternative measurement techniques with the power and sensitivity to detect subtle functional changes that may herald progression to clinical dementia. To that end, spatial orientation and way-finding performance of animals has been extensively studied using goal-directed and free exploration paradigms, allowing for the analysis of motor ability, cognitive flexibility, anxiety, social interaction and response to pharmacological intervention. Modern tracking technologies record task activity continuously with the ability to carry out frame-by-frame event analysis and report quantitative behaviour analysis. In humans, GPS-based technologies have been used to identify symptoms manifested in moderate and advanced dementia, such as wandering and pacing behaviour. We propose the use of indoor spatial tracking technologies to record real-time location of at-risk individuals in their own home, through the use of wireless tracking devices. Tracking technology can generate a "spatial map" of everyday activity, allowing for analysis of specific spatiotemporal parameters which reveal behavioural changes and accompanying cognitive decline. The benefits of this technology include the unobtrusive nature of WiFi device tracking, continuous data acquisition limiting the necessity for clinical visits and assessing longitudinal change. If successful, this approach may therefore find application for early detection and diagnosis of dementia, and improved evaluation of interventions and treatment.

Session B

Perspectives of Care

The capacity conundrum – what the files say.
Lise Barry
Macquarie University

Using multiple methods to contextualise ageing research.
Belinda Cash
Charles Sturt University

Healthcare practitioner perspectives on prescribing anticholinergic and sedative medicines in older adults.
Lisa Kouladjian
University of Sydney

Building a precepting team in a regional aged-care facility.
Fiona McCook
Monash University

Predictors of sense of competence in dementia care staff.
Margaret Mullan
Queensland University of Technology

The tacit knowledge in activities of daily living: Knowing by doing care.
Angela Zhang
University of Adelaide

THE CAPACITY CONUNDRUM: WHAT THE FILES SAY

BARRY Lise[1]

[1]Macquarie University

In 2012, a decision of the Victorian Supreme Court established a new ground of professional negligence for lawyers – capacity negligence. A lawyer who fails to properly assess whether their client has legal decision making capacity can be liable in negligence if their client subsequently makes a decision that they didn't have the capacity to make. On the other hand, older people are vulnerable to having their right to make legal decisions usurped through the unnecessary appointment of substitute decision makers. Capacity negligence can therefore be a double edged sword for lawyers and even more so for their ageing clients. There is currently little guidance available for lawyers who work with older clients whose capacity is in doubt and we know very little about how lawyers go about this process. This paper reports the findings from the first phase of the author's empirical research: an analysis of the complaints files of the NSW Office of Legal Services Commissioner (OLSC). Drawing on the complaints files, the author will highlight some of the practices of capacity assessment and the important role that lawyers play in promoting the autonomy of vulnerable clients and also in protecting them from abuse. This presentation is part of the author's original ongoing research in this area; an interdisciplinary research project that will combine an examination of case law alongside this analysis of the complaints files of the OLSC. Ultimately it is hoped that this research can inform the way that lawyers are trained to respond to older clients and their carers, with a view to protecting the rights of older people to exercise their legal personhood free from abuse.

USING MULTIPLE METHODS TO CONTEXTUALISE AGEING RESEARCH

CASH Belinda[1]

[1]Charles Sturt University

Ageing and caregiving occur within a complex network of family, community, cultural, organisational and policy factors. When designing research, it is important to draw on a methodological approach that considers the complexity of these social systems. Growing support for multiple method approaches is becoming apparent, particularly as researchers seek extended and deeper answers to their research questions. Drawing on a study of ageing and caregiving, this presentation will provide an example of a research approach using multiple qualitative methods. Discussion will demonstrate how such an approach can provide a stronger and more comprehensive understanding of the social and political context of older persons and their caregivers. Discussion will consider the benefits and challenges of conducting a multiple methods project, including the depth of understanding across multiple social layers, the scale and complexity of such a project, and the need to develop high level skills in multiple research methods. The experience of integrating findings from multiple project stages will also be discussed. It will be argued that some research questions may best be answered using a combination of data collection methods, as one method can seldom be applied across individual, practice and policy domains. In order to understand the impact of social policy and healthcare practices on choice for older spousal caregivers, the research example used engaged multiple qualitative methods of focus groups, interviews, thematic analysis and discourse analysis.

HEALTHCARE PRACTITIONER PERSPECTIVES ON PRESCRIBING ANTICHOLINERGIC AND SEDATIVE MEDICINES IN OLDER ADULTS

KOULADJIAN Lisa[1], CHEN Timothy[2], GNJIDIC Danijela[1,2], HILMER Sarah[1]

[1]**Clinical Pharmacology and Aged Care, Kolling Institute of Medical Research, Royal North Shore Hospital and Sydney Medical School, University of Sydney**
[2]**Faculty of Pharmacy, University of Sydney**

Introduction: Older adults commonly take anticholinergic and sedative medications, which have cumulative adverse effects. The Drug Burden Index (DBI) is a pharmacological risk assessment tool that measures an individual's total exposure to anticholinergic and sedative medicines. A high DBI score is associated with functional impairments in older adults. There is a lack of understanding on the perspectives of pharmacists and physicians about prescribing anticholinergic and sedative medications for older adults and implementing the DBI in practice. **Aims:** To investigate perspectives of pharmacists and doctors surrounding (1) prescription and withdrawal of anticholinergic and sedative medications in older adults and (2) the potential role of providing a DBI report in practice. **Methods:** A semi-structured interview guide was developed to meet the study aims. A purposive sample of pharmacists and doctors were recruited to participate in focus group discussions. Focus group sessions were audio recorded, transcribed verbatim and thematically analysed to derive conceptual domains using an iterative process. QSR NVivo Version 10 (QSR International Pty. Ltd. Australia) was used to conduct data analysis. **Results:** Current results indicate a number of issues surrounding the prescription and withdrawal of anticholinergic and sedative medications during the medication review process, including perceived patient barriers, education and relationships between prescribers. Feedback on the DBI report is largely positive with an overall consensus that the DBI should be considered as part of a whole patient's management plan. A sample quote follows: "So I think it (the report) should be used as a prompt to say, hey this patient is using a lot of agents can we reduce some of it" [Geriatrician]. **Conclusion:** Practitioner perspectives on prescription and withdrawal of anticholinergic and sedatives in older adults are varied and may inform the implementation of the DBI into practice, leading to new pathways for deprescribing in older adults.

BUILDING A PRECEPTING TEAM IN A REGIONAL AGED-CARE FACILITY

MCCOOK Fiona[1], WALKER Judi[1], RADOMSKI Natalie[1]

[1]**Monash University, School of Rural Health**

There is an increasing demand for high quality learning experiences for healthcare students undertaking placements in the aged-care sector. This need is particularly high in regional, rural and remote services which regularly encounter difficulties in attracting and retaining healthcare professionals. The main question addressed in this research is "How can a flexible and responsive approach to regional clinical preceptor education, which recognises the uniqueness of regional practice, be developed collaboratively?" Preceptors play a crucial role in creating a positive clinical learning environment for students and in assisting them to make links from theory to practice which can influence, favourably, student attitudes towards working in aged care. Registered nurses who, as part of their competency standards, are expected to teach or mentor others most commonly perform the role of preceptor. With decreasing numbers of registered nurses employed in this sector, however, the teaching role often falls to other healthcare staff. These staff, enrolled nurses and personal care workers, rarely have any preceptor training. This paper explores how a participatory action research project is helping to raise awareness and understanding of learning and teaching issues in a Victorian regional aged-care facility through a collaborative preceptor training strategy involving the researcher, facility management and a group of clinical, care, and non-clinical staff. The process of developing both preceptor training and student placement programs will be highlighted. Data, generated through reflective teaching sessions and participant focus group discussions, will illustrate how collective sense-making through social interaction, directed discussion and practical learning activities contributes to a learning-focussed clinical placement environment. By enabling preceptors to identify and address pedagogical issues in relation to student placements in an aged-care facility themselves, the program has the potential to raise preceptors' confidence, capabilities and profile increasing the likelihood of positive learning experiences for students and improved recruitment to the sector.

PREDICTORS OF SENSE OF COMPETENCE IN DEMENTIA CARE STAFF

MULLAN Margaret[1], SULLIVAN Karen[1]

[1]School of Psychology and Counselling, Queensland University of Technology

Currently 30% of Australians with dementia live in residential aged care facilities (RACF). Staff are intrinsically linked to the care received by people with dementia residing in these facilities. Staff sense of competence is one approach to measuring the quality of care provided by dementia care staff. Currently, only limited research has examined the factors that contribute to dementia care staff sense of competence and the relative contribution of each of these variables is unknown. The purpose of this empirical study was to elucidate the relative importance of the predictors of sense of competence that had been identified by previous research. Additionally, this study proposed a measure of intentions to provide person-centred care as a potential predictor. 61 RACF dementia care staff (71% nurses; 8% student nurses; 20% allied health) completed a standardised questionnaire measuring sense of competence (using the Sense of Competence in Dementia Care Staff scale) and its proposed predictors. The majority of participants were recruited at one RACF and the remainder at a dementia conference. Multiple regression analysis was employed to explore the relationship between variables, and staff variables that improved the predictive ability of the model were included in the regression analysis. Approximately half the variance in sense of competence was explained by four variables. In order of contribution, attitudes towards people with dementia, intentions to provide person-centred care, job satisfaction, and work experience were predictive of sense of competence. Dementia knowledge was not included in the regression analysis as it did not increase the predictive ability of the model. These predictors can help managers and educators to target strategies to improve sense of competence in dementia care staff. Specifically, interventions that promote a person-centred approach to care and improving job satisfaction may improve sense of competence. Improved sense of competence may result in better quality of care for residents of RACFs with dementia and higher staff retention rates.

THE TACIT KNOWLEDGE IN ACTIVITIES OF DAILY LIVING: KNOWING BY DOING CARE

ZHANG Angela Rong Yang[1]

[1]University of Adelaide

This paper discusses the generation and translation of plural knowledges in residential aged care setting within a theoretical framework of phenomenology and Polanyi's epistemology. One form is the explicit medical knowledge manifested in care practice; another form is the embodied, experiential and tacit knowledge embedded in everyday care activities. This paper is based on a literature review of the author's ongoing ethnographic project. This project is a study of the older persons' lived experiences in residential aged care facilities (RACFs). The ethnographic descriptions of Activities of Daily Living (ADLs) in RACFs from previous studies in last decade are used to illustrate the discussions in this paper. The author's working experience as a veteran personal care worker in RACFs also contributes to the discussion. This paper aims to reveal the avenues of knowledge production in ADLs characteristic of bodily movements and bodily relations. The disjuncture among multiple knowledges, and the contestation, negotiation and coordination involved in utilising them in care, are also discussed. This paper proposes an extended conception of 'knowledge' in the "knowledge-based care practice" to include the tacit knowledge daily enacted in care activities. To provide empirical materials ethnographically, the author's current project consists of 12-month fieldwork in RACFs. One of the aims of the project is to make the tacit knowing in care explicit and knowable.

Session C

Nutrition and Health Conditions

Development of a quantitative food frequency questionnaire to measure flavonoid intake in older Australians.
Katherine Caldwell
University of Wollongong

A validated mouse frailty index: Impact of factors that affect lifespan.
Alice Kane
University of Sydney

Malnutrition prevalence and nutrition issues in five Australian residential aged care facilities.
Jane Kellett
University of Canberra

Transitions in health over time in Australian, German, Italian and Greek born South Australians aged 50 - 79.
Constance Kourbelis
University of Adelaide

Evaluation of food-based Chinese Food Pagoda for older people in nine provinces.
Xiaoyue Xu (Luna)
University of Newcastle

DEVELOPMENT OF A QUANTITATIVE FOOD FREQUENCY QUESTIONNAIRE TO MEASURE FLAVONOID INTAKE IN OLDER AUSTRALIANS

__CALDWELL Katherine__[1], CHARLTON Karen[1], FLOOD Victoria[2], RUSSELL, Joanna[3]

[1]__Faculty of Science, Medicine and Health, University of Wollongong__
[2]__Faculty of Health Sciences, University of Sydney__
[3]__Faculty of Social Sciences, University of Wollongong__

Flavonoids describes a group of over 6000 compounds that are consumed in plant based foods such as fruits, vegetables and tea. A high consumption of flavonoids has been linked to a risk reduction of cancers, cardiovascular and neurodegenerative diseases. However, flavonoid intake is hard to quantify and research utilises inconsistent methodologies due to a lack of validated survey tools. There is currently little accurate information available on the dietary intake of flavonoids, with little emphasis on older adults, limiting our interpretation of literature linking flavonoid intake with health outcomes. In the absence of a pre-existing food frequency questionnaire (FFQ) to measure flavonoid intake in the older Australian population, it was our aim to develop a flavonoid specific FFQ to determine habitual dietary intake of flavonoids and flavonoid sub-classes (flavonols, flavon-3-ols, anthocyanins, flavones, flavanones), in Australians (60y+). A quantitative 96 item FFQ was systematically developed based on weighed food record dietary data from the Blue Mountains Eye Study, a population-based cohort of Australians (49y+). Both rich-sources and commonly consumed of flavonoid containing foods were identified and repeated for each flavonoid subclass (n=73 foods). Additional rich sources of flavonoids were identified using the USDA database for the flavonoid content of selected foods (n=12 foods). Recent Australian literature sources contributed other sources of flavonoids that may be feasibly consumed by Australians (n=11). The FFQ food items were grouped into 5 categories: fruit, vegetables, beverages, alcohol and other foods, decided prior to analysis. The FFQ will be validated and assessed for reliability in older Australians (60y+) using 4-day food records and biomarkers in biological samples of blood and urine.

A validated mouse frailty index: Impact of factors that affect lifespan

__KANE Alice__[1,2], MITCHELL Sarah[1,2,3], de CABO Raphael[3], HOWLETT Susan[4], HILMER Sarah[1,2,5]

[1]__Kolling Institute of Medical Research, St Leonards__
[2]__University of Sydney__
[3]__National Institute on Aging, Baltimore__
[4]__Dalhousie University, Halifax__
[5]__Royal North Shore Hospital, St Leonards__

Frailty is a state of high vulnerability for adverse health outcomes and the prevalence of frailty increases with increasing age. Recently, a frailty index (FI) based on deficit accumulations was validated in C57BL/6 mice by Whitehead *et al.,* (2014) and shares many characteristics of the human FI. This index could be used to assess the effect of interventions on the important clinical outcome of frailty in an animal model. We aimed to investigate the effect on the mouse FI, of factors known to influence lifespan and healthspan in mice: mouse strain (short lived DBA2/J mice versus long-lived C57BL/6 mice), calorie restriction (CR) and resveratrol treatment. FI scores were measured on male aged (18 month) *ad-libitum* fed and CR DBA2/J and C57BL/6 mice, as well as male aged (24 month) C57BL/6 mice *ad-libitum* fed with or without resveratrol (100mg/kg/day) in the diet for 5 months. Mean scores of 2 raters were used. There was a trend towards higher FI scores in the ad-lib DBA2/J mice compared to the C57BL/6 mice (FI=0.25±0.09 DBA2/J, 0.20±0.08 C57BL/6, p>0.05). CR reduced FI in C57BL/6 mice (FI=0.13±0.03 CR, 0.20±0.08 ad-lib, p=0.04) but not in DBA2/J mice. Aged mice with chronic resveratrol treatment had a lower FI than *ad-libitum* fed mice (FI=0.18±0.01 resveratrol, 0.22±0.01 ad-lib, p=0.01). The 2 raters had excellent inter-rater reliability (ICC = 0.88, 95% CI [0.80, 0.92]). Overall we saw that the short-lived DBA2/J mice had a trend towards higher FI scores than the C57BL/6 mice, and the interventions of CR and resveratrol decreased FI in C57BL/6 mice, compared to age matched controls. This study further validates the mouse FI developed by Whitehead *et al*. (2014) in a different mouse colony with dietary and pharmaceutical interventions. It provides preclinical evidence to support testing the effects of these interventions on FI in a clinical setting.

MALNUTRITION PREVALENCE AND NUTRITION ISSUES IN FIVE AUSTRALIAN RESIDENTIAL AGED CARE FACILITIES

KELLETT Jane[1], KYLE Greg[1], ITSIOPOULOS Catherine[2], NAUNTON Mark[1], BACON Rachel[1], COSTELLO Lee-anne[1]

[1]Univesity of Canberra
[2]La Trobe University

Aim: To determine the prevalence of malnutrition and identify nutrition issues in a sample of older adults living in five Australian residential aged care facilities (RACFs). **Methods:** The Subjective Global Assessment tool was used to determine the prevalence of malnutrition in 101 aged care residents from five Australian RACFs. **Results:** In this population, 66% of the residents were women, and 29% of residents were classified as high care. Seventy eight percent of the residents were classified as well nourished, 20% as moderately malnourished, and 2% severely malnourished. Seventy three percent of residents used dentures, and 25% had seen a dietitian in the last 6 months. Malnutrition was significantly associated with increasing age (p = 0.038), and decreasing Body Mass Index (BMI) (p < 0.001). Malnourished residents were more likely to have had nutritional supplements recommended (p = 0.009). There was no significant association between malnutrition and gender (p = 0.536) or malnutrition and level of care (p = 0.784). **Conclusions:** The prevalence of malnutrition identified in this study is lower than data reported in recent Australian and International studies for residential aged care. Reasons for the lower rate of malnutrition in this sample may be due to the access, awareness and referral of dietetic services in these facilities, small sample size, and high risk residents (such as cognitively impaired and medically unfit) not participating in the study.

TRANSITIONS IN HEALTH OVER TIME IN AUSTRALIAN, GERMAN, ITALIAN AND GREEK BORN SOUTH AUSTRALIANS AGED 50-79

KOURBELIS Constance[1], TAYLOR Anne[1], WITTERT Gary[1], HUGO Graeme[1]

[1]University of Adelaide

This study aims to describe the differences in chronic conditions of the Australian, German, Italian and Greek born South Australians at two points in time. Participants were from the 1996/97 South Australian Migrant Health Survey (MHS) and from the South Australian Monitoring and Surveillance System (SAMSS) using data collected from June 2007 to December 2012. The MHS and SAMSS are population-based telephone surveys considered directly comparable as they share similar sampling methodologies. These data were used to examine differences in chronic disease prevalence in 1996/97 and 2007/12. In 1996/97, participants were aged 50 to 69 and in 2007/12, they were aged 60 to 79. The arthritis prevalence was the highest in Greek (51.9%) and Italian (49.8%) participants. The prevalence of osteoporosis increased from 3.9% to 17.4% among Italian participants and from 2.7% to 24.4% in those born in Greece. Greek-born participants had the highest prevalence of asthma (19.1%). The prevalence of diabetes increased most for those born in Greece (from 9.0% to 32.5%), followed by Italy (8.7% to 26.1%), Germany (3.3% to 17.8%) and Australia (5.0% to 14.8%). This study shows that whilst the prevalence of chronic conditions have increased for all groups this was particularly significant for those born in Italy and Greece. The results also demonstrate that migrant groups are heterogeneous and have varied disease outcomes. This has potential implications into the future in terms of an increased demand and up-take of health services. Further study is required to better understand what the burden of disease is among ageing migrant populations to facilitate the provision of adequate and culturally appropriate services. This is particularly important as migrant groups are faced with varying degrees of cultural and communication barriers, which can affect how they access and use health services.

EVALUATION OF FOOD-BASED CHINESE FOOD PAGODA FOR OLDER PEOPLE IN NINE PROVINCES

XU Xiaoyue[1,2] HALL John[2] BYLES Julie[1] SHI Zumin[3]

[1]**Priority Research Centre for Gender, Health and Ageing, School of Medicine and Public Health, Hunter Medical Research Institute, University of Newcastle**
[2]**Centre for Clinical Epidemiology and Biostatistics, School of Medicine and Public Health, Hunter Medical Research Institute, University of Newcastle**
[3]**Department of Medicine, University of Adelaide**

Background/Objective: The Chinese Food Pagoda (CFP) is an illustrative guideline for improving healthy dietary intake and preventing Non-communicable Diseases (NCDs). Limited studies have compared recommended intakes of CFP food groups with actual food intake in the Chinese population, especially for older people. This study evaluates dietary intake based on CFP for older Chinese people. **Subjects/ methods:** The longitudinal China Health and Nutrition Survey (CHNS) involves 2,745 older Chinese, aged 60-69 years (n= 1563) and 70+ (n=1182) from four diverse regions (Northeast, East Coast, Central and West) in 2009. Dietary data were obtained by interviews using 24 hour-recall over three consecutive days. Recommended intakes of each food group from CFP were used as the standard to assess daily dietary intake, and a Chinese Food Pagoda Score (CFPS) was derived. **Results:** No people reached all ten food group recommendations; 14% of older people did not meet any food group intake recommendations. More than half of people exceeded recommended amount for oil (65%), grains potatos and beans (63%), and salt (59%). 10% of people consume dairy products, while only 0.5% of them met the recommended amount. Strong significant differences were found between CFPS and gender (p=0.009, 95% CI: 0.03; 0.24), urbanicity levels (P<0.001) and socioeconomic regions. **Conclusion:** Few older people are meeting recommended food groups amount on CFP guidelines, thus increasing the risk of malnutrition and NCDs. Government action is needed to increase dissemination and uptake of nutrition education, with interventions targeted at socioeconomic regions. In addition, Chinese specific dietary guidelines for older people should be developed.

Session D

Ageing and the Process of Change

Molecular changes of the inner ear with ageing.
Mark Bigland
University of Newcastle

Change in testosterone is associated with decline in sexual function in community-dwelling older men: The Concord Health and Ageing in Men Project.
Benjumin Hsu
University of Sydney

Incidence of geriatric syndromes and frailty in community-dwelling older men.
Naomi Noguchi
University of Sydney

Understanding risk factors for injuries amongst the older population in long-term nursing care facilities and shelter homes in the Klang Valley area, in Malaysia.
Saraswathy Venkataraman
Monash University Malaysia

Construct validity of four frailty measures in an older Australian population: A Rasch analysis.
Imaina Widagdo
University of South Australia

Modelling the mortality of heterogeneous populations.
Mengyi Xu
University of New South Wales

MOLECULAR CHANGES IN THE INNER EAR WITH AGEING

BIGLAND Mark[1], BRICHTA Alan[1], SMITH Doug[1]

[1]**School of Biomedical Sciences & Pharmacy, Priority Research Center for Translational Neuroscience & Mental Health, University of Newcastle, Preclinical Neurobiology Research, and the Hunter Medical Research Institute**

Dizziness, vertigo and loss of balance are common in the elderly and can result in quality of life loss and fall-related hospitalisations. Impairment of the inner ear vestibular organs is thought to be a contributing factor to these conditions. Inner ear, vestibular hair cells are sensory cells that detect head motion through precise regulation of ionic fluxes across cell membranes. During ageing, vestibular hair cells do not decline in number until decades after functional impairment. This has led us to suggest other more complex molecular mechanisms underlie vestibular dysfunction. However, nothing is known about the effects of ageing on the molecular profile of vestibular organs, so we have initially taken a discovery based genomics approach to identify potential mechanisms for more targeted analyses. We conducted a genome-wide gene expression analysis of vestibular organs from both rats and mice, comparing young and old. We discovered age-related changes in expression for genes involved in candidate mechanisms, such as mechanotransduction, ion homeostasis, and mitochondrial energy production, all of which have the potential to perturb vestibular function. A number of genes found to be differentially expressed based on our microarray expression analysis, have been confirmed by quantitative Polymerase Chain Reaction (qPCR). For example, the gene for the cystic fibrosis transmembrane conductance regulator (CFTR), a chloride channel, was found to be upregulated in both the vestibular organs and cochlea of old animals. We have also confirmed this channel has a functional role in vestibular hair cells of young animals. This CFTR finding is novel and indicates the channel may play an important role in the inner ear hair cells of both young and old animals, including humans. In addition to CFTR, our data indicate mechanotransduction and mitochondrial processes may contribute to vestibular dysfunction with age. These results are the first of their kind and open up potentially new avenues of research into ageing and the vestibular balance system.

CHANGE IN TESTOSTERONE IS ASSOCIATED WITH DECLINE IN SEXUAL FUNCTION IN COMMUNITY-DWELLING OLDER MEN: THE CONCORD HEALTH AND AGEING IN MEN PROJECT

HSU Benjumin[1,2], CUMMING Robert[1,2,3], BLYTH Fiona[2], NAGANATHAN Vasi[2], HANDELSMAN David[3]

[1]**School of Public Health, University of Sydney, Australia**
[2]**Concord Clinical School, University of Sydney, Australia**
[3]**ANZAC Research Institute, University of Sydney and Concord Hospital, Australia**

Objective: To examine cross-sectional and longitudinal associations between reproductive hormones and sexual dysfunction: erectile dysfunction, sexual inactivity and low sexual desire. **Method:** 1705 men aged 70 years and older from the Concord Health and Ageing in Men Project (CHAMP) were assessed at baseline and 2-year follow-up. At baseline, testosterone (T), dihydrotestosterone, estradiol (E2), and estrone (E1) were measured by liquid chromatography-tandem mass spectrometry, and SHBG, LH, and FSH by immunoassay. Sexual function data were self-reported through a series of standardized questions about erectile dysfunction, sexual activity and sexual desire. Multivariable model was adjusted for age, BMI, smoking status, alcohol consumption, depression, diabetes, cardiovascular disease and marital status. **Results:** In baseline cross-sectional data, there were significant univariate and multivariate associations between T and sexual activity and sexual desire, but not with erectile function. For each 1-SD decrease in T level, men had a multivariable-adjusted odds ratio of 1.12 (95%CI: 1.06-1.18) for being sexually inactive and 1.13 (95%CI: 1.06-1.20) for low sexual desire. In longitudinal analyses baseline T was not associated with decline in sexual activity and sexual desire; however, strong associations were found between decline in sexual activity and sexual desire and decline in T levels over time. For each 1-SD decrease in T from baseline to 2-year follow-up, there was a multivariable-adjusted odds ratio of 1.23 (95%CI: 1.12-1.36) for decline in sexual activity. Similar associations were found for T and decline in sexual desire. T was not associated with erectile dysfunction in longitudinal analyses. **Conclusion:** Our findings suggest the possibility of reverse causation in which low T in men is caused by a decline in sexual activity and sexual desire, and not the other way around.

INCIDENCE OF GERIATRIC SYNDROMES AND FRAILTY IN COMMUNITY-DWELLING OLDER MEN

NOGUCHI Naomi[1], CUMMING Robert[2], BLYTH Fiona[1], LE COUTEUR David[1], NAGANATHAN Vasi[1]

[1]Centre for Education and Research on Ageing, Sydney Medical School, University of Sydney
[2]School of Public Health, University of Sydney

Background: Geriatric syndromes of poor mobility, falls, incontinence, cognitive decline, and frailty are common health conditions among older people. Less is known about the frequency of these conditions in men than in women. Moreover, there has been no study in men or women to date in which the incidence of all these conditions has been examined in one populations. **Methods:** The Concord Helath and Ageing in Men Project (CHAMP) involves a representative sample of 1705 community-dwelling men aged 70 and over in a defined geographic region in Sydney, Australia. Geriatric sydromes were assessed by questionnaire and clinical examination at baseline and at 5-year followup as follows: poor mobility (need for help walking across a small room or transferring), falls (two or more in previous year), incontinence (at least daily), and cognitive decline (3 or more points decline in the Mini-Mental State Examination). Frailty was assessed using modifications of the Cardiovascular Health Study criteria. **Results:** Among 1705 participants at baseline, 382 died, 369 declined followup and 954 were followed up over 5 years. Among men aged 70 to 74 years who were free of each condition at baseline, 5-year incidence of poor mobility, falls, incontinence, cognitive decline and frailty were 3%, 5%, 7%, 10%, and 3% respectively. Among men aged 85 to 89 years, the corresponding incidence were 18%, 23%, 13%, 30%, and 47%. **Conclusions:** The incidence of geriatric syndromes and frailty are not high in men in their 70s but increases substantially after age 85 years. The health status and need for health services of the 'older old' are different to those of the 'younger old'. This needs to be considered when planning health services.

UNDERSTANDING RISK FACTORS FOR INJURIES AMONGST THE OLDER POPULATION IN LONG-TERM NURSING CARE FACILITIES AND SHELTER HOMES IN THE KLANG VALLEY AREA, IN MALAYSIA.

VENKATARAMAN Saraswathy[1], OXLEY Jennifer[2], FARNWORTH Louise[2], DAY Lesley[2], BARTLETT Helen[1]

[1]School of Medicine and Health Sciences, Sunway Campus, Monash University Malaysia
[2]MIRI Australia, Monash University

Introduction: The population of Malaysia is ageing, and the need to provide supported accommodation and health care, including Occupational therapy, is increasing. There is a growing industry of aged care facilities, including registered and unregistered nursing care facilities and 'shelter' homes. These facilities provide care for their clients, however, little is known about the levels of care provided, experiences of the older population residing, implications for risk of injury (particularly fall-related injuries) and quality of life, and institutional strategies to prevent fall-related injuries. These issues are relevant for Occupational therapy practice in Malaysia. **Objective:** This study aimed to identify potential risk factors within long-term aged care facilities in Malaysia, understanding what the physical risk factors are, how they contribute to falls, and examining the relationships between activity, participation and social inclusion in every day life. **Methods:** Data was collected at 28 aged care facilities using the Residential Environmental Impact Survey (REIS) (Fisher et al., 2008). The REIS is a non-standardised, semi-structured assessment instrument designed to examine the environmental impact of community residential facilities upon residents. The data collection included four key components: semi-structured interviews with staff, semi-structured interviews with residents, observational assessment, and observation of daily activities. **Results:** The paper will outline the findings from this study that have significant implications for care of the older population in Malaysia. Important information on the level and type of care provided in long-term aged care facilities, as well as information on falls risk and overall health and well being of the older residents living in these aged care facilities and 'shelter' homes will be described. **Conclusion:** The paper will conclude by providing recommendations for Occupational therapy practice, including the potential roles of Occupational therapists in education, advocacy, environmental adaptation and direct resident care, in reducing the prevalence and lack of awareness about falls and their long-term outcomes in Malaysian aged care facilities.

CONSTRUCT VALIDITY OF FOUR FRAILTY MEASURES IN AN OLDER AUSTRALIAN POPULATION: A RASCH ANALYSIS

WIDAGDO Imaina[1], PRATT Nicole[1], RUSSELL Mary[1], KOTTORP Anders[2] ROUGHEAD Libby[1]

[1]University of South Australia
[2]Karolinska Institutet, Stockholm

Many frailty measures have been developed and those identified as frail have been shown to be at increased risk of adverse health outcomes. However, there is no consensus on how to measure frailty; studies showed that frailty status can vary depending on the measure used. Construct validity assesses the extent to which the frailty construct is identified by the measures. This study aimed to examine the construct validity using a Rasch analysis of four frailty measures in an Australian older population. Frailty status among the 2087 participants aged 65 years and above from the Australian Longitudinal Study of Ageing (ALSA) was assessed using four frailty measures: frailty phenotype - FP, simplified frailty phenotype - SFP, frailty index - FI, and prognostic frailty score – PFS. Rasch analysis was used to assess the unidimensionality of the four frailty measures, which is the extent to which a measure assesses a latent trait - frailty. The general criteria for unidimensionality from principal component analysis of the residuals is when 50% or more of the raw variance is explained by the measures, and less than 5% is unexplained variance. Only FI meet the unidimensionality criteria with 74% of explained variance and 2.1% of unexplained variance. SFP did not show a unidimensional construct with 13.3% of explained variance and 47.1% of unexplained variance. FP and PFS had 39.6%, 18.1% and 46.5%, 8.7% of explained and unexplained variance, respectively. Our findings showed that FI has better construct validity than the other three measures in assessing frailty among the Australian older population.

MODELLING THE MORTALITY OF HETEROGENEOUS POPULATIONS

XU Mengyi[1], SHERRIS Michael[1], MEYRICKE Ramona[2]

[1]School of Risk and Actuarial Studies, University of New South Wales
[2]SwissRe, Sydney

Systematic mortality improvement and mortality heterogeneity are important factors in modelling mortality rates. Both factors are required in mortality models that are used for pricing life annuities and life insurance. This paper provides an original analysis of systematic improvements and heterogeneity in two ways: by extending the Lee-Carter model to allow for heterogeneity and by applying the concept of longitudinal modelling to mortality data. Longitudinal modelling provides a more powerful way to analyse panel data than survival analysis. It overcomes the difficulty of incorporating time-varying covariates in the proportional hazard model. It also allows for multiple observations over a single individual. Data from the U.S. Health and Retirement Study is used since this is a major source of individual panel data including health and mortality information. The results confirm the significance of differences in systematic improvements across sub-populations identified by socio-economic factors, and at the same time highlight the challenges of quantifying statistical differences of systematic improvements across groups of individuals using individual-level data. In addition, the results explain the impact of individual-level characteristics on mortality heterogeneity and systematic time trends in mortality rates. We conclude that systematic improvements have a significant impact on mortality rates even after allowing for individual-level factors.

Session E

Health Service Use, Aged Care & Policy

Information management in aged care: Identifying what we need.
Jenny Davis
Monash University

Invisibility of the older person as a partner in care.
Anna Gregory
University of South Australia

Epidemiology of disease, medication use and health service utilisation in Australian residential aged care. Implications for evaluating medication-related quality of care.
Jodie Hillen
University of South Australia

Why 'RedUSe'? Rationale for studying the clinical outcomes of sedative reduction in the residential aged care setting.
Daniel Hoyle
University of Tasmania

Building capacity, promoting partnerships and enabling change to support healthy ageing in Victoria - The effect of a holistic healthy ageing funding model.
Mina Stevenson
University of Melbourne

Enhancing quality and performance of aged care facilities: Retrofitting for thermal comfort and dementia-friendly design.
Federico Tartarini
University of Wollongong

INFORMATION MANAGEMENT IN AGED CARE: IDENTIFYING WHAT WE NEED AND STRATEGIES TO IMPROVE QUALITY AND EFFICIENCY

DAVIS Jenny[1], MORGANS Amee[1]

[1]Monash University

Effective and efficient information management within health and aged care settings support a variety of organisational processes and purposes including: administrative; financial; regulatory and compliance; care delivery; and quality improvement. Anecdotally, providers of aged care services for older Australians will commonly have a number of different information systems which are utilised to support these various organisational functions; however they may not share common information technology platforms or be well integrated. Limited accessibility of client records in any setting is a challenge for continuity of care, quality and safety, and care need identification; particularly as the client moves between settings. High quality, routinely collected data, which is fit for purpose and of meaningful use is the foundation of sound client health information management to support care provision, and has the potential to improve the quality and efficiency of systems of care and health outcomes. In Australia, several data collection frameworks exist which support the provision of health and social care for older people across multiple settings of acute, sub-acute and community care. In the aged care sector these information frameworks exist as minimum datasets and are more commonly used to support client assessment, government reporting and funding purposes; with less emphasis on quality of care. Existing information systems do not align well across sectors, in addition to significant duplication of effort across multiple systems, data capture and quality is highly variable, and transfer of information is often suboptimal. Current data limitations in relation to client information management in community and residential care settings impact the delivery, quality, coordination, communication and continuity of care; in addition to research capability. Information management processes and requirements in aged care are not well developed or understood and exactly what is needed is unclear. This review of literature and key documents identifies content and processes of aged care data management and presents strategies to enhance quality and efficiency into the future.

INVISIBILITY OF THE OLDER PERSON AS A PARTNER IN CARE

GREGORY Anna[1], MACKINTOSH Shylie[1], GRECH Carol[1], KUMAR Saravana[1], BASTALICH Wendy[1]

[1]University of South Australia

Quality of care for older people who need support to live at home is a key concern for older people, carers, and health and aged care providers. This presentation reports findings from an interpretive descriptive study which explored how quality of care for older people might be improved. Semistructured interviews were conducted with 26 participants to gain perspectives from older people, carers and key informants. Interviews were recorded and transcribed verbatim, and iterative analysis identified major themes, being: the role of the older person and levels of engagement in health care affecting the quality of care; invisibility of the older person as a partner in care; and uncertainty about the extent to which the older person is truly placed at the centre of care. The main finding that older people who need support to live at home are invisible as partners in care to health providers, policy-makers and researchers has implications for efforts to improve the quality of care for older people. Older people are visible as recipients of care, but empowerment of older people as active partners in care has the potential to shape the quality of future health and aged care services for older people who need support to live at home.

EPIDEMIOLOGY OF DISEASE, MEDICATION USE AND HEALTH SERVICE UTILISATION IN AUSTRALIAN RESIDENTIAL AGED CARE. IMPLICATIONS FOR EVALUATING MEDICATION-RELATED QUALITY OF CARE

HILLEN Jodie[1], VITRY Agnes[1] and CAUGHEY Gillian[1]

[1]Quality Use of Medicines and Pharmacy Research Centre (QUMPRC), School of Pharmacy and Medical Sciences, University of South Australia

Objective: To describe the Australian aged care population with respect to prevalence of disease, medication use and health service utilisation. To discuss the adequacy of identified information for evaluating medication-related quality of care. **Methodology and data sources:** A review using scientific databases (Medline and CINHAL), Australian Institute of Health and Welfare (AIHW) reports and key Australian government and journal websites. **Results:** The most prevalent chronic diseases in residential aged care were dementia (50%), cardiovascular disease (30%) and musculoskeletal conditions (17%). For those with dementia, cardiovascular disease was the most common comorbidity. Ninety-five percent of residents use at least one medication with over 90% exposed to >5 medications and a mean annual script rate of 52 scripts for 12 individual medications. The most commonly prescribed medications were analgesics, psychotropics, antidepressants and anxiolytics. Exposure to inappropriate medications (modified Beers' criteria) ranged from 18 to 50%. With respect to health service usage, general practitioner usage averages 15 visits per year and over 75% of residents have received an annual medication review. **Discussion:** There is a high prevalence of dementia, medication use and health care utilisation this population. Whilst whole of population data on chronic disease and some health services is available, information on comorbidities and the clinical context of prescribing is lacking. Data explaining the relationships between chronic disease and comorbidities, medication use and health care utilization in the Australian aged care population is needed to fully understand if medication-related quality of care is optimized for the whole population. **Conclusion:** Understanding of the medication-related quality of care in the aged care population would be enhanced by information exploring the relationships between disease, medication use and health service utilisation. This could lead to improved health service delivery.

WHY 'REDUSE'? RATIONALE FOR STUDYING THE CLINICAL OUTCOMES OF SEDATIVE REDUCTION IN THE RESIDENTIAL AGED CARE SETTING

HOYLE Daniel[1], WESTBURY Juanita[1], BINDOFF Ivan[1], PETERSON Gregory[1]

[1]Unit for Medication Outcomes Research and Education, School of Medicine (Pharmacy), University of Tasmania

Research consistently shows high usage of psycholeptic medication (predominantly antipsychotics and benzodiazepines) in many residential aged care facilities (RACFs). Antipsychotics are often employed to treat behavioural and psychological symptoms of dementia (BPSD) while benzodiazepines are frequently used to alleviate anxiety and sleep disturbances, despite the risk of severe adverse effects and limited effectiveness. Generally, antipsychotic reduction has not been shown to significantly affect BPSD; however, both deterioration and improvement in BPSD has been detected in sub-groups of residents depending on severity of baseline behaviour and initial antipsychotic dose. Furthermore, research is conflicting as to whether or not psycholeptic reduction diminishes rates of falls, and subsequent fractures. Currently, the "Reducing the Use of Sedatives" (RedUSe) project (Westbury, Jackson, Gee, & Peterson, 2010) is being expanded nationally to promote appropriate use of psycholeptics in RACFs. Clinical outcome measures, such as BPSD and falls, which have often been absent from similar implementation projects, will be monitored to observe the effect of psycholeptic reduction on residents.

BUILDING CAPACITY, PROMOTING PARTNERSHIPS AND ENABLING CHANGE TO SUPPORT HEALTHY AGEING IN VICTORIA – THE EFFECT OF A HOLISTIC HEALTHY AGEING FUNDING MODEL

STEVENSON Mina[1], YALLOP Sarah[2], MCKENZIE Rosemary[1]

[1]The University of Melbourne
[2]Victorian Department of Health

The Victorian Department of Health has adopted a healthy ageing holistic funding model that builds on the interactions of several prior targeted programs to strengthen outcomes for aged care services and older people. The Healthy Ageing Program aims to improve health and wellbeing for older people through a focus on nutrition, physical activity, emotional wellbeing and social connection. Commencing in 2011, the Healthy Ageing Program combines the principles of previous Victorian Department of Health programs, Well for Life, Making a Move and Count Us In. Each of these programs individually had a strong history in Victoria and had been found to be effective at increasing the capacity of organisations and the aged care workforce to support healthy ageing. The effect of an integrated holistic funding approach was unknown. This paper reports on evaluation of the Healthy Ageing Program to determine its impact on organisations receiving funding under the new model. The evaluation used a mixed-methods objectives-based summative approach. Results show that the program has supported partnerships between organisations, promoted sustainability of healthy ageing initiatives and supported organisational change around healthy ageing objectives. Enablers and barriers to healthy ageing in funded organisations were identified. To strengthen the program further a focus on funding, sustainability and partnerships is recommended. These aspects should be integrated into all stages of an organisations healthy ageing program, from program submission to dissemination of information regarding the success of organisation specific programs.

ENHANCING QUALITY AND PERFORMANCE OF AGED CARE FACILITIES: RETROFITTING FOR THERMAL COMFORT AND DEMENTIA-FRIENDLY DESIGN

TARTARINI Federico[1], COOPER Paul[1], FLEMING Richard[1], MA Zhenjun[1]

[1]University of Wollongong

The central questions of the research are: what could be the impact of the Indoor Environmental Quality, IEQ, on behaviour of residents in aged care facilities? Are the existing guidelines reflective of residents' needs? How can optimal IEQ be achieved in an efficient way? Global warming is causing a rise in average global temperatures, furthermore, the ageing population of Australia is also growing (4,617,241 people were aged 60 years or more and out those 226,042 were residing in 2,718 aged care facilities, June 2013) and the cost of providing this care has become a national concern. Guidelines are required to address these issues to ensure a higher quality of life while improving energy efficiency in the sector. Thermal comfort is a key element of the quality of life of residents, and it can also affect behaviour adversely. However, there is ambiguity about how IEQ is perceived by the elderly and how it may impact their well-being. Facilities across Australia are often energy inefficient, since energy conservation was not considered a primary concern when these facilities were originally built. Although, until the impact of IEQ on the well-being of residents has been fully understood, thermally inefficient facilties will continue to be built, with behavioural and quality of life implications. The data collected during spot measurements, in a case study facility, will be used to illustrate and gauge the IEQ. A comprehensive literature review regarding the aged care sector and the IEQ will also be presented. The development of the research methods to be developed under the present project will be discussed, including the assessment of agitation, using the Cohen-Mansfield Agitation Inventory, and of thermal comfort with both structured interviews and by tracking residents' movements. A potential outcome will be the development of guidelines to improve the design of future residential facilities.

Session F

Workforce Participation and Retirement

How do older farming couples negotiate retirement decision making together?
Heather Downey
La Trobe University

Greener pastures? A portrait of life satisfaction among older Australians.
Dorothy Dudley
University of Sydney

Baby boomer women and labour force participation – old perspectives and new opportunities.
Judith Andrea Lewis
University of Adelaide

Social connectedness and retirement status in Australia: Results from SNAP.
Pilar Rioseco
The Australian National University

Retiree welfare: The impact of the 2009 age pension increase.
Serena Yu
University of Sydney

HOW DO OLDER FARMING COUPLES NEGOTIATE RETIREMENT DECISION MAKING TOGETHER?

DOWNEY Heather[1]

[1]La Trobe University

There is a growing body of research regarding the contemporary challenges experienced by older farmers. To date, the issue of farmer retirement has been presented in gendered terms, with a focus on men. This presentation aims to explore how ageing farming couple negotiate retirement decision making together. This broadens this conceptualisation of farmers to include both members of farming couples and addresses a gap in knowledge about couples negotiating the retirement planning process. This presentation discusses findings from a PhD study concerned with the retirement decision making of older farming couples in long term relationships. Erikson suggests that couples at the middle adulthood stage must have developed effective communication patterns, shared experiences and be influenced by each other's observations and reactions. The challenge of adapting Erikson's developmental stage theory to the current context has been the subject of much academic debate. The intention of this presentation is a continuation of that discussion, particularly focussed on the implications of utilising a narrative, constructionist methodology in this study. Particular attention is drawn to engagement of couples in the research process, the dynamics of interviewing couples together, and the interviewer's role in the construction of the interview. Specifically, the focus of this presentation concerns how couples present their retirement decision making processes. Couples' stories reveal the ways individual and joint stories are told. This presentation will be of theoretical and methodological interest to other researchers concerned with issues experienced by older couples. Positive outcomes for older people can only be enhanced by not seeing them in isolation from their intimate relationships.

GREENER PASTURES? A PORTRAIT OF LIFE SATISFACTION AMONG OLDER AUSTRALIANS

DUDLEY Dorothy[1, 2]

[1]University of Sydney
[2]ARC Centre of Excellence in Population Ageing Research (CEPAR), University of Sydney

Drawing on data from Wave 11 of the Household, Income and Labour Dynamics in Australia (HILDA) survey, this paper examines the level and determinants of self-reported life satisfaction among Australians aged 55 years and older. Results show that retirement status and a range of demographic and activity factors play an important role in determining the level of life satisfaction of older Australians. The impact of retirement on satisfaction levels is clear with those in complete retirement exhibiting higher overall life satisfaction and satisfaction across a range of life domains. The paper provides a quality of life perspective beyond the widespread focus in the literature on the economic, labour market and healthcare impacts of population ageing. Findings have direct implications for policy makers given the Federal Government's recent budget plans to gradually raise aged pension eligibility to 70 years from 2035, indicating that staying in paid work, whether part-time or full-time, could have a negative impact on the overall life satisfaction of ageing Australians.

BABY BOOMER WOMEN AND LABOUR FORCE PARTICIPATION: OLD PERSPECTIVES AND NEW OPPORTUNITIES

LEWIS Judith[1]

[1]**The University of Adelaide**

High on current government agendas is the development of strategies to prevent the problems expected to occur as Baby Boomers reach traditional retirement age and beyond. Increasing older labour force participation is the policy strategy that has been adopted in Australia to avoid rapid reductions in the labour force, reduced tax revenue and increased demand on income supports and social services. Of particular concern are trends amongst older women that confirm their higher representation in welfare dependency. However, researchers have not proffered theories that sufficiently explain the continuing downward trends in labour force attachment by women over 50 years of age. The limitations of the current literature are a result of the predominantly objective perspective adopted in the exploration of the factors that might influence older women's engagement with the labour force. This presentation will overview the literature that investigates; participation trends amongst older Australian women, older women and welfare dependency, barriers to employment of older women, the potential impact of Baby Boomer women on economic growth and the links between older women's labour force participation and health and wellbeing. It will argue that only by bringing together objective and subjective understandings of the issues relating to older women's labour force participation in the context of current Commonwealth and state government policy will it be possible to more clearly identify a way forward that will reduce the potential of significant increases in poverty and decreases in health and wellbeing for the women of the Baby Boomer generation and, in all likelihood, the older women of future generations.

SOCIAL CONNECTEDNESS AND RETIREMENT STATUS IN AUSTRALIA: RESULTS FROM SNAP

RIOSECO Pilar[1,2]

[1]**Australian National University**
[2] **CEPAR**

The importance of social connectedness for older adult's health and well-being has been widely recognized. Several studies have also linked health and well-being to retirement, which is one of the most important transitions of later life. However, the association between social connectedness and retirement has not been examined in detail. Particularly, little is known about the role that different aspects of social connectedness, such as social networks, social support and social engagement, play in the retirement transition. This paper aims to explore the relationship between these three dimensions of social connectedness and retirement status. Using data from the first wave of the Social Networks and Ageing Project survey (SNAP), logistic regression is used to identify significant associations between social connectedness indicators and retirement status –retired/not-retired–, controlling for socio-demographic characteristics. Results indicate that males with a large family network are more likely to be retired than those with a medium-size network and males with a small family network are more likely to be retired than those with a medium-size network. In addition, quality of family network is also associated with retirement status. While family network structure and family network quality are significant for males, only indicators of formal social engagement – participation in voluntary work and group activities – are associated with being retired among females. These results show that the differences in social connectedness – networks, support and engagement – between retirees and non-retirees are complex and differ significantly by sex. Implications for social relations in older ages and research on retirement are discussed.

RETIREE WELFARE: THE IMPACT OF THE 2009 AGE PENSION INCREASE

YU Serena[1]

[1]**University of Sydney**

Policy debate over the shape of public age pension provision and reform is critical in the context of an ageing population. There is a dearth of research on the private and social benefits of age pension programs, compared to widely documented disincentive effects on individuals' retirement decision, labour supply and savings behaviour. This research uses quasi-experimental methods to estimate welfare changes arising from the once-off increase in the base age pension rate in Australia in 2009. A difference-in -difference regression model is used to exploit the exogenous features of this policy change, whereby the pension rate rose significantly more for single retirees relative to retired couples. Using longitudinal data, the research focuses on a range of welfare outcomes, including changes in income, consumption, subjective wellbeing, and poverty rates. Empirical results for this research suggests that there were significant improvements in average consumption levels, as well as rates of poverty.

Session G

Dementia and Cognitive Impairment

Accessing dementia care and support services in rural communities.
Marita Chisholm
Monash University

Semantic memory
function in subtypes of Mild Cognitive Impairment (MCI).
Shannon Klekociuk
University of Tasmania

Does cognitive reserve predict emotional memory performance in older adults?
Louise Lavrencic
University of South Australia

Describing the characteristics of wandering-related boundary transgression in people with severe dementia: The clinical implications.
Margaret MacAndrew
Queensland University of Technology

Mild cognitive disorder and general practitioner use: A longitudinal analysis.
Lily O'Donoughue Jenkins
The Australians National University

Postoperative cognitive dysfunction, depression/anxiety, and delirium after total joint replacement in the elderly: The findings from three meta-analyses.
Julia Scott
University of Adelaide

ACCESSING DEMENTIA CARE AND SUPPORT SERVICES IN RURAL COMMUNITIES

CHISHOLM Marita[1,2], BUYKX Penny[1,] RADOMSKI Natalie[1], SNOW Pamela[1], WALKER Judi[1,2]

[1]Monash University
[2]Centre of Research Excellence in Rural and Remote Primary Health Care (CRERRPHC)

As the number of Australians with dementia increases, the demand for care and support for people with dementia and their carers is also increasing. Accessing services can be a challenge for people with dementia and carers in any geographical location, however, those living in rural areas may be faced with more challenges due to distance, population size, and other service-delivery factors. Access is a complex and multidimensional concept that involves far more than availability of a service; availability is only one, albeit important dimension of access. Other important dimensions include: accessibility, affordability, accommodation and acceptability. In addition to these dimensions consideration also needs to be given to awareness for which information and health literacy are important. A mixed-methods approach was used to explore the experiences and information needs of people with dementia and their carers when accessing care and support services in rural areas. Narrative inquiry was used to generate in-depth stories of the experiences of 6 dyads (the person with dementia and their carer) accessing care and support services. Data on dementia severity, carer health literacy, mental health and the impact of caring were also collected. Thematic analysis and descriptive statistics (SPSS) provided data specific to the dimensions of access. Results describe how each of the dimensions is experienced by people with dementia and their carers, confirming that access involves far more than availability of a service. This research is important as it identifies the barriers and facilitators to access as told through the stories of people with dementia and their carers. The findings will help inform policymakers and service providers in their efforts to address identified barriers to access for people with dementia and their carers living in rural communities.

SEMANTIC MEMORY FUNCTION IN SUBTYPES OF MILD COGNITIVE IMPAIRMENT (MCI)

KLEKOCIUK, Shannon[1] MILNER, Kyla[1], SUMMERS, Mathew[1,2]

[1]School of Medicine (Psychology), University of Tasmania
[2]Wicking Dementia Research & Education Centre, School of Medicine, University of Tasmania

Current classification criteria for MCI indicate that semantic memory impairment may be a feature of MCI, particularly the amnestic subtype profile. This aligns with evidence indicating that semantic memory decline in Alzheimer's disease (AD) may occur earlier than initially suggested. However, empirical support for semantic memory impairment in MCI remains questionable as many studies have failed to comprehensively assess MCI cases and used fluency measures which may confound semantic memory with executive function e.g. attention etc. This study investigated the integrity of semantic memory in a sample of confirmed cases of MCI. A total of 94 participants (54 females and 40 males) aged 61-91 years ($M = 71.65$, $SD = 6.83$ years) from the Tasmanian Longitudinal MCI study volunteered to participate in a semantic memory sub-study. The cohort were classified at baseline using a comprehesive neuropsychological protocol and separately assessed on The Graded Naming Test and an adapted Famous Faces Test. Findings revealed that when MCI cases are classified via comprehensive neuropsychological protocol and assessed on 'purer' measures of semantic memory, there is no evidence of impairment in this domain across MCI subtypes. The inclusion of individuals with sematic memory deficits in MCI samples may capture those who are presenting with early stage semantic dementia and as such are likely to increase heterogeneity of MCI samples. Overall, findings suggest that impairment to semantic memory is unlikely to be a diagnostic marker of MCI and its utility as a classification criterion for MCI should be reviewed.

DOES COGNITIVE RESERVE PREDICT EMOTIONAL MEMORY PERFORMANCE IN OLDER ADULTS?

LAVRENCIC Louise[1], KURYLOWICZ Lisa[1], CHURCHES Owen[2], VALENZUELA, Michael[3], KEAGE Hannah[1]

[1]Cognitive Neuroscience Laboratory, University of South Australia
[2]Brain and Cognition Laboratory, Flinders University
[3]Regenerative Neuroscience Group, University of Sydney

Memory performance declines with age, although emotional memory appears less susceptible to age-related declines. There is evidence that emotional memory performance in older adults is affected by valence (i.e., positive or negative). Cognitive reserve accounts for the observation that some individuals can compensate for age- or dementia-related brain changes, to maintain cognitive performance within normal limits. Those with high cognitive reserve display better performance on a variety of cognitive domains, but particularly general memory. Therefore, there is a dissociation between brain and cognitive health measures in those with high cognitive reserve, indicating that early cognitive impairment screening tools can be ineffective. It is unclear whether cognitive reserve affects emotional memory. Seventy-four healthy older adults aged 60 to 85 years were administered an emotional memory test (adapted from The Awareness of Social Inference Test), a cognitive reserve measure (the Lifetime of Experiences Questionnaire), and a general memory subscale (from the Alzheimer's Disease Assessment Scale – Cognitive Subscale). Regression analyses revealed that older adults' ability to remember positive emotions was not associated with cognitive reserve (β = .101, p=.416), covarying for age, gender, and general memory ability. The effect of cognitive reserve on memory for negative emotions failed to reach conventional significance levels (β = -.207, p=.057). In a previous study with the same cohort, we showed that cognitive reserve did not affect emotion evaluation and theory of mind components of social cognition. These findings strengthen the argument that social cognition is minimally affected by neural reserve and neural compensation, which are two mechanisms theorised to underlie cognitive reserve. However, the trend for cognitive reserve to affect memory for more negative stimuli warrants further investigation. Social cognition and emotional memory, which appear minimally biased by cognitive reserve, may be good candidates to track cognitive and brain health in late life.

DESCRIBING THE CHARACTERISITCS OF WANDERING-RELATED BOUNDARY TRANSGRESSION IN PEOPLE WITH SEVERE DEMENTIA: THE CLINICAL IMPLICATIONS

MAC ANDREW Margaret[1], BEATTIE Elizabeth[1]

[1]Queensland University of Technology

Wandering-related boundary transgression (BT) has been identified as a dimension of dementia-related wandering that could be associated with adverse outcomes including resident to resident violence, becoming lost or trapped and even death. While BT has been defined as ambulation that takes the person beyond safe limits to out of bounds and/or hazardous areas, previously the characteristics of this behaviour have not been described which could contribute to the dearth of effective clinical management strategies in residential aged care (RAC). A two-phase study with a descriptive and observational phase was conducted to address this gap in wandering research. In the observational phase, independently ambulant RAC residents with severe dementia known to exhibit BT (N=7; n= 2 male, n=5 female) were observed in real time (n=92 observation periods), and characteristics of wandering cycles (n=431) and BT events (n=58) were recorded, from which frequency, duration, location, patterns of ambulation, impetus and outcomes of BT events were quantified. Statistically significant associations indicated that BT occurred more frequently during random pattern of ambulation, those with more frequent locomotion had more BT, and BT was more likely to occur during peak ambulation periods. This evidence can be used clinically to guide the development of interventions targeted at reducing the incidence of BT and the related incidence of potentially dangerous adverse outcomes experienced by this vulnerable population.

MILD COGNITIVE DISORDER AND GENERAL PRACTITIONER USE: A LONGITUDINAL ANALYSIS

O'DONOUGHUE JENKINS Lily[1], ANSTEY Kaarin[1]

[1]Centre for Research On Ageing, Health and Wellbeing, The Australian National University

There are few studies, and none in Australia, which have analysed the relationship between health service use and cognitive decline. Cognitive impairment is associated with an increase in health services, and as the prevalence of dementia and mild cognitive disorder (MCD) is expected to increase due to population ageing this use is also predicted to increase. This paper reports the findings of an empirical study that analysed if participants diagnosed with MCD visited a general practitioner (GP) more than cognitively healthy participants over a 12-year period. We also analysed how service use varied if the MCD participant had a comorbid condition (arthritis or depression). This study used population-based sample from the PATH study. Total of 2,296 participants aged 60-64 years consented to have their PATH data linked with Government Medicare data. There were 69 participants with MCD at wave one, 94 at wave two and 75 at wave three. We found that participants with MCD used more services over time than those who were cognitively healthy. At wave one MCD participants visited their GP 7.35 times (SD= 7.1), whereas cognitively healthy participants visited 5.59 times (SD= 4.9). By wave three these visits had increased to 9.01 (SD= 6.95) for MCD participants and 6.81 (SD= 5.53) for cognitively healthy participants. We found that GP use was significantly higher if the MCD participant also had a comorbid condition. Preliminary GEE analyses found that after controlling for socio-demographic variables MCD was significantly associated with GP use over time ($p<.001$), so was arthritis ($p<.001$) and depression ($p<.016$). This paper highlights how important it is to implement strategies for projected increases in GP demand due to population ageing. If GPs are aware that patients with MCD are visiting more frequently than they may be able to provide early detection of dementia and intervention strategies.

POSTOPERATIVE COGNITIVE DYSFUNCTION, DEPRESSION/ANXIETY, AND DELIRIUM AFTER TOTAL JOINT REPLACEMENT IN THE ELDERLY: THE FINDINGS FROM THREE META-ANALYSES

SCOTT Julia[1], MATHIAS, Jane[1], KNEEBONE, Anthony[1,2]

[1]School of Psychology, University of Adelaide
[2]Department of Clinical Psychology, Flinders Medical Centre

Total joint replacement of the hip or knee (TJR) is commonly performed in older adults (≥ 50 years) who have disabling osteoarthritis. Surgically, these procedures are highly successful as they significantly improve a person's quality-of-life. In contrast, non-surgical outcomes after TJR are poorly understood, particularly in relation to post-operative cognitive dysfunction (POCD), depression/anxiety, and delirium. Three separate meta-analyses were therefore conducted to evaluate these outcomes. Study 1: Seventeen studies assessed POCD after TJR; 15 of which assessed cognition pre- and post-surgery in TJR patients alone, with a further two including a healthy control group. TJR patients showed a small decline in cognition pre-discharge, which was not evident 3- to 6-months after surgery. Patients and controls did not differ in their changes to cognitive function over time; however, the TJR group was cognitively compromised at all assessments, compared to controls. Study 2: Nineteen studies examined depression/anxiety pre- and post- TJR, only one of which included a control group. Depression/anxiety decreased after surgery, although the proportion of patients with clinically significant depression remained high, relative to their peers. Study 3: Twenty-five studies assessed the incidence of delirium after TJR. On average, one in six patients developed delirium prior to hospital discharge, although the rates varied considerably. Anaesthesia type, cognitive status and method of assessment (measure, frequency of assessment, post-surgical interval) did not contribute to the variation in these rates. Overall, these meta-analyses demonstrate that TJR patients may experience poorer cognition and be at greater risk of developing psychological problems both before and after surgery, compared to the general population. In addition, delirium was found to be a common complication of TJR. However, the infrequent use of control groups, inconsistent diagnostic criteria/measures, and under-reporting of confounding variables (anaesthetic type, comorbidities, medications) seriously limit the conclusions that can be drawn from these studies.

Session H

Decision-making and Community Participation

Participation in action: From methodological ideal to lived experience.
Steven Baker
La Trobe University

Emergency preparedness and resilience: An older person's perspective.
Victoria Cornell
University of Adelaide

Perceived control moderates the effects of functional disability on older adults' social activity.
Rachel Curtis
Flinders University

Bringing the oldest-old into the digital age: Overcoming challenges of mobility, literacy, and learning.
Gillian Harvie
Charles Sturt University

Towards decision-making practices that enhance the autonomy and personhood of vulnerable older persons.
Sue Jarrad
Flinders University

PARTICIPATION IN ACTION RESEARCH: FROM METHODOLOGICAL IDEAL TO LIVED EXPERIENCE

BAKER Steven[1]

[1]John Richards Initiative, La Trobe University

Action research, a family of research methods that seek to combine traditional research goals and the simultaneous achievement of change within the research environment, is increasingly being adopted by researchers examining issues related to ageing. Participation is a central tenant of action research, and the concept of participation is very appealing to researchers who are seeking to work with participants and organisations to implement positive change. This ideal, however, raises a number of practical questions as the researcher attempts to move from the methodological ideal of participation through to its lived experience "on the ground" in a research project. This paper presents some preliminary reflections on these issues from an ongoing action research project involving multiple participant groups across diverse rural locations in Central Victoria. The project involves working with social workers and older clients of a large homelessness agency (n = 13) and focuses on utilising tablet computers to complement existing face to face practice and assisting the clients to build links to community services and supports. The paper will address some of the practical challenges involved in encouraging participation across all phases of a research project, from recruitment through to completion and will examine how workplace culture and power relationships can present barriers to participation.

EMERGENCY PREPAREDNESS AND RESILIENCE: AN OLDER PERSON'S PERSPECTIVE

CORNELL Victoria[1]

[1]University of Adelaide

Anecdotally, older people are considered to be under-prepared for emergency events. However, they are rarely engaged directly, to understand their knowledge and experience of emergencies and their feelings regarding emergency preparedness. This presentation will discuss research that explored how the life experience of older people influences their preparedness for emergencies. In-depth interviews were held with eleven people aged over 70 years, living in their own homes, in the greater Adelaide/ Adelaide Hills areas. The study considered the emergencies experienced; whether the meaning and understanding drawn from the events shaped what the participants believe about emergency preparedness; and whether they feel vulnerable or resilient. It is often assumed that previous emergency experience increases survivors' awareness, and encourages future preparedness. However, literature review and data analysis found this assumption simplistic. The participants in this study felt being prepared for an emergency was not a one-off activity; it was an on-going process - a feeling of comfort, safety and security. This research brings an ontological view of the meaning of preparedness. It provides new knowledge in understanding that for older people, preparedness for an emergency does not focus on 'toolkits'. While they might not define themselves as 'being prepared', they certainly considered themselves resilient; they accept their limitations and feel confident they can cope. Given lack of engagement to date, these findings are critical in terms of how older people may be engaged in the future. They should not be approached as a 'vulnerable' group; rather a group that has specific needs, but has a wealth of positive attributes in terms of knowledge, experience and sense of community. The research has implications for developing well informed emergency management policy and practice. By understanding that 'being prepared' is less important than 'being resilient', policy-makers can establish how best to assist older people in the face of emergencies.

PERCEIVED CONTROL MODERATES THE EFFECTS OF FUNCTIONAL DISABILITY ON OLDER ADULTS' SOCIAL ACTIVITY

CURTIS Rachel[1], WINDSOR Tim[1], LUSZCZ Mary[1]

[1]School of Psychology, Flinders University

Social activity is positively associated with emotional wellbeing in older adults. In addition, higher social activity has been found to be related to lower rates of cognitive and motor decline and lower incidence of dementia and mortality. Given the benefits of social activity, it is important to identify protective factors that may assist individuals in maintaining their level of social activity as they age. Research has shown that functional disability is related to lower social activity in older adults; however, individuals with high self-perceptions of control have greater beliefs in their ability to achieve outcomes, and are more likely to show persistence and employ strategies to overcome challenges. Perceived control may therefore buffer the negative effects of functional disability on social activity. Using data from the Australian Longitudinal Study of Ageing, we modelled change in social activity over 18 years in 1348 older adults (aged 69-103 years at baseline), and examined whether baseline perceived control moderated the effects of functional disability on trajectories of social activity. Social activity was measured at each wave with three self-report items. Confirmatory factor analysis indicated that the social activity factor exhibited measurement invariance over time. A quadratic model fit the data well; on average participants experienced an initial increase in social activity followed by a decrease in later years. A significant interaction between functional disability and perceived control supported the hypothesis and showed that the negative effects of functional disability on social activity were attenuated for older adults with high perceived control.

BRINGING THE OLDEST-OLD INTO THE DIGITAL AGE: OVERCOMING CHALLENGES OF MOBILITY, LITERACY, AND LEARNING

HARVIE Gillian[1], BURMEISTER Oliver[1], EUSTACE Ken[1]

[1]Charles Sturt University

It has been recognised for some time that while innovations in technology are advancing rapidly, the elderly are increasingly unable to keep up. In particular, the oldest-old (80+) age-group, many of whom have not been exposed to technology in their home or working lives, are at a disadvantage as more and more daily tasks are performed electronically. For example, service providers and banks prefer to send bills electronically rather than by the postal service and encourage customers to pay in the same way. Credit card providers no longer accept a signature as card authorisation for Australian cardholders, requiring a pin number instead. This raises security concerns of how the oldest-old will remember this number without entrusting it to another person, or writing it down. Exemptions can only be obtained for signature-only cards under very specific circumstances. There have been attempts to assist older people with training courses aimed at their level of expertise, with varying degrees of success. While these may help the young-old, as people age they become less mobile, and less able to attend such courses. A number of online communities are also specifically targeted at the aged to provide information and support. This paper investigates the training courses and online communities which assist the oldest-old, examining whether these are useful for those in the age group and if not, what might be the alternatives. If we neglect this oldest generation they risk being increasingly isolated.

TOWARDS DECISION-MAKING PRACTICES THAT ENHANCE THE AUTONOMY AND PERSONHOOD OF VULNERABLE OLDER PERSONS

JARRAD, Suze[1]

[1]**Flinders University**

The freedom to be autonomous is highly valued in society, and a key principle underpinning law. Literature indicates that the freedom to make our own decisions is affirming of identity and selfhood, and persons can experience powerlessness when autonomy is not recognised. Older persons with cognitive changes are particularly vulnerable to these dynamics, with new understandings about persons with dementia leading to expanded views of autonomy and personhood. The moral and legal personhood of older persons experiencing cognitive changes is explored through six in-depth case studies, which included interviews with hospital assessors and family members, and case file analysis of the older person. Findings include interpretations of the law in decision-making processes, and medicalised practices that affect the older person's opportunities for self-determination. These socio-legal findings give substance to autonomy as contextual and relational, rather than static and absolute. The insights gained from this research are important for a number of reasons. Firstly, older persons make up a large percentage of the client group of health services, and these services have obligations towards supporting health care rights and principles of quality care. Secondly, reduced participation in decision-making can affect the person's psychological wellbeing. Thirdly, practices that constrain the choices of older persons are an issue of justice. Person-centred strategies and decision-making practices to enhance personhood are discussed.

Session I

Social Relationships

As time goes by: A longitudinal thematic analysis of the evolution of widowed women's life experiences.
Robyn Kennaugh
University of Newcastle

The Enabling Niche: How can frail older people flourish in constraining circumstances?
Vanessa Leane
University of South Australia

Love and intimacy in later life: Experiences of couples in residential aged care.
Katherine Anne Radoslovich
University of Adelaide

Social capital in retirement & ageing services of the Brotherhood of St Laurence (BSL).
Seuwandi Wickramasinghe
Brotherhood of St Laurence

AS TIME GOES BY: A LONGITUDINAL THEMATIC ANALYSIS OF THE EVOLUTION OF WIDOWED WOMEN'S LIFE EXPERIENCES

KENNAUGH Robyn[1], BYLES Julie[1], TAVENER Meredith[1]

[1]**Research Centre for Gender Health and Ageing, School of Medicine and Public Health University of Newcastle**

Early cross-sectional research into the experiences of widowed women from the 1921-26 cohort of the Australian Longitudinal Study on Women's Health revealed three main themes: health, social relationships and support, and financial and structural issues.[1]This current study looks at how these experiences have evolved over time, by thematically analysing free-text comments provided by the women over a 15-year period. Data were available for 162 women who reported widowed marital status and wrote a free-text comment on the 1996 baseline survey, and who subsequently made at least one other comment on a follow-up survey. The original three themes did persist over time but with shifts in the meaning assigned by the women to health, social relationships and support, and financial and structural issues. While women reported problems with their health, and decline in health, many women reported feeling well for their age. These women talk about being active and independent, often in spite of managing multiple comorbidities. Some women expressed ongoing concerns regarding poor health as a direct result of having lost their spouse or partner, and some women reported increasing problems coping with health issues. Women wrote of how social relationships shift from friends to family and support systems to more formal organisations, and there was a transition from providing care to needing care for themselves. Financial and structural issues persisted as a theme but appeared less frequently in the women's comments over time. There were concerns about how to manage their financial affairs as a widow, combined with increasing health costs as they aged.

THE ENABLING NICHE: HOW CAN FRAIL OLDER PEOPLE FLOURISH IN CONSTRAINING CIRCUMSTANCES?

LEANE Vanessa[1]

[1]**University of South Australia**

Australia is facing a social phenomenon. The gains in longevity are likely to be accompanied by years of constraints due to increasing frailty, chronic disease and disability. With the current emphasis on the care of the ageing body, flourishing is not a term commonly associated with frail and isolated older adults. This presentation presents the theoretical basis of my doctoral research into a new understanding of the social processes of enablement underpinned by an innovative application of a strength based approach in the lives of older frail people. The research synthesises theoretical concepts from positive psychology and social work (person in environment approach). Adopting the premise of Peterson and Seligman's (2004) theory of character strengths in action, this research highlights the important elements of innovative opportunities which adapt environments to create an enabling niche, thereby empowering older people to use their strengths. An enabling niche (Taylor, 1997) not only identifies environmental constraints but also seeks to adapt the environment to fit enabling older people to use their strengths. It is the process of discovering and utilising their strengths (values) in action which may be a source of purpose, positive emotion, meaningful accomplishment, vital engagement and positive relationships. This model will be tested in a series of qualitative studies with frail isolated adults, their significant others (which may include paid service delivery professionals), and aged care agencies. The research is expected to result in innovative programs to frail isolated older people to choose to move from a sphere of stagnation and languishing to a sphere of flourishing despite their increasing frailty.

LOVE AND INTIMACY IN LATER LIFE: EXPERIENCES OF COUPLES IN RESIDENTIAL AGED CARE

RADOSLOVICH Katherine[1]

[1]**University of Adelaide**

Despite a rapidly ageing population, there remain major gaps in both academic and community understandings of the role and experience of sexuality, love and intimacy in the lives of older Australians. This gap is particularly apparent within the context of residential aged care. Most research that exists on these issues for older people in care focuses on staff responses to sexualised behaviours, the particular experiences and needs of LGBTI older people, and on the experiences of partners as carers. In all of this, it is clear that the voices of older people as part of an intimate couple are missing. The transition into residential aged care is a major life event with the potential to disrupt the formation, rhythms and maintenance of intimate relationships, particularly for couples. This paper presents findings from a qualitative study being undertaken into the experiences of older couples where one or both members are living in residential aged care. The study uses an ethnographic approach combining semi-structured in-depth interviews with members of up to 30 couples with observation techniques, and uses thematic and grounded theory for analysis. In particular, this paper will focus on findings related to the impact of transitions into care and the establishment of new relationship routines on couples established before one or both members transitioned into care. It will review key themes emerging from interviews with these couples, and consider the impact of these findings on improving support to couples entering into the residential care system. Filling this gap in knowledge is vital in assisting service providers to best support and meet the needs of older couples and to support older people to create and maintain relationships of their own choosing.

SOCIAL CAPITAL IN RETIREMENT & AGEING SERVICES OF THE BROTHERHOOD OF ST LAURENCE (BSL)

WICKRAMASINGHE Seuwandi[1]

[1]**Brotherhood of St Laurence**

This presentation will reflect on progress to date of a twelve month exploratory research project which analyses and maps the social capital of each of the Brotherhood of St Laurence's Retirement & Ageing Services (R&A). The services comprise packaged home care, respite care and social inclusion programs in the North-Western and Southern Metropolitan regions of Melbourne as well as the Coolibah Day Centre and two residential care facilities in Inner Melbourne. Since research to date suggests that social capital is an important but often overlooked element in the design, development and delivery of aged services, we are investigating how social resources and networks of social relations have been built, used and transferred within and among BSL R&A Services both in programs and practice. Guided by the academic literature, the research adopts seven indicators of social capital to identify social capital that currently exists in BSL R&A Services. The research adopts a qualitative research approach by using an on-line survey which seeks to examine the varying forms and levels of social capital in BSL R&A Services. Network analysis workshops sheds light on how networks of social relations are being used by BSL R&A services to build social capital. In this presentation we will tackle some crucial questions about the experience and challenges of operationalising a concept that has received much academic scrutiny about its effective application in practical settings. More broadly, the findings of this research will contribute to developing a preliminary evidence base and an operational understanding of the social capital of aged care providers in third sector.

Poster Presentation Abstracts

Daily stress and emotion regulation in younger and older adults: An intensive micro-longitudinal study.
Victoria Allen
Flinders University

Transition to emergency department from residential aged care.
Briony Campbell
University of Tasmania

A qualitative investigation of the impact of migration and culture on the social and emotional well-being of 1st generation Greek immigrants in Australia.
Panagiota (Peggy) Grypma
University of Adelaide

Beyond family satisfaction: Family-perceived involvement in residential care.
Justine Irving
Flinders University

Towards a decision-making framework for
behavioural problems in residential dementia-care facilities.
Catherine Kubel
University of Wollongong

The use of creative activities in dementia care in residential aged care facilities. An Australian cross-sectional descriptive study.
Ilona Pappne Demecs
Queensland University of Technology

Emerging community-based program of elderly care.
Rina Kusumaratna
Trisakti University

DAILY STRESS AND EMOTION REGULATION IN YOUNGER AND OLDER ADULTS: AN INTENSIVE MICRO-LONGITUDINAL STUDY

ALLEN Victoria[1]

[1]Flinders University

Socio-emotional theories of development suggest that older and younger adults differ in their use of emotion regulation strategies. However, studies that have examined these age-differences empirically are scarce. The purpose of this study is to compare older and younger adults' use of different emotional regulation strategies (e.g., situation selection, situation modification, attention deployment, cognitive reappraisal, and response modulation). Furthermore, this study aims to link each family of emotion regulation strategies to psychological health (affect, daily stress, mental health, and psychological wellbeing), physical health, and social support outcomes. A semi-intensive micro-longitudinal design is proposed in order to accomplish these aims and pilot data will be presented if available. Proposed methods will involve participants completing questionnaires regarding their emotion regulation efforts, affect, daily experiences, psychological wellbeing, mental health, physical health, and social support in three phases: at baseline, daily (over a period of 20 consecutive days), and at follow-up (one year after baseline assessment). This will allow emotion regulation to be explored at inter- and intra- individual levels, and will enable the prospective relationships between the full range of emotion regulation strategies and health outcomes to be examined. As such, the results of the present study will highlight whether particular emotion regulation strategies are more adaptive than others, and whether this is dependent on age. This may be particularly important given problems with emotion regulation are believed to play a key role in the development and maintenance of a number of Axis I and Axis II psychological disorders. Consequently, the results of this study may have implications for therapies targeting emotion regulation. Moreover, if the long-term efficacy of particular emotion regulation strategies varies with age, then it may be highly advantageous for mental health professionals to consider their client's age and related emotion regulation preferences in selecting appropriate psychological interventions.

TRANSITION TO EMERGENCY DEPARTMENT FROM RESIDENTIAL AGED CARE

CAMPBELL Briony[1], STIRLING Christine[1], CUMMINGS Elizabeth[1]

[1]University of Tasmania

Older patients are particularly vulnerable to information being 'lost in translation' when being transferred from Residential Aged Care Facilities (RACF), to emergency departments. The information-rich content is usually shared by verbal means yet the role of the ambulance clinician in transport as *mediator* of the communication is under studied. The paper or electronic information accompanying patients is not intended for use by the ambulance clinicians, who receive handover from the RACF and construct a separate service -specific report en-route. It is unclear how the transfer record, ambulance care report and multiple verbal handovers are combined and interpreted during triage. This study aims to explore how to improve clinical information transition for non-urgent RACF to emergency transfer. Stage one of this research will explore transfer documentation practices and organisational influences on RACF nurses, ambulance services and ED triage looking for prominent categories and emphasis for each specialty. Data, including narrative entries collected from RACF transfer records, ambulance patient care reports and emergency department triage will be gathered from a major Tasmanian referral hospital medical record system and entered into SPSS. Descriptive statistics, and content analysis will enable identification of transferrance of variables between services, and patterns in the data subsets. A matrix will be used to map the frequency of key variables and common themes of transfer for grouped categories. Stage two uses focus groups held for each group, to further explore and describe the process of cross-specialty information exchange analysed thematically. It is anticipated that this pragmatic approach will create a cohesive picture on transitional information exchange. This new information is expected to highlight ordered effects and causal networks, patterns and (dis)similarities that can be addressed to facilitate safety and continuity for residents being transferred to emergency via ambulance.

A QUALITATIVE INVESTIGATION OF THE IMPACT OF MIGRATION AND CULTURE ON THE SOCIAL AND EMOTIONAL WELL-BEING OF 1ST GENERATION GREEK IMMIGRANTS IN AUSTRALIA.

GRYPMA Panagiota[1]

[1]The University of Adelaide

In Australia, there is an increasing proportion of the ageing polulation who are of diverse cultural and linguistic backgrounds. The increasing diversity of the population can be explained by the pattern of migration which occurred during the post World War II period which saw a large influx of migrants from Europe arriving In Australia during the 1950s, 1960s and 1970s. As a result of this pattern of migration, Greek immigrants are projected to be among the largest group of ageing immigrants in Australia. Empirical research has indicated that first generation Greek immigrants in Australia are among a cohort of older immigrants who experience higher levels of depression and anxiety when compared to Anglo Australians. Although much of the variance in symptoms between Greek-born older adults and those of the general community may be attributed to social, economic and health conditions, these factors do not entirely explain or remove the effects of 'culture' and 'immigrant status'. This research project aims to adopted a narrative approach to investigate culturally specific conceptualisations of social and emotional well-being from the perspective of older Greek immigrants in Australia and explored how this may be related to their subjective experience of migration, personal and cultural identity, and the ageing process. Emergent themes and narrative constructions of 16 in-depth interviews conducted in the Greek language by the researcher with older Greek immigrants living independently in the community within metropolitan Adelaide are presented. It is hoped that this study will contribute to an understanding of the experiences of migration, identity construction and cultural conceptualisations of social and emotional well being of older Greek immigrants as they are ageing in Australia

BEYOND FAMILY SATISFACTION: FAMILY-PERCEIVED INVOLVEMENT IN RESIDENTIAL CARE

IRVING, Justine[1]

[1]Flinders University

Family involvement is an important element of providing individualised care to people living in residential aged care facilities. To date involvement from the perspective of the family has remained effectively unmeasured. **Objective and method**: To explore perceived family involvement and its relationship with satisfaction and facility impressions, a questionnaire was posted to residents' next of kin from four South Australian residential aged care facilities. **Results**: One hundred and fifty next of kin participated in the survey. Family perceived involvement was significantly and positively correlated with satisfaction and facility impressions. **Conclusion**: The findings of this study add to the limited body of research into family involvement in long term residential care. Feedback from the family regarding particular aspects of involvement may also improve the experience of long term care for both family and resident, and assist with the identification of specific issues toward which organisations may target their quality improvement efforts.

TOWARDS A DECISION-MAKING FRAMEWORK FOR BEHAVIOURAL PROBLEMS IN RESIDENTIAL DEMENTIA-CARE FACILITIES

KUBEL Catherine[1], FLEMING Richard[1], PHILLIPSON Lyn[1]

[1]University of Wollongong

Residential aged care staff need access to evidence-based interventions for the behavioural and psychological symptoms of dementia (BPSD) experienced by up to 90% of residents in their care. Direct care staff provide the majority of care under the supervision of nurses. Reviews of residential aged-care have concluded that staff require more training and resources, especially in regards to BPSD. Recently the dementia supplement, predominantly for the management of BPSD, was abolished because of its cost and questions of its effectiveness. Until we understand how staff-oriented tools assist BPSD management we will continue to provide training that has been shown to be ineffective. Evidence-based research is called for to explore mechanisms and tools to aid decision-making for BPSD. Research into the aetiology, treatment and care of BPSD are quite well established. However the gap between research and practice increases and the challenge remains - how can evidence-based knowledge be transferred into care-practice decisions within a workable framework? This research investigates the adoption of Knowledge Transfer (KT) principles which aim to increase the utilisation of evidence-based findings by practitioners. Limited time and training makes it impractical for them to navigate through decades of research data to make informed decisions. They require research syntheses embedded in workable frameworks to make evidence-based decisions. The application of KT strategies ensures the selection of high quality interventions, better awareness of knowledge availability and the development of strategies that will support resource adoption. This research aims to create a framework that will contribute to the development of tools for point of care application bridging the gap between theory and practice. This will enable direct care staff to provide better care to people with BPSDs, reduce symptom prevalence and improve quality-of-life for those living and working within residential aged-care.

THE USE OF CREATIVE ACTIVITIES IN DEMENTIA CARE IN RESIDENTIAL AGED CARE FACILITIES. AN AUSTRALIAN CROSS-SECTIONAL DESCRIPTIVE STUDY

PAPPNE DEMECS Ilona[1], BEATTIE Elizabeth[1], FIELDING Elaine[1], O'REILLY Maria[1]

[1]Queensland University of Technology

To improve quality of life for people with dementia, residential aged care facilities implement recreational activities of various types. While studies show that creative activities have the potential to improve sociability, self esteem, memory, emotional expression and reducing BPSD, the occurrence and characteristics of these activities in the residential care environment is unknown. This study used a mix of quantitative and qualitative methods and had two main aims: 1) examine the incidence and characteristics of creative activities currently provided in RACFs in Australia; and 2) explore the quality of these activities and to what extent these are used to alleviate BPSD. To achieve these aims, first a national survey was undertaken and sent online to all RACFs (n = 1675) that had a valid email address. Second, to obtain a deeper understanding of the topic, in-depth interviews with activity coordinators (n=15) were conducted. The result of this study showed that of the 249 responding facilities (response rate of 15.3%), 242 (97%) reported that they offered one or more of the following activities: music (95%); visual art (83%); dance (47%) and drama (9%). Thematic analysis revealed seven major themes from the interviews: Diversity of creativity; Considering dementia; Creativity catalyses expression; Encouragement to participate; Person-centred activity care; Value of creativity; Routine assessment for evaluation. The findings of this study suggested two main values of creative activities in the care of dementia are: 1) sensory or cognitive stimulation can aid reminiscence and provide meaningful engagement and 2) creative activity is a means of self expression. It also revealed that the understandings of these practices are rather unregulated and the deeper understanding of the implication of creative activities is only apparent to some activity coordinators. To understand more and further explore the themes of this study a more robust observational study is necessary.

EMERGING COMMUNITY BASED PROGRAMME OF ELDERLY CARE

KUSUMARATNA Rina Kurniasri[1]

[1]Department of Public Health, Faculty of Medicine, Trisakti University

Improved life expectancy of Indonesians to an average of 72 years has resulted in incremental growth of the elderly, resulting in public health services and health financing issues. Indonesia has now a national policy of universal coverage for population health insurance. This paper will discuss the various barriers faced in one district of North Kalimantan with 7 primary health centres (PHCs), to the implementation of community based programmes for elderly. This study, using a cohort with mixed method approach, has been conducted from 2011, and consists of 3 phases. In the first phase, we found no valid database, lack of government awareness about elderly care, poor knowledge and skills of health providers, and few supporting infrastructures. However, there were no barriers to health financing, because all residents are covered for health services by the provincial government, and have access to free primary health and hospital care. In the second phase, we found that 3% of the population was over 60 years old, and 70% of them were 70+, with almost equal numbers of male and females. Most live with their family and 72% have ADL. The most frequent diseases are hypertension (53.3%), joint and bone abnormalities (39.6%), diabetes mellitus (10.9&) and stroke (3%). From these data we conclude that 70+ elderly will continue to be disadvantaged because there is no priority programme for them at PHCs. We have recommended to the senior district health officer to implement a community-based programme with primary health care approach, to prevent functional decline of the elderly and ensure their living independently, with their family as caregivers.

Full Papers

We can confirm that the full papers published in the 2014 ERA conference proceedings are published in full, have been peer reviewed by experts in the field, and were made publically available on the ERA website on 26th November 2014 and so meet the Higher Education Research Data Collection (HERDC) requirements for an E1 peer reviewed conference publication (https://education.gov.au/higher-education-research-data-collection). They will not, however, be indexed by CINAHL or similar databases.

Session B

Perspectives of Care

The tacit knowledge in activities of daily living: Knowing by doing care.
Angela Zhang
University of Adelaide

Session C

Nutrition and Health Conditions

Development of a quantitative food frequency questionnaire to measure flavonoid intake in older Australians.
Katherine Caldwell
University of Wollongong

Malnutrition prevalence and nutrition issues in five Australian residential aged care facilities.
Jane Kellett
University of Canberra

Session E

Health Service Use, Aged Care & Policy

Epidemiology of disease, medication use and health service utilisation in Australian residential aged care. Implications for evaluating medication-related quality of care.
Jodie Hillen
University of South Australia

Why 'RedUSe'? Rationale for studying the clinical outcomes of sedative reduction in the residential aged care setting.
Daniel Hoyle
University of Tasmania

Building capacity, promoting partnerships and enabling change to support healthy ageing in Victoria - The effect of a holistic healthy ageing funding model.
Mina Stevenson
University of Melbourne

Session F

Workforce Participation and Retirement

Greener pastures? A portrait of life satisfaction among older Australians.
Dorothy Dudley
University of Sydney

Social connectedness and retirement status in Australia: Results from SNAP.
Pilar Rioseco
The Australian National University

Session H

Decision-making and Community Participation

Emergency preparedness and resilience: An older person's perspective.
Victoria Cornell
University of Adelaide

Bringing the oldest-old into the digital age: Overcoming challenges of mobility, literacy, and learning.
Gillian Harvie
Charles Sturt University

THE TACIT KNOWLEDGE IN ACTIVITIES OF DAILY LIVING: KNOWING BY DOING CARE

ZHANG Angela Rong Yang[1]

[1]*Discipline of Anthropology, University of Adelaide*

Abstract

This paper discusses how knowledge is generated and applied in care practice in residential aged care settings. This study focuses on how 'care' knowledge-base is established and applied taking into consideration the lived experiences of the residents. This paper is based on a literature review from an ethnographic project of residents' lived experiences in Residential Aged Care Facilities (RACFs). Using ethnographic descriptions of Activities of Daily Living (ADLs) in RACFs from previous studies, the author explores the explicit medical knowledge and the tacit experiential knowledge within a theoretical framework of phenomenology and Polanyi's epistemology. This paper aims to reveal that there exists a tacit dimension of shared knowing, doing and experiencing in ADLs for both the residents and staff in RACFs. To effectively integrate the explicit knowledge into the knowledge-base for care, the codified and generalized knowledge has to have practical application and in a form that can be acquired tacitly as embodied skills.

Rationale

Residential aged care provides accommodation, everyday living support (meals, laundry, cleaning), and personal care services. 'Personal care services' include varying levels of assistance with bathing, toileting, eating, dressing, mobility, managing incontinence, and nursing care, etc. (Productivity Commission, 2011, p. 25). 'Personal care services' are mostly delivered via Activities of Daily Living (ADLs) by Personal Care Workers (PCWs).

The provision and delivery of ADLs have a direct impact on the residents' quality of life as the ADLs are fundamental to the residents' preservation of life. Any tangible improvement in performance of ADLs can dramatically change the residents' experiences of care and enhance their sense of well-being.

The institutional care practice in RACFs has been criticised as constraining and incapable of catering to the residents' individual care needs (Bland, 2007; Harnett, 2010). Corresponding to the Knowledge Translation (KT) initiative in health care more generally (Straus, Tetroe, & Graham, 2009), the implementation of knowledge-based care practice is also strongly recommended as a solution to the existing problems in RACFs.

The "Knowledge to Action" (KTA) framework (Graham et al., 2006) is a KT model outlining the relationship between knowledge generation and application. This model proposes that KT starts from identifying both a problem and the knowledge relevant to the problem (p. 20). The presupposition of this proposal is the perceived lack of knowledge in existing practice (as the 'problem') and the assured efficacy of the 'remedy' - implementation of the "best available knowledge" (p. 22). Nevertheless, what is taken for granted and remains unquestioned in this model are the conception of knowledge (or knowledges) in the given practice and how the adapted constitution of knowledge (knowledge-base) is relevant to the outcomes that the practice aims to achieve.

According to Michael Polanyi (1966), there exists a tacit dimension of knowing in lived reality. All explicit human knowledge is generated by subsidiarily applying a wealth of tacit knowledge (p. 16). Drawing to phenomenology and Polanyi's epistemology, this paper explores the following questions: What constitutes the knowledge-base for care in RACFs? How is this knowledge-based care practice relevant to the residents' experiences of care?

Methods

A search of the literature published between 2004 and 2014 was undertaken to identify qualitative RACF studies using ethnographic methods. Ethnographic descriptions of the residents' experiences of care in RACFs were extracted for review. Quantitative and qualitative studies with no ethnographic descriptions are excluded. A 10-year limit is set to reflect the *status quo* of care practice in RACFs. The author's experience as a veteran PCW also contributes to the discussion.

Discussion

To answer the first question "What constitutes the knowledge-base for care in RACFs?" the nursing facility needs to be understood as "*a contested cultural space upheld by social processes*" (Stafford, 2003, p. 10,

italics original). As a sector affiliated to the health system, aged care reinforces standardised practice primarily formed and shaped by medical knowledge.

Medical knowledge is commonly interpreted as the empirical facts verified in primary research by the scientific, biomedical method (Malterud, 1995, p. 183). The "best available knowledge" is developed through distillation and synthesis, and is regarded as well-justified and potentially more useful for the end-users (Straus, Tetroe, & Graham, 2009, p. 167). Being explicit, it is easily formalized and codified in text forms such as databases and documents.

However, how does this explicit medical knowledge function in daily clinical work? To use Polanyi's phenomenological example of medical student learning to read chest radiographs, it is demonstrated how explicit knowledge in the language of pulmonary radiology is only *becoming* meaningful when the tacit understanding of pulmonary radiograms is bodily acquired through persistent *engagement* (Polanyi, 1958, p. 101). Polanyi's epistemology is based on the notion that all human achievements are built upon the awareness of our own bodies, which is the existential framework of tacit, pre-linguistic knowledge (Henry, 2006, p. 189-190).

In-depth ethnographic studies highlighting the context-rich descriptions demonstrate the ways that tacit knowledge is generated and utilised in ADLs. In a Canadian RACF, a caregiver is reported to undertake ADLs for nine residents with physical disability and cognitive impairment on day shift while two staff members care for 27 residents at night. The caregivers describe the workload as "overwhelming" and "insane" (DeForge, Wyk, Hall, & Salmoni, 2011, p. 419). We pose the question of how such a heavy workload is daily undertaken by the staff. The fieldwork observations illuminate the significance of routines, which serve as a justified stable structure for the ADLs to be carried out in a repetitive, labour-saving and straightforward manner (Sandvoll, Kristoffersen, & Solveig, 2013, p. 368-369). The caregivers are auto-driven by the embodied routines through time and space. Drawing to my experience as a PCW, two skilful caregivers often act simultaneously and smoothly under the same schema with no hesitation and intermission. Verbal communication is only necessary when unexpected events turn up.

Research has revealed that "A marker of skilled performance is the ability to deal with vast amounts of information swiftly and efficiently" (Kahneman, 2011, p. 416). The "skills on hand" is the embodied "skilful knowing" (Polanyi, 1958, p. vii, 64-5) of care work. Together with personal experience and expertise, skills constitute the tacit knowledge for care. Some veteran caregivers have the reputation of being "know their work" to "get the work done" and "know their residents" to provide individualised care.

ADLs are characteristic of close-up interactive bodily movements and constant intimate human touch. The nature and character of ADLs make the activities central to the staff's knowing about the needs, feelings and experiences of their residents. In her study of clinical decision-making in American RACFs, Kayser-Jones (2003) reports an example of shared knowing of pain given by an African-American Certified Nursing Assistant (CNA). The CNA demonstrated vividly in a focus group discussion:

> "Even if they cannot communicate, they understand what you are saying." When asked [by the researcher] how she knew that they could understand her, she gave an example of a resident who she thought was not feeling well. … When she asked the resident whether something was wrong, the resident took the CNA's hand and moved it in a circular motion around her [the resident's] face. The CNA then asked, "Are you dizzy?" the resident nodded yes. Then the resident took the CNA's hand and placed it on her forehead. The CNA asked, "Do you have a headache?" The resident nodded yes." (p. 53)

It is well demonstrated in this case that if "perception [is] an instance of tacit knowing" and "body is the ultimate instrument of all our external knowledge" (Polanyi, 1966, p. 15), "it is in [embodied] action, not in contemplation, that knowledge is both gained and given expression" (Kensinger, 1991, p. 45).

These empirical materials help develop an insight into the explicit and largely tacit knowledge-base for care. Yet, the purpose of this paper is not to facilitate a discussion on the knowledges *per se*, but to explore the second question in this paper - "How is the knowledge-based care practice relevant to the residents' experiences of care?" The implementation of a knowledge-based care practice fails its purpose if the residents' experiences of care remain unchanged. The ultimate goal of any knowledge-related discussion in residential care should aim at the service outcomes, namely the everyday lived experiences of the residents.

From a phenomenological perspective, the lived experience lies in the tacit dimension. The instant engagement of the body with its world involves the flow of time, shifting of bodily space, and the subtle but intense sensuous interchange between the two (Jackson, 1996; Polanyi, 1966). The lived experience is, for

the most part, unspoken and perhaps unspeakable. The residents *know* their caregivers share no interest with them when the PCWs talk back and forth over the residents during ADLs. Greetings from staff on other occasions make the same residents feel acknowledged and respected. What is being tacitly performed is tacitly experienced.

Implications for policy and practice
To develop and implement a knowledge-based care practice, the multiple sources of knowledge generation have to be recognised and acknowledged. Medical professionals and care staff hold overlapping but practically diverse bodies of knowledge and expertise but neither can provide the residents with satisfactory lived experiences without the knowledge, expertise and labour of the other.

Summary
There exists a tacit dimension of shared knowing, doing and experiencing in ADLs for both the residents and staff in RACFs. The tacit knowledge is generated and utilised in the ADLs and largely constitutes the knowledge-base for care. To effectively integrate the explicit medical knowledge into the knowledge-base for care, the codified and generalized knowledge has to have context-specific practical application and in a form that can be acquired tacitly as embodied skills.

References
Bland, M. (2007). Betwixt and between: A critical ethnography of comfort in New Zealand residential aged care. *Journal of Clinical Nursing*, *16*, 937-944. doi:10.1111/j.1365-2702.2006.01756.x
DeForge, R., Wyk, P., Hall, J. & Salmoni, A. (2011). Afraid to care; unable to care: A critical ethnography within a long-term care home. *Journal of Ageing Studies*, *25*, 415-426. doi:10.1016/j.jaging.2011.04.001
Graham, I. D., Logan, J., Harrison, M. B., Straus, S. E., Tetroe, J., Caswell, W., & Robinson, N. (2006). Lost in knowledge translation: Time for a map? *The Journal of Continuing Education in the Health Professions, 26,* 13–24. doi:10.1002/chp.47
Harnett, T. (2010). Seeking exemptions from nursing home routines: Residents' everyday influence attempts and institutional order. *Journal of Aging Studies*, *24*, 292-301. doi:10.1016/j.jaging.2010.08.001
Henry, S. G. (2006). Recognizing tacit knowledge in medical epistemology. *Theoretical Medicine and Bioethics*, *27*, 187-213. doi:10.1007/s11017-006-9005-x
Jackson, M. (1996). Introduction: Phenomenology, radical empiricism, and anthropological critique. In M. Jackson (Ed.), *Things as they are: New directions in phenomenological anthropology* (pp. 1-50). Bloomington: Indiana University Press.
Kahneman, D. (2011). *Thinking, fast and slow* (1st Ed.). New York: Farrar, Straus and Giroux.
Kayser-Jones, J. (2003). The treatment of acute illness in nursing homes: The environmental context of decision making. In P. B. Stafford (Ed.), *Gray areas: Ethnographic encounters with nursing home culture* (pp. 23-68). Santa Fe, NM: School of American Research Press.
Kensinger, K. M. (1991). A Body of Knowledge, or, the Body Knows. *Expedition*, *33*(3), 37-45. Retrieved from http://www.penn.museum/expedition-magazine.html
Malterud, K. (1995). The legitimacy of clinical knowledge: Towards a medical epistemology embracing the art of medicine. *Theoretical Medicine*, *16*, 183-198. doi:10.1007/BF00998544
Polanyi, M. (1958). *Personal knowledge: Towards a post-critical philosophy*. Chicago: University of Chicago Press.
Polanyi, M. (2009 [1966]). *The Tacit Dimension*. Chicago: The University of Chicago Press.
Productivity Commission. (2011). *Caring for old Australians: Productivity commission inquiry report overview*. (Publications No. 53) Retrieved from http://www.pc.gov.au/_data/assets/pdf_file/0016/110932/aged-care-overview-booklet.pdf
Sandvoll, A. M., Kristoffersen, K., Solveig, H. (2013). The double embarrassment: Understanding the actions of nursing staff in an unexpected situation. *International Journal of nursing practice*, *19*, 368-373. doi:10.1111/ijn.12086
Stafford, P. (2003a). Introduction: The nursing home as cultural code. In P. B. Stafford (Ed.), *Gray areas: Ethnographic encounters with nursing home culture* (pp. 3-22). Santa Fe, NM: School of American Research Press.
Straus, S. E., Tetroe, J., & Graham, I. (2009). Defining knowledge translation. *CMAJ*, *181*(3-4), 165-168. doi:10.1503/cmaj.081229

ANALYSING DIETARY FLAVONOID INTAKE: METHODS, LIMITATIONS AND IMPLICATIONS FOR RESEARCH IN AGEING

Katherine Caldwell[1]

[1]*School of Medicine, University of Wollongong*

Abstract

Flavonoids are a group of dietary polyphenols consumed through plant-based foods. Their consumption is associated with a risk reduction for diseases associated with ageing, including cancers, cardiovascular diseases and neurodegenerative diseases. Our knowledge on habitual consumption of dietary flavonoids is inadequate as there are only a few estimations available in the literature. Flavonoid intake is hard to quantify and methods to estimate flavonoid intake have fundamental limitations, restricting our ability to correlate flavonoid intake with health outcomes on a population level. The various methods employed to estimate flavonoid intake are described and evaluated, including dietary assessment and biomarker analysis. The implications associated with the limitations to each method are outlined and evaluated in light of research in ageing.

Introduction

Flavonoids are a group of dietary polyphenols that are commonly consumed in plant based foods such as fruits, vegetables and tea (Beecher, 2003). Flavonoids are categorised into 6 subclasses: anthocyanins, isoflavones, flavones, flavanones, flavon-3-ols and flavanols. A high consumption of total flavonoids and flavonoid subclasses has been consistently linked with a protection against chronic diseases associated with ageing (Knekt et al., 2002), including cardiovascular diseases (Hooper et al., 2008), cancers (Park & Pezzuto, 2012) and neurodegenerative diseases (Commenges et al., 2000). Biologically, flavonoids and their metabolites exert powerful antioxidant activities, influence vascular changes (Hooper et al., 2008) and protect areas of the brain associated with age-related decline (Spencer, 2010). The majority of research into the biological aspect of flavonoids has been pre-clinical. However, some strong epidemiological research exists, linking habitual flavonoid intake to various improved health outcomes in older adults, specifically cognition (Devore, Kang, Breteler, & Grodstein, 2012), coronary (Hertog, Feskens, Hollman, Katan, & Kromhout, 1993) and ischemic heart disease (Geleijnse, Launer, Van der Kuip, Hofman, & Witteman, 2002) and lung cancer (Knekt et al., 1997).

To link flavonoid consumption with positive health outcomes, the first and most fundamental step is to accurately estimate dietary flavonoid intake. Despite the first estimations of flavonoid intake on a population level being reported more than a decade ago, the numerous methods currently employed have evident flaws (Dwyer & Peterson, 2002). Dietary flavonoid intake is difficult to quantify and consequently numerous methods have been developed for application in various settings. Methods include various techniques within the fields of dietary assessment and biomarker analysis as will be described below.

The limitations associated with current methods hinder the interpretation of observational research outcomes that associates dietary flavonoid intake and specific health outcomes. In light of Australia's ageing population and the need for lifestyle recommendations to improve healthy ageing, these limitations must be rectified. There is currently little accurate information available on the dietary intake of flavonoids in older Australians and no recommendations have been developed to advise the best way to measure flavonoid intake in this cohort.

It is the aim of this paper to explain how dietary flavonoids are measured, describe the limitations of the methods and discuss the implications of the limitations for interpreting research in ageing.

Methods for measuring flavonoid intake

In order to measure intakes of flavonoids, techniques for informatics and dietary assessment and biomarker analysis must be applied appropriately.

Dietary assessment and informatics

The most common method of estimating flavonoid intake in a population relies on dietary assessment and informatics (the development of computerised food composition databases). Generally, usual dietary analysis is performed using either a 24 hour diet recall, diet history or food record, which is then cross-referenced with a flavonoid specific food composition database. There are very few food composition databases that exist, with the two most commonly used being the USDA Database for the Flavonoid Content of Selected Foods (Bhagwat, 2013) and Phenol Explorer Database on Polyphenol Content in Foods (Rothwell, 2013). Aside from the limitations associated with each dietary assessment method, there

are several well documented problems associated with utilising food composition databases to assign flavonoid content to selected foods, to reflect dietary intake. These limitations have resulted in large variations in estimations of flavonoid intake (Chun, Lee, Wang, Vance, & Song, 2012).

Firstly, estimation of dietary flavonoid intake is only as comprehensive as the reference database utilized. If, for example, a reference database does not have an extensive list of flavonoid contents for foods and the flavonoid content of a food cannot be assigned, then an individual's intake will certainly be underestimated. This is particularly challenging when analyzing food intake data from a country that does not have a specific flavonoid reference database for that population, for example, Australian dietary analysis relies on an American flavonoid reference database. As food supply varies between countries there are commonly consumed Australian foods that are not accounted for in the USDA database.

Secondly, the flavonoid content of specific foods is highly variable and largely influenced by a foods growth and processing conditions. For example, cherries grown in America are likely to have a significantly different flavonoid profile to cherries grown in Australia. Even fruit grown in the same orchard from one season to the next will have varying flavonoid contents due to weather and other seasonal variables. A reference flavonoid database is unable to account for this variability and can only provide a rough estimate for each food consumed.

Lastly, estimating dietary flavonoid intake through dietary assessment is unable to account for the high intra -individual variation of flavonoid metabolism and absorption, which is influenced by factors other than intake, such as bioavailability and genetic factors.

Advances in informatics are crucial. Until the exact bioavailability of all flavonoids are understood and the individual variations in metabolism are accounted for, estimations of flavonoid intake and their correlation with health outcomes should be interpreted with caution.

Biomarker analysis
Dietary flavonoid intake can be determined by quantifying biomarkers of flavonoid intake, which include flavonoids and phenolic acids found in plasma, urine and fecal water. There are currently many methods of measuring flavonoid biomarkers in human biological samples. However, like dietary methodology, there is no standardised protocol of how to perform this analysis and researchers must develop and validate their own methods. This limits the ability to compare studies between research groups that have used different methods to measure flavonoid biomarkers. Generally, laboratories use a form of chromatography and spectrometry to quantify the biomarker of interest. However, there have been are over 6,000 types of flavonoids identified and after consumption they are quickly and extensively metabolised into phenolic acid metabolites. Consequently, there are thousands of potential biomarkers and there is no consensus around which flavonoid(s) or phenolic acid(s) are indicative of total dietary intake.

In addition, it is currently unknown which biological sample (plasma, urine or faecal water) should be selected and some research suggests each may be indicative of different consumption patterns. Previous research shows urinary biomarkers may be more reflective of short-term flavonoid intake (Radtke, Linseisen, & Wolfram, 2002). The flavonoid content in fasting plasma or faecal water samples seems to be a suitable biomarker of short-term intake and a possible biomarker of the medium-term intake (Radtke, et al., 2002). However, biomarkers of long-term intake are not yet identified and may be unlikely due to the short half-lives of flavonoids in the body.

A major limitation of these methods relates to the fact that they are physically invasive in terms of collecting biological specimens. This may especially be a problem in older adults and vulnerable groups would ideally be spared this discomfort. Moreover, most of the biomarker analyses are expensive and quite often it is not possible to perform them as part of a large epidemiological study (Yokota, Miyazaki, & Ito, 2010).Future research needs to focus on identifying specific biomarkers of flavonoid intake and confirm the best methods in which to quantify these biomarkers in biological specimens, to inform population research.

Implications for research in ageing
As the explanation and evaluation of each method has identified, dietary intake of flavonoids is extremely difficult to estimate, let alone quantify. Yet advances in this field are occurring at a rapid rate in response to the interest flavonoids are creating in relation to their positive impact on healthy ageing.

Various estimates of flavonoid intake now exist for several populations and sub-populations around the world. However, the flavonoid intakes for older adults remain under-researched, despite a large body of literature linking flavonoid intake to health outcomes in this cohort. If researchers cannot accurately measure the amount of flavonoids that older adults are consuming, the implications for interpreting current

epidemiologic research are vast. There are potentially serious implications as researchers could be over or under-estimating the potential of flavonoids to impact health outcomes in a population. Recommendations associated with phytochemicals are beginning to be included in widely disseminated dietary guidelines. As our knowledge of flavonoid–disease relationships becomes clearer, perhaps it will soon be possible to specify recommended intake levels. However, much additional work is needed before evidence-based recommendations will be possible and public health policy developers must be cautious when using information regarding flavonoid consumption.

Conclusion

Habitual flavonoid consumption may improve health outcomes in older adults; however current estimations of the intake may be limited by utilising flawed methodologies. Consequently, epidemiologic studies linking flavonoid intake and health outcomes in older adults are hampered by difficulties in exposure assessment. Future studies on the health benefits of flavonoid intake should pay attention to the methodologies in accurately estimating total flavonoid intake.

References

Beecher, G. R. (2003). Overview of dietary flavonoids: nomenclature, occurrence and intake. *The Journal of Nutrition, 133*(10), 3248S-3254S.

Bhagwat, S., Haytowitz, D.B., Holden, J. M. (2013). USDA Database for the Flavonoid Content of Selected Foods (Release 3.1 ed.). Maryland: Nutrient Data Laboratory, U.S. Department of Agriculture.

Chun, O. K., Lee, S. G., Wang, Y., Vance, T., & Song, W. O. (2012). Estimated flavonoid intake of the elderly in the United States and around the world. *Journal of Nutrition in Gerontology and Geriatrics, 31*(3), 190-205.

Commenges, D., Scotet, V., Renaud, S., Jacqmin-Gadda, H., Barberger-Gateau, P., & Dartigues, J. F. (2000). Intake of flavonoids and risk of dementia. *European Journal of Epidemiology, 16*(4), 357-363.

Devore, E. E., Kang, J. H., Breteler, M. M., & Grodstein, F. (2012). Dietary intakes of berries and flavonoids in relation to cognitive decline. *Annals of Neurology, 72*(1), 135-143.

Dwyer, J. T., & Peterson, J. J. (2002). Measuring flavonoid intake: need for advanced tools. *Public Health Nutrition, 5*(6A), 925-930.

Geleijnse, J. M., Launer, L. J., Van der Kuip, D. A., Hofman, A., & Witteman, J. C. (2002). Inverse association of tea and flavonoid intakes with incident myocardial infarction: The Rotterdam Study. *The American Journal of Clinical Nutrition, 75*(5), 880-886.

Hertog, M. G., Feskens, E. J., Hollman, P. C., Katan, M. B., & Kromhout, D. (1993). Dietary antioxidant flavonoids and risk of coronary heart disease: The Zutphen Elderly Study. *Lancet, 342*(8878), 1007-1011.

Hooper, L., Kroon, P. A., Rimm, E. B., Cohn, J. S., Harvey, I., Le Cornu, K. A., Cassidy, A. (2008). Flavonoids, flavonoid-rich foods, and cardiovascular risk: A meta-analysis of randomized controlled trials. *American Journal of Clinical Nutrition, 88*(1), 38-50.

Knekt, P., Järvinen, R., Seppänen, R., Hellövaara, M., Teppo, L., Pukkala, E., & Aromaa, A. (1997). Dietary flavonoids and the risk of lung cancer and other malignant neoplasms. *American Journal of Epidemiology, 146*(3), 223-230.

Knekt, P., Kumpulainen, J., Jarvinen, R., Rissanen, H., Heliovaara, M., Reunanen, A., Aromaa, A. (2002). Flavonoid intake and risk of chronic diseases. *The American Journal of Clinical Nutrition, 76*(3), 560-568.

Park, E. J., & Pezzuto, J. M. (2012). Flavonoids in Cancer Prevention. *Anti-Cancer Agents In Medicinal Chemistry, 12*(8), 836-851.

Radtke, J., Linseisen, J., & Wolfram, G. (2002). Fasting plasma concentrations of selected flavonoids as markers of their ordinary dietary intake. *European Journal of Nutrition, 41*(5), 203-209.

Rothwell, J. A., Pérez-Jiménez, J, Neveu, V, Medina-Ramon, A, M'Hiri, N, Garcia Lobato, P, Manach, C, Knox, K, Eisner, R, Wishart, D, Scalbert, A. (2013). Phenol-Explorer 3.0: A major update of the Phenol-Explorer database to incorporate data on the effects of food processing on polyphenol content. *Database: The Journal of Biological Databases and Curation, 2013*, bat070.

Spencer, J. P. E. (2010). The impact of fruit flavonoids on memory and cognition. *British Journal of Nutrition, 104*(S3), S40-S47.

Yokota, R. T. d. C., Miyazaki, E. S., & Ito, M. K. (2010). Applying the triads method in the validation of dietary intake using biomarkers. *Cadernos de Saúde Pública. 26*(11), 2027-2037.

MALNUTRITION PREVALENCE AND NUTRITION ISSUES IN FIVE AUSTRALIAN RESIDENTIAL AGED CARE FACILITIES

KELLETT Jane[1], KYLE Greg[1], ITSIOPOULOS Catherine[2], NAUNTON Mark[1], BACON, Rachel[1], COSTELLO Lee-anne[1]

[1]Univesity of Canberra, Bruce, Australian Capital Territory, Australia
[2]La Trobe University, Bundoora, Victoria, Australia

Abstract
Aim: To determine the prevalence of malnutrition and identify nutrition issues in a sample of older adults living in five Australian residential aged care facilities (RACFs).
Methods: The Subjective Global Assessment tool was used to determine the prevalence of malnutrition in 101 aged care residents from five Australian RACFs.
Results: In this population, 66% of the residents were women, and 29% of residents were classified as high care. Seventy eight percent of the residents were classified as well nourished, 20% as moderately malnourished, and 2% severely malnourished. Seventy-three percent of residents used dentures, and 25% had seen a dietitian in the previous six months. Malnutrition was significantly associated with increasing age, and decreasing Body Mass Index (BMI). Malnourished residents were more likely to have had nutritional supplements recommended. There was no significant association between malnutrition and gender or malnutrition and level of care.
Conclusions: The prevalence of malnutrition identified in this study was lower than data reported in recent Australian and international studies for residential aged care. Reasons for the lower rate of malnutrition in this sample might be due to the access, awareness and referral of dietetic services in these facilities, small sample size, and exclusion of high risk residents (including those cognitively impaired and medically unfit).

Introduction
Malnutrition is a health issue in our ageing population that often goes unrecognised (Banks, Ash, Bauer, & Gaskill, 2007). With the proportion of Australians over the age of 65 years increasing (Australian Bureau of Statistics, 2008), malnutrition is becoming an increasingly important clinical and public health issue for Australia. People over the age of 65 have been shown to experience higher rates of malnutrition (Banks et al., 2007, p. 174), with those in long-term care facilities at the greatest nutritional risk (Gaskill et al., 2008). Malnutrition in older adults leads to increased morbidity and mortality (Middleton, Nazarenko, Nivison-Smith & Smerdely, 2001), poor physical function and delayed recovery from illness (Visvanathan, et al., 2003), increased incidence of falls (Visvanathan, et. al., 2003), hip fractures (Namaty, Hickson, Byrnes, Ruxton & Frost, 2006), and pressure ulcers (Banks, Bauer, Graves, & Ash, 2010).

Malnutrition has been defined as "a state of nutrition in which a deficiency or excess (or imbalance) of energy, protein, and other nutrients causes measurable adverse effects on tissue/body form (body shape, size and composition) and function and clinical outcome" (Elia, 2000). For the purpose of this paper, the term malnutrition refers to protein-energy undernutrition.

There are limited data on malnutrition prevalence in Australian aged care residents. The most recent studies were conducted in 2007 and 2008 and reported that up to 50% of older adults living in Australian residential aged care facilities were malnourished (Banks et al., 2007, p. 175; Gaskill et. al., 2008).

The aim of this study was to assess the nutritional status of residents in five residential aged care facilities to determine the prevalence of malnutrition and to identify nutritional issues that may affect dietary intake.

Methods
The study was cross-sectional and observational, to identify the prevalence of malnutrition, conducted in five residential aged care facilities from the Australian Capital Territory (ACT) region using opportunistic sampling. Participant recruitment was voluntary. Prior to data collection, all participants received a copy of a plain language information sheet and consent form. Residents unable to provide informed consent (cognitive impairment, non-English speaking and those highly dependent on medical care) were excluded because they were unlikely to fully comprehend the requirements of the study and be able to give informed consent. If a recruited participant was identified as malnourished information was provided to the participant on how to access dietetic services within their aged care residence.

Nutritional status was assessed using the Subjective Global Assessment (SGA), a validated tool used in the residential aged care setting (Watterson et al., 2009). The SGA tool determines nutritional status based

upon a medical assessment and physical examination. Subjects were classified as well-nourished, moderately or severely malnourished at each site, and the prevalence of malnutrition was determined. Height of residents was estimated by measuring ulna length as described by Thomas and Bishop (2007). Body Mass Index (BMI) was derived from the estimated height (in cm) and measured weight (in kg).

Residents were also asked additional questions relating to the presence of any eating or swallowing difficulties, dentures, problems with gum or oral mucosa, and if assistance is required with meals. They were also asked if they had seen a dietitian in the previous six months, if any nutritional supplements had been recommended, or if they were on a special diet.

One of the authors (JK) provided standardised training in performing SGA for the dietitians involved in the data collection. Inter-rater reliability of all dietitians involved in the data collection was determined and showed very good agreement with the use of the SGA (Intraclass correlation (ICC) = 0.906; p < 0.001).

As this is a point prevalence study, data collection took place on a single day for each study site. Data were entered into IBM SPSS Version 21.0 software (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.). Sample characteristics were reported as frequencies, means and standard deviations. Association between gender and continuous variables were assessed using the independent t-test. Associations between continuous variables and malnutrition prevalence were assessed using the One-Way ANOVA test. Associations between non-continuous variables were assessed using the Chi-squared test. A p-value of less than 0.05 was considered to be statistically significant. The research was approved by the University of Canberra Human Research Ethics Committee. Informed consent to participate in the study was obtained from all participants.

Results
One hundred and one residents participated in the study across the five sites. Two hundred and ten residents were eligible for inclusion from across the five sites. Of these, 37 declined, and 72 were not available, giving a response rate of 48.0%. The baseline characteristics of our study population are summarised in Table 1.

The characteristics of residents according to malnutrition status are shown in Table 2. The association between age and malnutrition was found to be significant (F = 3.390, df = 2, p = 0.038). There was also an association between malnutrition status and Body Mass Index (BMI), with the higher the SGA classification, the lower the BMI (F = 16.460, df = 2, p < 0.001).

There were a higher number of participants from high level care who were malnourished (24% compared to 21% of participants from low care), but the association between level of care and malnutrition was not significant (x^2 = 0488, df = 2, p = 0.784). There was no significant difference in the prevalence of malnutrition between sites (x^2 = 11.617, df = 8, p = 0.169).

With regard to the frequency of eating and swallowing problems amongst residents, 7% of residents had swallowing difficulties (including choking, gagging or spitting food). Twelve percent required assistance with meals including meal set up, prompting, cueing to eat, cutting up food or full feeding. The majority of residents had dentures (73%), and 17% had problems with gum or oral mucosa. Twenty-five percent of residents had seen a dietitian in the previous six months, and 11% of residents had been recommended a nutritional supplement. Twelve percent of residents were on a special diet (diabetic (9%), texture modified (2%), or fluid restriction (1%)). There was a significant association between malnutrition and residents who had been recommended a nutritional supplement (p = 0.009).

Table 1. *Demographic variables*

Resident characteristic	Number
Age (years)	85.71 ± 6.9 (Range 63 – 97)
Gender	
Male	34 (34%)
Female	67 (66%)
Type of care	
Low level care	72 (71.3%)
High level care	29 (28.7%)
Nutritional status	
SGA A (well nourished)	79 (78%)
SGA B (moderately malnourished)	20 (20%)
SGA C (severely malnourished)	2 (2%)

Table 2. *Characteristics of residents according to malnutrition status as assessed by the Subjective Global Assessment (SGA) tool*

	SGA A Well nourished	SGA B Moderately malnourished	SGA C Severely malnourished	P-value
Gender				0.536
Male	28 (82%)	6 (18%)	0	
Female	51 (76%)	14 (21%)	2 (3%)	
Age (years)	85.10 ± 7.0	87.25 ± 5.8	96.50 ± 0.7	0.038
BMI (kg/m²)	28.10 ± 5.0	21.85 ± 3.7	17.90 ± 1.4	<0.001
Level of care				0.784
High	22 (76%)	6 (21%)	1 (3%)	
Low	57 (79%)	14 (20%)	1 (1%)	

Discussion

In this observational study, we found the prevalence of malnutrition to be 22% amongst the aged care residents. This is lower than data reported in recent Australian and international studies for residential aged care (Banks et al., 2007; Gaskill et al., 2008; Suominen et al., 2005). The prevalence of malnutrition in residents in all sites was similar. Previous Australian studies have found malnutrition to be prevalent in up to 50% of aged care residents (Banks et. al., 2007; Gaskill et al., 2008).

Reasons for the lower rate of malnutrition in this sample may be due to the access, awareness and referral of dietetic services in these facilities, small sample size, and high risk residents (such as cognitively impaired and medically unfit) not participating in the study. Residents with dementia are at a high risk of malnutrition (Gaskill et al., 2008). Their inclusion would be more representative of the mix of residents in aged care facilities.

Malnutrition was significantly associated with increasing age which is consistent with previous research (Banks et al., 2007; Gaskill et al., 2008). However malnutrition was not associated with gender, or level of care. This is inconsistent with previous research by Banks et al (2007) who found that males were more likely to be malnourished, and Gaskill et al (2008) who found that residents receiving high level care were more likely to be malnourished.

Implications for policy and practice

Early recognition is one of the most important and effective ways to prevent and reduce the prevalence of malnutrition in older people. Nutrition screening is a simple, cost-effective and efficient way to identify malnutrition in our residential aged care residents. Introducing new Australian National Aged Care Standards to include mandatory malnutrition screening of all aged care residents, with appropriate follow-up by Accredited Practicing Dietitians, would ensure that the important health issue of malnutrition does not go unrecognised.

Summary

The prevalence of malnutrition found in this study is lower than data reported in recent Australian and international studies for residential aged care. Further research is required to determine the overall prevalence of malnutrition in aged care facilities in Australia.

Acknowledgements

References

Australian Bureau of Statistics. (2008). 3222.0 Population Projections, Australia,   2006 to 2101. (Cat. No. 3222.0). Canberra, Australia: ABS.

Banks, M., Ash, S., Bauer, J., & Gaskill D. (2007). Prevalence of malnutrition in in Queensland public hospitals and residential aged care facilities. Nutrition & Dietetics, 64, 172-178. doi: 10.1111/j.1747-0080.2007.00179.x

Banks, M., Bauer, J., Graves, N., & Ash, S. (2010). Malnutrition and pressure ulcer risk in adults in Australian health care facilities. Nutrition, 26, 891-901. doi:10.1016/j.nut.2009.09.024

Elia, M. (Ed.). (2000). Guidelines for Detection and Management of Malnutrition. Malnutrition Advisory Group (MAG). England: Standing Committee of BAPEN, Maidenhead.

Gaskill, D., Black, L., Isenring, E., Hassall, S., Sanders, F., & Bauer, J. (2008). Malnutrition prevalence and nutrition issues in residential aged care facilities. Australasian Journal on Ageing, 27, 189-94. doi: 10.1111/j.1741-6612.2008.00324.x

Middleton, M.H., Nazarenko, G., Nivison-Smith, I., & Smerdely, P. (2001). Prevalence of malnutrition and 12-month incidence of mortality in two Sydney teaching hospitals. Internal Medicine Journal, 31, 455-61. doi: 10.1046/j.1445-5994.2001.00109.x

Nematy, M., Hickson, M., Brynes, A.E., Ruxton, C.H.S., & Frost, G.S. (2006) Vulnerable patients with a fractured neck of femur: nutritional status and support in hospital. Journal of Human Nutrition and Dietetics, 19, 209-18. doi: 10.1111/j.1365-277X.2006.00692.x

Thomas, B., & Bishop, J. (Ed's.) (2007). Manual of Dietetics Practice. 4th edition. England: Wiley-Blackwell.

Visvanathan, R., Macintosh, C., Callary, M., Penhall, R., Horowitz, M., & Chapman, I. (2003). The nutritional status of 250 older Australian recipients of Domiciliary Care Services and its association with outcomes at 12 Months. Journal of the American Geriatric Society, 51, 1007-11. doi: 10.1046/ j.1365-2389.2003.51317.x

Watterson, C., Fraser, A., Banks, M., Isenring, E., Miller, M., Silvester, C., et al. (2009). Evidence based practice guidelines for the nutritional management of malnutrition in adult patients across the continuum of care. Nutrition & Dietetics, 66, S1-S34.

EPIDEMIOLOGY OF DISEASE, MEDICATION USE AND HEALTH SERVICE UTILISATION IN AUSTRALIAN RESIDENTIAL AGED CARE. IMPLICATIONS FOR EVALUATING MEDICATION-RELATED QUALITY OF CARE

HILLEN Jodie[1], VITRY Agnes[1], CAUGHEY Gillian[1]

[1]Quality Use of Medicines and Pharmacy Research Centre (QUMPRC), School of Pharmacy and Medical Sciences, University of South Australia.

Abstract

Objectives: To describe the prevalence of chronic disease, medication use and health service utilisation in the Australian aged care population, to facilitate the evaluation of medication-related quality of care.

Methodology and data sources: A review using scientific databases (Medline and CINHAL) and key Australian ageing government agencies and associations between 2004 and 2014.

Results: The most prevalent chronic diseases in residential aged care were dementia (52%), cardiovascular disease (25%) and musculoskeletal conditions (18%). For those with dementia, cardiovascular disease was the most common comorbidity.

Ninety-five percent of residents used at least one medication, with over 90% exposed to >5 medications and a mean annual script rate of 52 scripts for 12 individual medications. The most commonly prescribed medications were psychotropics and analgesics.

With respect to health service utilisation, general practitioner visits averaged 15 general and 2 after-hours consultations per year and over 75% of residents had an annual medication review. The most common reasons for unplanned admission to hospital were falls-related, infections and dementia.

Discussion: This study found a high prevalence of dementia, medication use and health care utilisation in this population. Medications known to expose the elderly to a high-risk of adverse outcomes, such as anxiolytics, were prevalent. This may indicate sub optimal medication-related quality of care in this population.

Information on comorbidities, clinical indications for medication use and outcomes relating to access to medical services is lacking. These gaps in knowledge hinder the interpretation of medication-related quality of care in this population.

Conclusion: Information exploring the relationships between chronic disease, medication use and health service utilization in the Australian aged care population could contribute to optimizing medication-related quality of care and lead to improved health service delivery.

Rationale

In 2012 the Australian residential aged care (RAC) system provided full time care to over 160,000 people aged 65 years or older (Australian Institute of Health and Welfare, 2012). It is predicted that by 2050 this number will have grown to one million full time residents with older and frailer people entering at the high-care level (Australian Institute of Health and Welfare, 2012; Commonwealth of Australia, 2010).

Older Australians are reported to have, on average, three chronic diseases which often require treatment with multiple medicines (Britt, Harrison, & Miller, 2008). Like their community counterparts, the majority of residents in Australian aged care were reported to have chronic medical conditions however were more dependent, as over half required high-level care due to physical and mental deficits (Australian Institute of Health and Welfare, 2012). Together with age-related changes in pharmacokinetics and pharmacodynamics, the potential for medication misadventure in this population is very high (Milton, Hill-Smith, & Jackson, 2008).

Falls are commonly attributed to medication use in the older population and are one of the most common reasons for unplanned admission from residential age care to hospital (Hillen et al., 2011), increasing disability and death (Wilson, March, Sambrook, & Hilmer, 2010). In addition to the personal and social burden, adverse drug events have significant economic repercussions. In the United States medication-related adverse events in residential aged care are estimated to be between 1.19 to 7.26 incidents per 100 resident-months. For every $1 (US) spent on medicines in aged care it is estimated $1.33 is spent on treating adverse events (Bootman, Harrison, & Cox, 1997).

One way to mitigate adverse drug events and improve medication management is through the use of medication-related quality of care (QOC) indicators. By evaluating how medicines are used together with related determinants and outcomes, areas for improvement can be identified and targeted with appropriate strategies. In order to be effective, medication-related indicators should reflect the core medication-related needs in this population. To define these needs a broad range of information is necessary including these

three topics:

- burden of chronic diseases and comorbid conditions
- patterns of medication use
- patterns of health care utilisation

This approach is supported by the Australian Safety and Quality Framework which identifies the importance of using current and relevant information to guide decisions about care and interpretation of safety and quality data (Australian Commission on Safety and Quality in Health Care, 2010). The purpose of this study is to identify and analyse existing epidemiologic and demographic information on the Australian RAC population to facilitate the evaluation of medication-related quality of care.

Methods

CINHAL, MEDLINE and Google searches were undertaken for between February 2004 and February 2014. 'Aged care and Australia' were the main search terms used together with either 'medication' or 'health care – utilisation' or 'chronic disease' depending on which topic was being investigated.

In addition, websites of key Australian government ageing agencies and associations including the Australian Institute of Health and Welfare (AIHW) website, Emerging Researchers in Ageing website and Department of Health website were searched using same search terms as above. Documents were included if they described one or more of the three topics in Australian aged care. Relevant information was extracted and summarized according to these three topics.

Medicare Benefits Schedule (MBS) item numbers for services specific to aged care were sourced from the Medicare website (https://www.medicareaustralia.gov.au) and converted into rates for the financial years 2005-2006 and 2011-2012. They were:

- Standard consultations by general practitioners (GP) to residents of residential aged care facilities (items 20, 35, 43, 51, 92, 93 and 96).
- After hours consultations by GP to residents of residential aged care facilities (items 5010, 5028, 5049, 5067, 5260, 5263, 5265 and 5267)
- GP contribution to a Care Plan (item 731)
- GP participation in a collaborative Residential Medication Management Review (RMMR) (item 903)

A seven year time period (2005 to 2012) comparison was considered to coincide with the most recent study undertaken discussing Medicare funded services provided by GPs to Australian RAC residents in 2005 (Gadzhanova & Reed, 2007) and the most current population data for calculation of rates (Australian Institute of Health and Welfare, 2012). Comparison was possible only for MBS items which remained specific to aged care residents over the entire time period. Whole of population data for calculation of rates was obtained from AIHW reports for RAC in Australia for the relevant time periods (Australian Institute of Health and Welfare, 2006, 2012).

Results

Chronic diseases and comorbidity.

Three AIHW reports using whole of population data examined the burden of chronic diseases in Australian residents of aged care. No research papers that matched the inclusion criteria for chronic disease were identified.

Dementia was the most common (52%) chronic health condition reported followed by cardiovascular disease (25%) and musculoskeletal conditions (18%) (Australian Institute of Health and Welfare, 2012).

Of those with dementia, depression, mood and affective disorders are the most commonly listed concurrent mental and behavioural diagnoses (31%) and nearly all had at least one other medical condition, the most common being cardiovascular (Australian Institute of Health and Welfare, 2011). In addition, over half (52%) permanent residents reported symptoms of depression with care needs proportional to symptom severity (Australian Institute of Health and Welfare, 2013a).

Medication

Fourteen studies describing patterns of medication use in the Australian residential aged care population were identified. Five of the identified studies used chart and or medical record review, five used information obtained during Resident Medication Management Reviews (RMMR) and four used large dispensing databases.

Four of the five studies which used chart review or medical records to ascertain the prevalence of 'high-risk' medication use in the Australian residential aged care population focused on high-risk medication use. One study found that whilst half the population was exposed to psychotropic medications, there had been a decline in the use of sedative/hypnotic medicines and an increase in antidepressant use over 16 years (1993 to 2009) (Snowdon, Galanos, & Vaswani, 2011). Two studies used the same RAC population data to investigate the association of drug burden index (DBI) with either mortality or falls. They found 42% and 35% prevalence of sedative and anticholinergic medication use respectively with 26% exposed to a high DBI (Wilson et al., 2011; Wilson et al., 2012). A significant association was found for DBI and falls but not mortality. A study using a smaller RAC population found that over 90% of the RAC population were exposed to greater than five medicines, 50% exposed to 'high-risk' medications per Beers criteria (The American Geriatrics Society 2012 Beers Criteria Update Expert Panel, 2012) and over 80% exposed to moderate or severe anticholinergic burden (Somers, Simmonds, Whitelaw, Calver, & Beer, 2010). Only one of the studies using chart/medical record reviews investigated appropriate use of medications for a clinical indication. This study found an underuse of appropriate antithrombotics in residents with atrial fibrillation. Only 38% of eligible residents were prescribed warfarin and 16% not prescribed any antithrombotic (Singh, Arrevad, Peterson, & Bereznicki, 2011).

Four of the five studies using RMMRs to ascertain medication exposure used the same sample of 500 randomly selected RMMRs from 62 Sydney facilities in 2008 to investigate different aspects of medication use (Nishtala, Hilmer, McLachlan, Hannan, & Chen, 2009; Nishtala, McLachlan, Bell, & Chen, 2009, 2010, 2011). When investigating drug related problems identified during the RMMR process, it was found that 99% of residents were exposed to at least one medication and 96% identified as having at least one drug-related problem. The most common drug related problems were exposure to an antidepressant which is associated with adverse outcomes in the elderly, excessive duration of proton pump inhibitors, underuse of calcium and vitamin D supplementation and suboptimal use of paracetamol (Nishtala et al., 2011). This same study found that when GPs were presented with recommendations regarding the drug related problems over half were implemented (Nishtala et al., 2011). When investigating the determinants of antipsychotic use in aged care residents it was found that 23% of residents were prescribed at least one antipsychotic (80% prescribed atypical antipsychotics). The diagnoses significantly associated with use of any antipsychotic were psychiatric diagnosis, psychosis and dementia (Nishtala et al., 2010). Another study using the same 500 RMMR dataset found that prevalence of antidepressant use was 33% (56% SSRIs). Diagnoses most associated with exposure to antidepressants in this cohort were dementia with mood disorder, depression and Parkinson's Disease (Nishtala, McLachlan, et al., 2009). Lastly, the impact of RMMR recommendations on DBI found significant reduction in DBI scores after recommendations to change medications were implemented by the GP. Most of the recommendations involved withdrawal of benzodiazepines and reducing antipsychotic drug dosage (Nishtala, Hilmer, et al., 2009).

A cross-sectional study reviewing 2389 RMMRs (undertaken from 2005 to 2007) from 40 facilities in Tasmania for psycholeptic use found over half the sample were regularly exposed to at least one psycholeptic with the most common being benzodiazepines (42%) and antipsychotics (21%) (Westbury, Jackson, & Peterson, 2010).

The Department of Veterans' Affairs administrative claims database was used in three of the four studies using large administrative databases to ascertain medication exposure (Australian Institute of Health and Welfare 2008. AIHW:Lloyd J & Anderson P (2008); Gadzhanova, Roughead, & Mackson, 2010; Roughead, Gilbert, & Woodward, 2008). A retrospective study on 16,126 veteran aged care residents in 2005 found that approximately half of the residents were dispensed more than nine different medications in a three month period. Over half were dispensed analgesics (paracetamol) and psycholeptic medications (antidepressants and anxiolytics) (Roughead, Gilbert, et al., 2008). Another study found that donepezil was the most commonly dispensed anticholinesterase in this population between 2003 and 2006, with treatment persisting significantly longer compared to their community dwelling counterparts (Gadzhanova et al., 2010). In 2002-2003 91% of gold card veteran residents were dispensed at least one medication in a 12 month period with the average user dispensed 52 scripts for 12 individual medications (Australian Institute of Health and Welfare 2008. AIHW:Lloyd J & Anderson P (2008)).

Researchers using dispensing data (2008-2010) from 26 facilities in Sydney found that 6.1% of the sample was exposed to harmful drug interactions, the most common involving warfarin (Dolton, Pont, Stevens, & McLachlan, 2012).

Table 1: *Medicare services provided by general practitioners to permanent residents of Australian aged care facilities in the financial year 2011-2012 and annual growth rates since 2005 (www.medicareaustralia.gov.au).*

| Service provided by GPs to permanent residents of RACFs (MBS item numbers) 2011-2012	Number of services claimed	Rate (services/ 1000 residents)	% of total services	Annual % growth rate in claims (2005-2012)
Standard Consultations (20,35,43,51,92,93,96)	2,549,278	15084.5	85.0	5.8
After hours consultations (including week ends and public holidays) (5010,5028,5049,5067,5260, 5263,5265,5267)	314,044	1962.8	10.5	42
Contribution to a care plan (731)	70,366	416.4	2.3	56.2
Participation in a Collaborative Residential Medication Management Review (RMMR) (903)	66,168	391.5	2.2	41.4
Total	2,999,856	18,177.4	100	7.6
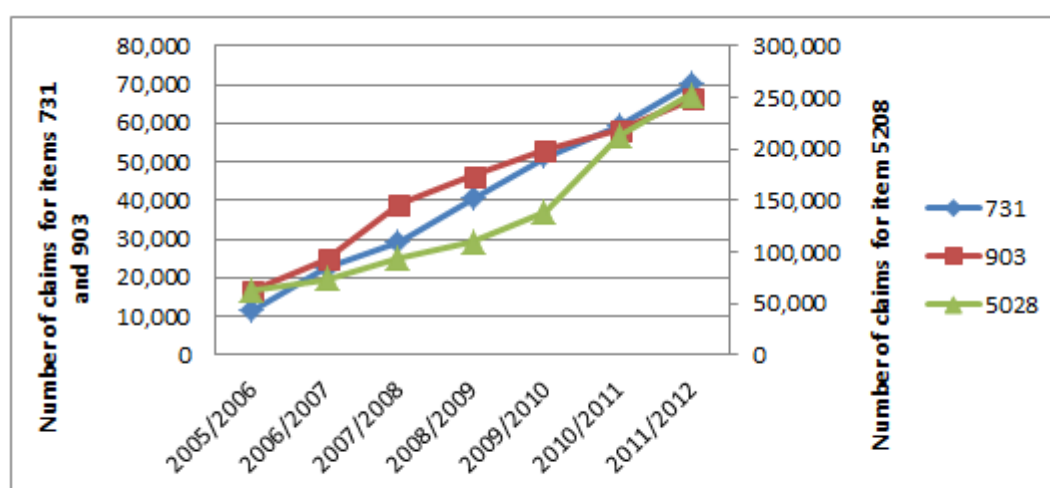
Figure 1. Total annual claims for general practitioner contribution to care plan (Item 731), collaborative medication review (Item 903) and after hours consultations (5028).

Health service usage

Analysis of MBS data (between 2005 and 2012) shows that permanent residents in Australian aged care received almost 3 million general practitioner (GP) services in 2011-2012 , this represents an increase of nearly 1 million services from 2005-2006. This was driven by substantial increases in after-hours consultations (mainly item 5028) and GP contributions to care plans and collaborative medication reviews (RMMR) (Table 1 and Figure 1). The permanent RAC population had an annual growth rate of 1.5% compared to 7.6% for GP services over the same period. Standard consultation rates have also increased over this time period from an average of 12 per resident per year to 15 per resident per year. After hours consultation rates have increased from 0.5 per resident per year to 2 per resident per year. This represents a shift in GP delivery of services to aged care facilities with after-hours services increasing their proportion of all consultations from 4.1% to 10.5% over the seven years and standard consultations decreasing from 94% to 85% of total consultations (Table 1 (Gadzhanova & Reed, 2007)).

Nine studies or reports investigating patterns of health care usage in this population were identified and are described in Table 2. The main findings include high exposure of Australian residential aged care residents to GP services (average 12 to 14 visits per year) and medication reviews (79%). The main reasons for admission to hospital were fall-related, infections and dementia.

Table 2: *Patterns of health care usage in the RAC population.*

Study	Sample demographics	Main outcome measure(s)	Main results
Doctor visits			
(Westbrook, Georgiou, Black, & Hordem, 2011)	Comprehensive Medical Assessment (CMA) claims from 2004 to 2008.	CMA completion rates.	In 2008, 46% of residents had a CMA completed.
(Australian Institute of Health and Welfare 2008. AIHW:Lloyd J & Anderson P (2008)).	27100 gold cardholders in RAC in 2001-2004,	Use of healthcare services (GP, specialist and hospital)	Annual average of 14 GP consultations and 7 with a specialist. 38% used hospital at least once in a year.
(O'Halloran, Britt, & Valenti, 2007).	100 consecutive GP encounters from 1000 randomly selected GPs (2004 to 2006)	Rate of GP consultations at RAC facilities and conditions managed	18.4% of GPs consulted at a RAC facility least once during a 2 year period with dementia being the most common problem managed.
(Gadzhanova & Reed, 2007).	Whole of RAC population data from Medicare website for 2005-2006 year.	RAC specific MBS items.	In total, residents receive nearly 2 million GP services in 2005-2006, the greatest majority being standard consultations *(see table 2 for comparison with 2011-2012 analysis)*.
Unplanned hospital visits			
(Hillen et al., 2011).	All admissions to a major hospital from RAC between 1999 to 2005	Type of presentation, primary diagnosis on admission and morbidity.	Of the 3310 admissions, 95% were classified as emergency. The most frequent primary diagnosis on admission was fractured femur followed by pneumonia and ischaemic heart disease. Dementia was the most common co morbidity.
(Finn et al., 2006).	Residents >=65 years and transported to emergency by ambulance from any RAC facility (Jan-Jun 2002)	Appropriateness of presentation, presenting complaint, GP involvement prior to transfer, % admitted and survival to discharge	Of 541 presentations, 60% were admitted and 85% survived to discharge. 22% of presentations were falls-related and 11% for pneumonia. 13.1% of presentations were deemed inappropriate and 25% had prior involvement of a GP.
(Australian Institute of Health and Welfare, 2013b).	Movements between RAC and hospital for people aged 65 and over during 2008-09	Number and reasons for resident admission to hospital	9% of all admissions for people aged 65 or older to hospital were for RAC residents. Dementia, pressure ulcers, respiratory infections and falls were among the most frequent principle diagnoses.
Medication specific services			
(Department of Health and Ageing. (2010)).	RMMR claims data for 2008-09.	Rate of RMMRs (collaborative and pharmacist only)	79/100 residents received an RMMR of which 38% were GP collaborative reviews.
Processes of care			
(Roughead, Barratt, Gilbert, Peck, & Killer, 2008).	Gold cardholding veterans in RAC and community with diabetes 2004-05	HbA1 testing, use of optometry and podiatric services and medication reviews	44% of RAC veterans had at least one HbA1c test, 69% optometry/ophthalmic service, 50% podiatrist service, 2% dietician service and 6% endocrinologist service. Whilst less likely to receive any type of care plan RAC veterans were more likely to receive a medication review than community veterans.

Discussion

This study has provided an overview of the patterns of chronic disease, medication use and health service utilisation in the Australian RAC population. The most prevalent chronic diseases reported were mental health problems, namely dementia and depression followed by cardiovascular disease and musculoskeletal conditions. Half of the residents with dementia also had a diagnosis of cardiovascular disease. The most commonly prescribed medications were analgesics, psychotropics, antidepressants and anxiolytics. Multiple medicine use was common and over half the residents were exposed to medicines with high adverse drug event risk. This study revealed high access rates to GP services with an average of 15 consultations per resident per year and over three quarters received an annual medication review. The most common reasons for emergency admission to hospital were falls, infections and dementia.

Whilst this study provides valuable information required to appropriately ascertain medication-related QOC in Australian RAC, there are key data lacking. Limited information on comorbidity of diseases was found except for two reports investigating depression and dementia respectively. The presence of multiple conditions in the older population is common, with two-thirds of those aged 65 years and older having at least three chronic conditions (Britt et al., 2008), which impacts greatly on the provision of care, medication complexity and health care outcomes (Roughead E.E., Vitry A.I., Caughey G.E., & Gilbert A.L., 2011). An understanding of comorbidity in this population would be useful to determine if multiple medication use is appropriate with respect to multiple chronic diseases. The studies identified using the RMMR dataset provided useful information on exposure to medications in residents with respect to a clinical diagnosis of dementia, depression and Parkinson's disease and found that for most residents, exposure was appropriate. More studies like these involving analyses of medication use but in multiple chronic diseases are needed.

Multiple medicine use and 'high-risk' medicines increases the probability of adverse drug events in the elderly (Lau, Kasper, Potter, Lyles, & Bennett, 2005). In line with this, many studies identified in this review primarily concentrate on these two criteria. Over half the population was exposed to at least one 'high-risk' medication and the most common exposures were to psychotropics and analgesics. These findings were consistently reported from studies using both small and large samples of the Australian RAC population. These results concur with the high prevalence of dementia, depression and musculoskeletal disease reported in this population. Whilst these medication use studies importantly identify residents at risk of adverse drug events, there was limited information on medicines other than 'high-risk' medicines. One study did reveal underuse of antithrombotics in residents with atrial fibrillation and another found underuse of vitamin D and calcium supplements in eligible residents. Rather than just focusing on high-risk medicines in this population, information on all medication use, particularly for the most common chronic diseases and comorbidities would help to inform appropriate use of medications.

This study found that on average Australian aged care residents have frequent access to doctors services with an average of 15 'standard consultations' per year. There was also increasing trends of claims for 'after-hours' consultations and collaborative reviews. This information is important to ascertain resident's timely access to GP services and more specifically the medication-related GP services. However, the relationship between health service utilisation and medication-related QOC remains unclear. Without linked information it is difficult to determine if health care utilisation rates (e.g. improved access to GPs) impacts on medication-related QOC. Positive associations between medication reviews and improvement in medication-related quality of care has been reported (Department of Health and Ageing. (2010)). Specifically, RMMRs resulted in a significant reduction of drug burden index (i.e. improvement in appropriate medication use) when pharmacist's recommendations were implemented by GPs (Nishtala, Hilmer, et al., 2009). Despite at least three quarters of Australian RAC residents receiving an annual RMMR, studies consistently report a high prevalence of 'high-risk' medicine usage. It is important to note that studies using ascertainment of medication use from RMMRs often report the medications prescribed before the review and this may overestimate current exposure to inappropriate medication. Further studies are needed in this population to determine if provision of a medication-related health service results in improved medication-related quality of care and health outcomes, such as unplanned hospitalisations and mortality.

Conclusion

These findings highlight the need for linked health care data describing chronic disease, medication use and health service uptake in this population to facilitate evaluation of medication-related QOC at a population level. Appropriate data sources, based specifically on the characteristics of this population, are needed to assess and improve the quality of medication-related care for those in Australian residential aged care and inform the development and validation of medication-related QOC indicators.

References

Australian Commission on Safety and Quality in Health Care. (2010). *Australian Safety and Quality Framework for Health Care.* Retrieved from http://www.safetyandquality.gov.au/wp-content/uploads/2012/01/32296-Australian-SandQ-Framework1.pdf

Australian Institute of Health and Welfare (2008). AIHW: Lloyd, J., & Anderson, P. *Veterans' use of health services. Aged care series no. 13. Cat. no. AGE 51.* Canberra: AIHW.

Australian Institute of Health and Welfare. (2006) *Residential Aged Care in Australia 2004-05: a statistical overview. Age care statistics series no.36. Cat. no. AGE 45.* Canberra: AIHW.

Australian Institute of Health and Welfare. (2011) *Dementia among aged care residents: first information from the Aged Care Funding Instrument. Age care statistics series no. 32. Cat. no. 63.*, *Age care statistics*. Canberra: AIHW.

Australian Institute of Health and Welfare. (2012) *Residential aged care in Australia 2010-11: a statistical overview. Age care statistics series no. 36. Cat. no. AGE 68.* Canberra: AIHW.

Australian Institute of Health and Welfare. (2013a) *Depression in residential aged care 2008-2012. Aged care statistics series No 39. Cat. no. AGE 73.* Canberra: AIHW.

Australian Institute of Health and Welfare. (2013b) *Movement between hospital and residential aged care 2008-09. Data Linkage Series no. 16 Cat. no. CSI 16.*, *Data Linkage*. Canberra: AIHW.

Bootman, J.L., Harrison, D.L., & Cox, E. (1997). The Health Care Cost of Drug-Related Morbidity and Mortality in Nursing Facilities. *Archives of Internal Medicine, 157*(18), 2089-2096.

Britt, H. C., Harrison, C. M., & Miller, G. C. (2008). Prevalence and patterns of multimorbidity in Australia. *Medical Journal of Australia, 189*, 72-77.

Commonwealth of Australia. (2010). *Australia to 2050: future challenges. The 2010 Intergenerational report.* Canberra.

Department of Health and Ageing. (2010). *Evaluation of the Residential Medication Management Review Program. Canberra: Campbell Research.*

Dolton, M. J., Pont, L., Stevens, G., & McLachlan, A. J. (2012). Prevalence of potentially harmful drug interactions in older people in Australian aged-care facilities. *Journal of Pharmacy Practice and Research, 42*(1), 33-36.

Finn, J. C., Flicker, L., Mackenzie, E, Jacobs, I. G., Fatovich, D. M., Drummond, S., . . . Sprivulis, P. (2006). Interface between residential aged care facilities and a teaching hospital emergency department in Western Australia. *Medical Journal of Australia, 184*(9), 432-435.

Gadzhanova, S., & Reed, R. (2007). Medical services provided by general practitioners in residential aged-care facilities in Australia. *Medical Journal of Australia, 187*(2), 92-94.

Gadzhanova, S., Roughead, L., & Mackson, J. (2010). Anticholinesterase duration in the Australian veteran population. *Australian and New Zealand Journal of Psychiatry, 44*, 469-474.

Hillen, J. B., Reed, R. L., Woodman, R. J., Law, D, Hakendorf, P. H., & Fleming, B. J. (2011). Hospital admissions from residential aged care facilities to a major public hospital in South Australia (1999-2005). *Australasian Journal on Ageing, 30*(4), 202-207.

Lau, D. T., Kasper, J. D., Potter, D. E. B., Lyles, A., & Bennett, R. (2005). Hospitalisation and death associated with potentially inappropriate medication prescriptions among elderly nursing home residents. *Archives of Internal Medicine, 165*, 68-74.

Milton, J. C., Hill-Smith, I., & Jackson, S. H. D. (2008). Prescribing for older people. *British Medical Journal, 336*(7644), 606-609.

Nishtala, P. S., Hilmer, S. N. , McLachlan, A. J. , Hannan, P. J., & Chen, T. F. (2009). Impact of residential medication management reviews on drug burden index in aged-care homes: A retrospective analysis. *Drugs and Ageing, 26*(8), 677-686.

Nishtala, P. S., McLachlan, A. J., Bell, J. S., & Chen, T. F. (2009). Determinants of antidepressant medication prescribing in elderly residents of aged care homes in Australia: A retrospective study. *The American Journal of Geriatirc Pharmacotherapy, 7*(4), 210-219.

Nishtala, P. S., McLachlan, A. J., Bell, J. S., & Chen, T. F. (2010). Determinants of antipsychotic medication use among older perople living in aged care homes in Australia. *International Journal of Geriatric Psychiatry, 25*, 449-457.

Nishtala, P. S., McLachlan, A. J., Bell, J. S., & Chen, T. F. (2011). A retrospective study of drug-related problems in Australian aged care homes: Medication reviews involving pharmacists and general practitioners. *Journal of Evaluation in Clinical Practice, 17*, 97-103.

O'Halloran, J., Britt, H., & Valenti, L. (2007). General Practitioner consultations at resdiential aged-care facilities. *Medical Journal of Australia, 187*(2), 88-91.

Roughead E. E., Vitry A. I., Caughey G. E., & Gilbert A. L. (2011). Multimorbidity, care complexity and prescribing for the elderly. *Aging Health, 7*(5), 695-705.

Roughead, E. E., Barratt, J., Gilbert, A. L., Peck, R., & Killer, G. (2008). Diabetes processes of care in the Australian veteran population. *Diabetes Research and Clinical Practice, 79*, 299-304.

Roughead, E. E., Gilbert, A. L., & Woodward, M. C. (2008). Medication use by Australian war veterans in

residential aged-care facilities. *Journal of Pharmacy Practice and Research, 38*(1), 14-18.

Singh, P., Arrevad, P. S., Peterson, G. M., & Bereznicki, L. R. (2011). Evaluation of antithrombotic usage for atrial fibrillation in aged care facilities. *Journal of Clinical Pharmacy and Therapeutics, 36*, 166-171.

Snowdon, J., Galanos, D., & Vaswani, D. (2011). A 2009 survey of psychotropic medication use in Sydney nursing homes. *Medical Journal of Australia, 194*(5), 270-271.

Somers, M., Simmonds, D., Whitelaw, C., Calver, J., & Beer, C. (2010). Quality use of medicines in residential aged care. *Australian Family Physician, 39*(6), 413-416.

The American Geriatrics Society 2012 Beers Criteria Update Expert Panel. (2012). American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults. *Journal of the American Geriatrics Society, 60*(4), 616-631.

Westbrook, J. I., Georgiou, A., Black, D., & Hordem, A. (2011). Comprehensive medical assessments for monitoring and improving the health of resdients in aged care facilties: Existing comprehensive medical assessments coverage and trial of a new service model. *Australasian Journal on Ageing, 30*(1), 5-10.

Westbury, J. L., Jackson, S., & Peterson, G. M. (2010). Psycholeptic use in aged care homes in Tasmania, Australia. *Journal of Clinical Pharmacy and Therapeutics, 35*, 189-193.

Wilson, N. M., Hilmer, S. N., March, L. N., Cameron, I. D., Lord, S. R., Seibel, M. J., . . . Sambrook, P. N. (2011). Associations between Drug Burden Index and falls in older people in residential aged care. *Journal of the American Geriatrics Society, 59*, 875-880.

Wilson, N. M., Hilmer, S. N., March, L. N., Chen, J. S., Gnjidic, D., Mason, R. S., . . . Sambrook, P. N. (2012). Associations between Drug Burden Index and mortality in older people in residential aged care facilities. *Drugs and Ageing, 29*(2), 157-165.

Wilson, N. M., March, L. M., Sambrook, P. N., & Hilmer, S. N. (2010). Medication safety in residential aged-care facilities: A perspective. *Therapeutic Advances in Drug Safety, 1*(1), 11-20. doi: 10.1177/2042098610381418

WHY "REDUSE"? RATIONALE FOR STUDYING THE CLINICAL OUTCOMES OF SEDATIVE REDUCTION IN THE RESIDENTIAL AGED CARE SETTING

HOYLE Daniel[1], WESTBURY Juanita[1], BINDOFF Ivan[1], PETERSON Gregory[1]

[1]*Unit for Medication Outcomes Research and Education, School of Medicine (Pharmacy), University of Tasmania*

Abstract

Research consistently shows high usage of psycholeptic medication (predominantly antipsychotics and benzodiazepines) in many residential aged care facilities (RACFs). Antipsychotics are often employed to treat behavioural and psychological symptoms of dementia (BPSD) while benzodiazepines are frequently used to alleviate anxiety and sleep disturbances, despite the risk of severe adverse effects and limited effectiveness. Generally, antipsychotic reduction has not been shown to significantly affect BPSD; however, both deterioration and improvement in BPSD has been detected in sub-groups of residents depending on severity of baseline behaviour and initial antipsychotic dose. Furthermore, research is conflicting as to whether or not psycholeptic reduction diminishes rates of falls, and subsequent fractures. Currently, the "Reducing the Use of Sedatives" (RedUSe) project (Westbury, Jackson, Gee, & Peterson, 2010) is being expanded nationally to promote the appropriate use of psycholeptics in RACFs. Clinical outcome measures, such as BPSD and falls, which have often been absent from similar implementation projects, will be monitored to observe the effect of psycholeptic reduction on residents.

Introduction

Researchers have labelled residential aged care facilities (RACFs) as 'modern mental institutions for the elderly' (Rovner & Katz, 1993, p. 75) given the high prevalence of psychiatric issues such as behavioural and psychological symptoms of dementia (BPSD), anxiety and sleeping problems (Martin et al., 2006; Zuidema, Koopmans, & Verhey, 2007).

Clinical guidelines recommend attempting non-pharmacological treatments prior to commencing antipsychotic therapy for BPSD and benzodiazepine use for anxiety and sleeping problems (Psychotropic Expert Group, 2013). Psycholeptics should be regarded as second-line treatments for these conditions considering their limited effectiveness (Banerjee, 2009; Bourgeois, Elseviers, Van Bortel, Petrovic, & Vander Stichele, 2013) and potential for severe adverse effects, such as falls linked with benzodiazepine use (Bloch et al., 2011) and increased risk of death associated with antipsychotics (Schneider, Dagerman, & Insel, 2005). When these medications are prescribed, regular medication review for dose reduction and discontinuation attempts are recommended (Psychotropic Expert Group, 2013).

Contrary to guidelines, antipsychotics and benzodiazepines are often prescribed first-line, without regular dose-reduction attempts (Cornege-Blokland, Kleijer, Hertogh, & van Marum, 2012). Reluctance to trial non-pharmacological therapies and discontinue psycholeptics may stem from inadequate knowledge of behavioural interventions and perceived potential for deterioration in resident behaviour (Azermai, Stichele, Van Bortel, & Elseviers, 2014; Jolyce Bourgeois et al., 2013).

The "Reducing the Use of Sedatives" (RedUSe) project is a multi-strategic intervention designed to promote the appropriate use and review of psycholeptics in RACFs. This project involves audit, benchmarking and feedback of psycholeptic prescribing in RACFs to nursing staff, who provide the majority of resident care and strongly influence psycholeptic prescribing. Pharmacists and doctors will also receive training. Finally, a multidisciplinary psycholeptic review for residents will provide individualised recommendations. The RedUSe project has funding for a national roll-out to 150 RACFs divided over four waves. Currently, the RedUSe project is entering its second wave (Westbury et al., 2010).

Previous interventions have displayed success in reducing psycholeptic use in RACFs but few have evaluated clinical outcomes. Clinical monitoring within the RedUSe project aims to describe the effect that psycholeptic reduction has on residents within a multi-strategic intervention.

This narrative review will update the reader on the literature surrounding the clinical outcomes of psycholeptic reduction and provide the rationale for assessing changes in BPSD and rates of falls within the RedUSe project.

Change in BPSD
Two recent meta-analyses have found no overall changes in BPSD upon antipsychotic withdrawal in RACF residents with dementia (Declercq et al., 2013; Pan, Wu, Gau, Chan, & Banerjee, 2013). However, sub-groups of residents within these studies have displayed both deterioration and improvement in BPSD upon antipsychotic withdrawal.

Aggravation of BPSD has been observed upon cessation in residents taking high doses of antipsychotics. Ruths, Straand, Nygaard, and Aarsland (2008) randomly assigned BPSD-affected residents taking antipsychotics to either cessation (n=27) or continued treatment (n=28) groups for four weeks. Changes in BPSD were monitored using the Neuropsychiatric Inventory (NPI). Regardless of treatment group, the NPI score did not change significantly when antipsychotics were ceased. However, residents taking higher doses of antipsychotics were more likely to display deterioration in BPSD upon antipsychotic cessation than those taking lower doses (p=0.042).

Furthermore, initial BPSD severity may also determine the effect that antipsychotic cessation has on resident behaviour. Ballard et al. (2004) randomly assigned BPSD-affected residents taking antipsychotics to placebo (n=46) or continued treatment (n=54) groups for three months. Generally, there were no significant changes in BPSD severity. However, placebo-assigned residents with more severe BPSD at baseline (NPI>14) were more likely to develop behavioural disturbances (p<0.0001), worsened mood (p=0.02) and psychosis (p=0.038) compared to residents with milder BPSD (NPI≤14). In contrast, placebo-assigned residents with mild BPSD had improved outcomes, especially in terms of reduced agitation (p=0.018).

Change in rate of falls
Meta-analyses have found associations between psycholeptic use and increased falls (Bloch et al., 2011; Woolcott et al., 2009). Furthermore, a prospective cohort study of 851 RACF residents found falls rates were particularly elevated in the week following antidepressant, antipsychotic or benzodiazepine initiation or dose increase (significance not stated) (Echt, Samelson, Hannan, Dufour, & Berry, 2013).

Conversely, an international study has found that high use of psycholeptics did not always correlate with increased rates of falls in RACFs (Hughes et al., 2000). For example, residents in Icelandic RACFs were approximately three times more likely to receive psycholeptics than residents in Danish RACFs. However, Icelandic residents had almost three times less falls (Hughes et al., 2000). Furthermore, in one study, reduced benzodiazepine use was associated with an increased incidence of hip fracture (p=0.030) (Briesacher, Soumerai, Field, Fouayzi, & Gurwitz, 2010). It was suggested that a reduction in benzodiazepines may have led to more motivation to ambulate, increasing the risk of falls and subsequent fractures (Page, 2010).

Overview of proposed methods
The above highlights a need to include clinical outcome monitoring within the observational framework of the RedUSe project. Structured-interviews with nursing staff at baseline and four months post-intervention will collect information on changes in neuropsychiatric symptoms (including BPSD, anxiety and sleep disturbances). The clinical changes will be examined in relation to the initial dose of antipsychotic medication and severity of BPSD. Resident quality of life (QoL) and social engagement will also be assessed in these interviews. The number and severity of falls will be recorded monthly by a champion nurse at each RACF.

Clinical outcomes will be collected from a subset of 40 RACFs. This analysis will be performed in the upcoming second, third and fourth waves of the project. To detect significant changes in the clinical assessments, power calculations estimated that at least 400 residents are required. We predict an average recruitment rate of 10 residents per RACF.

Implications for policy and practice
Clinical outcomes of the RedUSe project will identify potential benefits and risks associated with psycholeptic reduction within a multi-strategic project. These outcomes may help ameliorate barriers to psycholeptic reduction perceived by general practitioners, nurses and families, and promote adherence to current guidelines.

An independent economic analysis, generated from the clinical outcomes, will also inform policymakers of the value the RedUSe project provides in terms of benefits to residents and impact on aged-care related expenditure.

Conclusion

Psycholeptic reduction trials often do not assess changes in clinical outcomes, such as BPSD and falls. However, evidence suggests antipsychotic withdrawal does not cause deterioration in BPSD for most residents. Nonetheless, exceptions have been reported, particularly for residents taking high dose antipsychotics and those with severe BPSD at baseline. Similarly, there is conflicting research on the effect that psycholeptic reduction has on rates of falls and related fractures.

The RedUSe project will report on changes in BPSD and falls associated with psycholeptic reduction, providing further clarification on the effect that psycholeptic reduction has on these variables. Other measures, including QoL and social engagement, will also be monitored.

References

Azermai, M., Stichele, R. R. H. V., Van Bortel, L. M., & Elseviers, M. M. (2014). Barriers to antipsychotic discontinuation in nursing homes: An exploratory study. *Aging & Mental Health, 18*(3), 346-353. doi: 10.1080/13607863.2013.832732

Ballard, C., Thomas, A., Fossey, J., Lee, L., Jacoby, R., Lana, M. M., . . . O'Brien, J. T. (2004). A 3-month, randomized, placebo-controlled, neuroleptic discontinuation study in 100 people with dementia: the neuropsychiatric inventory median cutoff is a predictor of clinical outcome. *Journal of Clinical Psychiatry, 65*(1), 114-119.

Banerjee, S. (2009). The use of antipsychotic medication for people with dementia: Time for action. *London: Department of Health*.

Bloch, F., Thibaud, M., Dugué, B., Brèque, C., Rigaud, A.-S., & Kemoun, G. (2011). Psychotropic drugs and falls in the elderly people: Updated literature review and meta-analysis. *Journal of Aging & Health, 23*(2), 329.

Bourgeois, J., Elseviers, M., Azermai, M., Van Bortel, L., Petrovic, M., & Vander Stichele, R. (2013). Barriers to discontinuation of chronic benzodiazepine use in nursing home residents: Perceptions of general practitioners and nurses. *European Geriatric Medicine, 5*(3), 181-187.

Bourgeois, J., Elseviers, M. M., Van Bortel, L., Petrovic, M., & Vander Stichele, R. H. (2013). Sleep quality of benzodiazepine users in nursing homes: a comparative study with nonusers. *Sleep Medicine, 14*(7), 614-621. doi: 10.1016/j.sleep.2013.03.012

Briesacher, B. A., Soumerai, S. B., Field, T. S., Fouayzi, H., & Gurwitz, J. H. (2010). Medicare part D's exclusion of benzodiazepines and fracture risk in nursing homes. *Archives of Internal Medicine, 170*(8), 693-698. doi: 10.1001/archinternmed.2010.57

Cornege-Blokland, E., Kleijer, B. C., Hertogh, C. M., & van Marum, R. J. (2012). Reasons to prescribe antipsychotics for the behavioral symptoms of dementia: a survey in Dutch nursing homes among physicians, nurses, and family caregivers. *The Journal of Amercian Medical Directors Association, 13*(1), 80 e81-86. doi: 10.1016/j.jamda.2010.10.004

Declercq, T., Petrovic, M., Azermai, M., Vander Stichele, R., De Sutter, A. I., van Driel, M. L., & Christiaens, T. (2013). Withdrawal versus continuation of chronic antipsychotic drugs for behavioural and psychological symptoms in older people with dementia. *Cochrane Database of Systematic Reviews, 3*, CD007726. doi: 10.1002/14651858.CD007726.pub2

Echt, M. A., Samelson, E. J., Hannan, M. T., Dufour, A. B., & Berry, S. D. (2013). Psychotropic drug initiation or increased dosage and the acute risk of falls: a prospective cohort study of nursing home residents. *Biomed Central Geriatrics, 13*(1), 1.

Hughes, C. M., Lapane, K. L., Mor, V., Ikegami, N., Jonsson, P. V., Ljunggren, G., & Sgadari, A. (2000). The impact of legislation on psychotropic drug use in nursing homes: a cross-national perspective. *Journal of the American Geriatrics Society, 48*(8), 931-937.

Martin, J. L., Webber, A. P., Alam, T., Harker, J. O., Josephson, K. R., & Alessi, C. A. (2006). Daytime sleeping, sleep disturbance, and circadian rhythms in the nursing home. *The American Journal of Geriatric Psychiatry, 14*(2), 121-129.

Page, C. (2010). Benzodiazepine use in nursing homes: Too much or too little? *Archives of Internal Medicine, 170*(17), 1609. doi: 10.1001/archinternmed.2010.328

Pan, Y. J., Wu, C. S., Gau, S. S., Chan, H. Y., & Banerjee, S. (2013). Antipsychotic Discontinuation in Patients with Dementia: A Systematic Review and Meta-Analysis of Published Randomized

Controlled Studies. *Dement Geriatr Cogn Disord, 37*(3-4), 125-140. doi: 10.1159/000355418

Psychotropic Expert Group. (2013). *Therapeutic guidelines: Psychotropic*. Version 7. Melbourne: Therapeutic Guidelines Limited.

Rovner, B. W., & Katz, I. R. (1993). Psychiatric disorders in the nursing home: A selective review of studies related to clinical care. *International Journal of Geriatric Psychiatry, 8*(1), 75-87. doi: 10.1002/gps.930080112

Ruths, S., Straand, J., Nygaard, H. A., & Aarsland, D. (2008). Stopping antipsychotic drug therapy in demented nursing home patients: a randomized, placebo-controlled study--the Bergen District Nursing Home Study (BEDNURS). *International Journal of Geriatric Psychiatry, 23*(9), 889-895. doi: 10.1002/gps.1998

Schneider, L. S., Dagerman, K. S., & Insel, P. (2005). Risk of death with atypical antipsychotic drug treatment for dementia: meta-analysis of randomized placebo-controlled trials. *The Journal of the American Medical Association, 294*(15), 1934-1943. doi: 10.1001/jama.294.15.1934

Westbury, J., Jackson, S., Gee, P., & Peterson, G. (2010). An effective approach to decrease antipsychotic and benzodiazepine use in nursing homes: the RedUSe project. *International Psychogeriatrics, 22*(1), 26-36. doi: 10.1017/s1041610209991128

Woolcott, J. C., Richardson, K. J., Wiens, M. O., Patel, B., Marin, J., Khan, K. M., & Marra, C. A. (2009). Meta-analysis of the impact of 9 medication classes on falls in elderly persons. *Archives of Internal Medicine, 169*(21), 1952-1960. doi: 10.1001/archinternmed.2009.357

Zuidema, S., Koopmans, R., & Verhey, F. (2007). Prevalence and predictors of neuropsychiatric symptoms in cognitively impaired nursing home patients. *Journal of Geriatric Psychiatry and Neurology, 20*(1), 41-49.

BUILDING CAPACITY, PROMOTING PARTNERSHIPS AND ENABLING CHANGE TO SUPPORT HEALTHY AGEING IN VICTORIA – THE EFFECT OF A HOLISTIC HEALTHY AGEING FUNDING MODEL

STEVENSON Mina[1], YALLOP Sarah[2], MCKENZIE Rosemary[1]

[1]*Melbourne School of Population and Global Health, The University of Melbourne*
[2]*Ageing & Aged Care Branch, Victorian Department of Health*

Abstract

The Victorian Department of Health has adopted a healthy ageing holistic funding model that builds on the interactions of several prior targeted programs to strengthen outcomes for aged care services and older people. The Healthy Ageing Program aims to improve health and wellbeing for older people through a focus on nutrition, physical activity, emotional wellbeing and social connection. Commencing in 2011, the Healthy Ageing Program combines the principles of previous Victorian Department of Health programs, Well for Life, Making a Move and Count Us In. Each of these programs individually had a strong history in Victoria and contributed to increasing the capacity of organisations and the aged care workforce to support healthy ageing. The effect of an integrated holistic funding approach was unknown. This paper reports on evaluation of the Healthy Ageing Program to determine its impact on organisations receiving funding under the new model. Semi-structured telephone interviews were conducted with representatives from 6 organisations who had received funding in either the 2011-2012 or 2012-2013 funding rounds. Results show that the program has supported partnerships between organisations, promoted sustainability of healthy ageing initiatives and supported organisational change around healthy ageing objectives. Enablers and barriers to healthy ageing in funded organisations were identified. To strengthen the program further a focus on funding, sustainability and partnerships is recommended. These aspects should be integrated into all stages of an organisation's healthy ageing program, from program submission to dissemination of information regarding the success of organisation specific programs.

Rationale

The Healthy Ageing Program (HAP) is a Victorian Department of Health (DoH) initiative. HAP aims to improve health and wellbeing for older people, through a focus on nutrition, physical activity, emotional wellbeing and social connection (Ageing and Aged Care Branch, 2013). HAP commenced in 2011 integrating the principles from previous Victorian DoH healthy ageing initiatives of Well for Life (WFL), Making a Move (MAM) and Count Us In (CUI). DoH evaluations shaped the HAP funding model, which recognises the interactions and benefits for combining common goals between individual programs.

Since its commencement, all eight DoH Regions have received demonstration funding. Within these eight regions a total of 24 organisations have received this funding; 14 organisations in the 2011-2012 funding round and 10 in the 2012-2013 funding round. With two completed demonstration-funding rounds, HAP is a relatively new method of providing regions and organisations with funding to promote healthy ageing. As a result, the impact it has had on organisations is still unknown.

Through a review of a total of six of the 24 funded demonstration projects (three from each financial year), this evaluation aims to explore the research question: what impact has involvement in a HAP had on organisations?

Methods

The study design involved semi-structured interviews in order to obtain qualitative information. Purposive sampling was utilised in order to recruit six organisations (Neuman, 2011; Patton, 2002). This consisted of three representatives from organisations who received 2011-2012 HAP funding and three from 2012-2013 HAP funding. Sampling was based on matching similar projects from the separate funding years. These projects included; creating a community garden in a residential aged care facility, improving care planning in community health services and developing workforce and governance models to support healthy ageing.

Interviews were conducted by the researcher via telephone in early 2014. All interviews were recorded and transcribed verbatim. Data analysis involved; data immersion, coding, creating categories and identifying themes (Green, Willis, & Hughes, 2007). In order to assure quality, both the researcher and the researcher's field supervisor (a senior program advisor in the Ageing and Aged Care Branch of the DoH) conducted all stages of data analysis.

Participants were informed of the research aims and consent to participate was obtained prior to the interview; four participants provided written consent and two verbal. The study was regarded as a quality improvement project by the DoH, the sponsoring organisation, and as such a formal ethics approval process was not deemed necessary for the project.

Results
Thematic analysis of interviews uncovered three themes: sustainability, partnerships and organisational change.

Sustainability:
The holistic funding model encouraged organisations to build on and combine HAP funding with other related funding. This enabled the lifespan of the project to be lengthened which meant the organisation *"had enough time to be able to complete the project properly so that we could get to the point of embedding it before the project ended"…"that was the gift of the project, that we had enough time to get it that far"*.

Many organisations discussed embedding the HAP strategies into existing *"daily programs"*. Existing programs included *"an everyday activity program"*, *"lifestyle program"*, or a walking program, which was *"supported by the physio".* It was reported embedding the program into existing processes enabled sustainability which meant it is *"not a project anymore, it's business as usual"*.

Partnerships:
Through implementing a community garden one organisation had partnered with other local organisations including; a local primary school, the gardening superintendent from the local health organisation, the president of the local community gardens network and the horticulturalist from a local nursery.

One reason for the success of the partnerships was due to the alignment of objectives and *"very timely opportunity for the two organisations to come together"* - the primary school had just completed a 'kid's kitchen' and were looking to join with a community garden. To further reinforce the partnership, the "*principal sat on the project committee*", demonstrating significant commitment. Partnering with the school encouraged intergenerational activities between the school children and the residents such as *"actually visiting the school"* and the *"socialisation that's also been a part of it"*.

While the importance of partnerships for success with HAP was emphasised in both the submission guidelines and the key selection criteria, several organisations developed intergenerational partnerships, which were not specifically mentioned in any HAP documentation. Intergenerational partnerships have been shown to bring different generations together, improving understanding and increasing interaction between them (Reneha, Dow, & Lin, 2012). These programs have multiple benefits both to the older people and younger people that are participating in them (Reneha et al., 2012). For older people the benefits of *"getting involved in activities like using iPads to do research in terms of plants and community gardens"* as well as the increased *"opportunity to socialise",* to share their skills, knowledge, and experience with younger generations and to stay connected to their communities had a positive impact on life satisfaction, social engagement, and overall health (Carson, Kobayashi, & Kuehne, 2011; Gaggioli, Morganti, & Bonfiglio, 2014; Reneha et al., 2012). This indicates the capacity of organisations to extend their thinking about healthy ageing to include evidence based strategies that they have not specifically been directed to include.

Organisational Change
Organisations identified that some staff attitudes changed from the beginning of the program through implementation. This was identified as moving from *"resigned acceptance at the start",* to being actively involved in the program once it was up and running. Organisations that created a community garden reported the link between the change in staff attitudes and the completion of the construction of the garden often being due to the tangible outputs such as that the garden created (for example: *"having it close to the facility")*. This may be due to frontline staff not being privy to the initial *"planning and…early stage"* of the project, *"and probably thought this is never going to happen",* therefore the first indication that they observed of the benefits was the physical garden and the associated feedback from clients.

Further examples of tangible outputs that assisted organisational change were firstly, the use of a care plan to provide a way of monitoring progress which both clients, staff and others are able to see. Secondly, the use of outcome measures, for example the project which created a community garden plotted distances walked by residents which provided evidence of improvement, this improvement motivated clients, staff and families.

Furthermore, organisations highlighted the use of 'change champions', a 'change team' or 'key workers' to assist with driving organisational change. Organisations also stated that the holistic funding model encouraged *"broader… strategic thinking"* which resulted in implementing a program, which had "*a broader focus and broader benefits"*. This enabled a cohesive, multidisciplinary team approach to thinking about healthy ageing.

Implications for policy and practice
The information collected in the interviews demonstrates that a holistic healthy ageing funding model promotes sustainability, partnerships and organisational change.

Program objectives have evolved to become broader allowing for projects to use funding to take a larger focus. This allows for more strategic thinking by organisations in order to create programs that have an all-encompassing focus. For example: rather than a providing a strength and balance class for older people, HAP encourages organisations to develop a program which also considers other elements of healthy ageing such an social connection, nutrition, emotional wellbeing and is supported by workforce development strategies, partnerships and organisational change. Recipients of HAP funding were encouraged to combine this funding with other like funding in order to further promote this all-encompassing focus. However, combining funding caused some confusion where some participants were not clear on the source of specific funding, or what funding was contributing to which aspect of the project.

The results indicate the benefit of broad healthy ageing objectives. The domains that contribute to healthy ageing do not work as separate aspects, rather the dynamic relationship contribute to healthy ageing (World Health Organisation, 2002). The use of broad objectives in HAP complements this framework; working with the idea that in order to promote healthy ageing all domains must be taken into consideration.

Summary
The change from individual programs to HAP has resulted in an increased focus on organisational change, partnerships and sustainability. Organisations have implemented these changes by identifying partnerships, which strengthen both their HAP and their organisation. Organisations have participated in changing practices and workforce culture in order to promote sustainability of HAP in their organisations.

Information gathered supports the idea that involvement in HAP has assisted change. Organisations have shown that they have an enhanced capacity for healthy ageing initiatives. Looking at the staff impact of involvement in HAP illustrates a change in workforce culture around healthy ageing.

The results of this evaluation suggest that a strong focus on partnerships and sustainability has encouraged change in organisations that implemented a HAP.

References
Ageing and Aged Care Branch, Victorian Department of Health. Funding Guidelines. *Healthy Ageing Program.* 2013.
Carson, A. J., Kobayashi, K. M., & Kuehne, V. S. (2011).The Meadows School Project: Case study of a unique shared site intergenerational program. *Journal of Intergenerational Relationships, 9*(4), 405-417.
Gaggioli, A., Morganti, L., Bonfiglio, S., Scaratti, C., Cipresso, P., Serino, S., & Riva, G. (2014). Intergenerational group reminiscence: A potentially effective intervention to enhance elderly psychosocial wellbeing and to improve children's perception of aging. *Educational Gerontology, 40*, 486-498.
Green, J., Willis, K., Hughes, E., Small, R., Welch, N., Gibbs, L., & Daly, J. (2007). Generating best evidence from qualitative research: The role of data analysis. *Australian and New Zealand Journal of Public Health. 31*(6), 545-550.
Neuman, W. L. (2011). *Social research methods: Qualitative and quantitative approaches* (7th Ed.), International ed., Boston, Mass: Pearson.
Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks, California: Sage Publications.
Reneha, E., Dow, B., Lin, X., Blackberry, I., Haapala, I., Gaffy, E., Cyarto, E., Brasher, K., & Hendy, S. (2012). *Healthy Ageing Literature Review.* Melbourne. [cited May 27 2014]. Retrieved from: http://www.health.vic.gov.au/agedcare/maintaining/downloads/healthy _litreview.pdf
World Health Organisation. (2002). *Active Ageing: A Policy Framework*. [cited May 27 2014]. Retrieved from: http://www.who.int/ageing/publications/active_ageing/en/

GREENER PASTURES? A PORTRAIT OF LIFE SATISFACTION AMONG OLDER AUSTRALIANS

DUDLEY Dorothy[1,2]

[1]*University of Sydney*
[2]*ARC Centre of Excellence in Population Ageing Research (CEPAR), University of Sydney*

Abstract
Drawing on data from Wave 11 of the Household, Income and Labour Dynamics in Australia (HILDA) survey, this paper examines the level and determinants of self-reported life satisfaction among Australians aged 55 years and older. Results show that retirement status and a range of demographic and activity factors play an important role in determining the level of life satisfaction of older Australians. The impact of retirement on satisfaction levels is clear with those in complete retirement exhibiting higher overall life satisfaction and satisfaction across a range of life domains. The paper provides a quality of life perspective beyond the widespread focus in the literature on the economic, labour market and healthcare impacts of population ageing. Findings have direct implications for policy makers given the Federal Government's recent budget plans to gradually raise aged pension eligibility to 70 years from 2035, indicating that staying in paid work, whether part-time or full-time, could have a negative impact on the overall life satisfaction of ageing Australians.

Rationale
The transition into retirement is an important life milestone that often requires individuals to renegotiate and reimagine daily routines, responsibilities and their sense of self in a new environment. It is well documented that our nation is experiencing the ageing of its population. Estimates from the Australian Bureau of Statistics (2013) suggest that 79% of the 4.7 million Australians in the labour force aged 45 years and older plan to retire at some point, with an average expected retirement age of 63.4 years (63.8 years for men and 63.0 years for women). Given life expectancies of 79.7 years for men and 84.2 years for women, this indicates that nearly a quarter of the lives of older Australians will be spent in retirement.

A review of the literature indicates that most existing research has examined the economic, labour market and healthcare implications of population ageing, rather than the subjective perceptions and experiences of older Australians in retirement (Griffin, Hesketh, & Loh, 2012; Quine & Carter, 2006; Snoke, Kendig, & O'Loughlin, 2011).

An understanding of older people's life satisfaction during this period is critical to developing programs and policies to improve the quality of life of this growing and important segment of Australia's population. This paper contributes to our understanding by examining the impacts of retirement from paid work, retirement status, demographic and other characteristics on overall life satisfaction for Australians aged 55 years and older.

Methods
Data and participants
The data were obtained from Wave 11 (2011) of the HILDA survey. HILDA is a large-scale nationally representative longitudinal household panel conducted annually since 2001. The sampling units are Australian households occupying private dwellings, and surveys are administered through a combination of face-to-face interviews and self-completion questionnaires with individuals aged 15 years and over (Watson & Wooden, 2002). Wave 11 included data from 17,612 individuals, aged 15 to 99 years.

Retirement status and a range of post-retirement measures of subjective wellbeing were part of a specific retirement mini-module run in Waves 3, 7 and 11 (Watson & Wooden, 2010) and administered to participants 45 years and older. As the focus of this analysis is on actual retirement and the retirement transition, rather than retirement plans, this paper includes respondents aged 55 years and older at Wave 11, representing a sample size of 5,334 (46.1% male, 53.9% female).

Measures and analysis
Overall life satisfaction was obtained from responses to the question *'All things considered, how satisfied are you with your life?'* using an 11-point ordinal scale with descriptive anchors at 0 (totally dissatisfied), 5 (neither satisfied nor dissatisfied) and 10 (totally satisfied). In this analysis responses were recoded into five

categories: 0 (totally dissatisfied), 1 to 4 (dissatisfied), 5 (neither), 6 to 9 (satisfied), and 10 (totally satisfied).

Demographic variables included age, gender, marital status, and section of state, which refers to the location and type of setting (Table 1) in which the participant lives. Social and physical activity variables included club membership, volunteering hours, and levels of physical activity. Retirement variables included retirement status, age when completely retired, and respondent's and partner's work status at time of retirement.

Separate chi-square tests were conducted to examine the relationship between life satisfaction and each of the retirement, demographic and activity variables.

Results

Key Demographic and Activity Characteristics

Overall, a range of demographic characteristics including gender, age, marital status and section of state influenced life satisfaction. As seen in Table 1, more women (18.1%) than men (15.1%) indicated total satisfaction with life. There was a positive relationship between life satisfaction and age, with almost a quarter of those 75 years and over expressing total satisfaction (24.1%) compared with nearly one in eight of those aged 55 to 64 years (11.5%). Total life satisfaction varied by marital status with a greater proportion reporting total satisfaction among the widowed (22.5%), followed by those who were legally married (16.6%). Separated or divorced participants expressed the lowest total satisfaction (12.2%). The overall relationship between section of state and satisfaction was significant with more respondents in areas with populations between 1,000 and 99,999 reporting total satisfaction (19.5%) than those living in major urban areas with larger populations (15.5%).

Total satisfaction was also more evident among participants who were active members of clubs (17.9%) compared to non-members (15.5%), those who undertook volunteer or charity work (19.0% versus 15.7% for those who did not), and those who had higher levels of physical activity.

Retirement characteristics

Current retirement status was significantly associated with life satisfaction such that completely retired participants reported higher total life satisfaction (17.8%) than those who were only partly retired (11.6%) or those not retired (8.2%).

For those who were retired (completely or partially), work status at the time of retirement was linked to their current satisfaction, with total satisfaction higher among those who were previously in full-time (18.3%) or part-time work (15.4%) compared with those who were seeking work (5.9%) or unable to work due to their own illness or disability (9.8%). However, for participants who were partnered, no significant differences in life satisfaction were observed in relation to either the partner's work status at the time of their own retirement or the length of time between their own retirement and that of their partner.

There was an association between the age at which a person completely retired and total satisfaction with life. Total satisfaction was higher for those retiring between 65 and 84 years of age (19.4%), followed by participants exiting the workforce aged 45 to 54 years (18.0%) and those retiring between 55 and 64 years of age (16.7%). Differences were also observed in relation to the length of time in retirement and overall life satisfaction. Higher total satisfaction was reported by those who had been in retirement for 21 years or more (22.3%), than by those who had been retired for 10 years or less (16.6%) and between 11 and 20 years (16.3%).

Figure 1 also shows retirement status had a significant influence across total satisfaction levels in eight life domains. Completely retired participants reported higher total satisfaction on seven of eight life domains than those who were either partly retired or not retired, with the greatest satisfaction in their relationship with partners and children and the amount of free time available to them. Health did not differ significantly by retirement status.

Table 1. *Overall life satisfaction by key demographic and activity variables*

Variable (n)	Totally satisfied %	Satisfied %	Neither %	Dissatisfied %	Totally dissatisfied %
Gender					
Male (2,454)	15.1⬇	78.6⬆	3.5	2.7	0.1
Female (2,873)	18.1⬆	74.9⬇	4.4	2.4	0.2
Age					
55 to 64 years (2,460)	11.5⬇	80.7⬆	4.4	3.1⬆	0.2
65 to 74 years (1,632)	18.9⬆	74.4⬇	4.0	2.6	0.1
75 years and older (1,235)	24.1⬆	71.3⬇	3.2	1.3⬇	0.2
Marital Status					
Legally married (3,261)	16.6	78.7⬆	3.3⬇	1.3⬇	0.1
De facto (315)	13.0	80.0	2.9	4.1	0.0
Separated or divorced (682)	12.2⬇	74.5	6.5⬆	6.5⬆	0.4
Widowed (818)	22.5⬆	69.7⬇	5.1	2.3	0.4
Never married/not de facto (242)	15.3	74.0	4.5	6.2⬆	0.0
Section of State [a]					
Major urban (3,096)	15.5⬇	76.6	4.8⬆	2.9⬆	0.2
Other urban (1,305)	19.5⬆	76.5	2.4⬇	1.5⬇	0.2
Bounded locality (170)	17.6	74.1	5.3	2.9	0.0
Rural balance (756)	16.4	77.6	3.3	2.6	0.0
Active member of club/association					
Yes (2,161)	17.9⬆	78.0	2.8	1.2⬇	0.1
No (2,653)	15.5⬇	76.6	4.4	3.4⬆	0.2
Undertaken volunteer or charity work					
Yes (1,161)	19.0⬆	77.0	2.8	1.1⬇	0.1
No (3,310)	15.7⬇	77.2	4.0	2.9⬆	0.2
Frequency of Physical Activity					
Every day (582)	21.1⬆	74.6	2.9	1.2⬇	0.2
More than 3 times a week (981)	18.3	79.0	1.5⬇	1.1⬇	0.0
3 times a week (720)	13.8⬇	81.1⬆	2.8	2.2	0.1
1 to 2 times a week (1,020)	15.8	78.7	3.3	2.0	0.2
Less than once a week (672)	13.8⬇	78.1	5.2⬆	2.7	0.1
Not at all (865)	16.6	71.1⬇	6.7⬆	5.2⬆	0.3

Note 1: ⬆ denotes significantly higher and ⬇ denotes significantly lower than expected, confidence level of 95% or more

Note 2: [a] Section of state: major urban = population 100,000 or greater, other urban = population between 1,000 and 99,999, bounded locality = population between 200 and 999, rural balance = remainder of the state

Implications for policy and practice

The findings show a clear relationship between retirement status and overall life satisfaction with higher satisfaction for those who were completely retired, who were in full-time employment at the time of retirement and who had been in retirement the longest. The Federal Government's plans to gradually increase aged pension eligibility to 70 years by 2035, will result in many older Australians needing to undertake paid work for longer, which may negatively impact on life satisfaction. The results also indicate that retirement transitions involving part-time or bridging employment, which are likely to become more common as a result of these changes, have the potential to negatively impact on older Australian's wellbeing. Finally, extended engagement in paid work will likely also impact participation in clubs, associations, and volunteer or charity work, all of which were associated with greater life satisfaction. Understanding the factors that underpin the quality of life of older Australians is critical to further policy development.
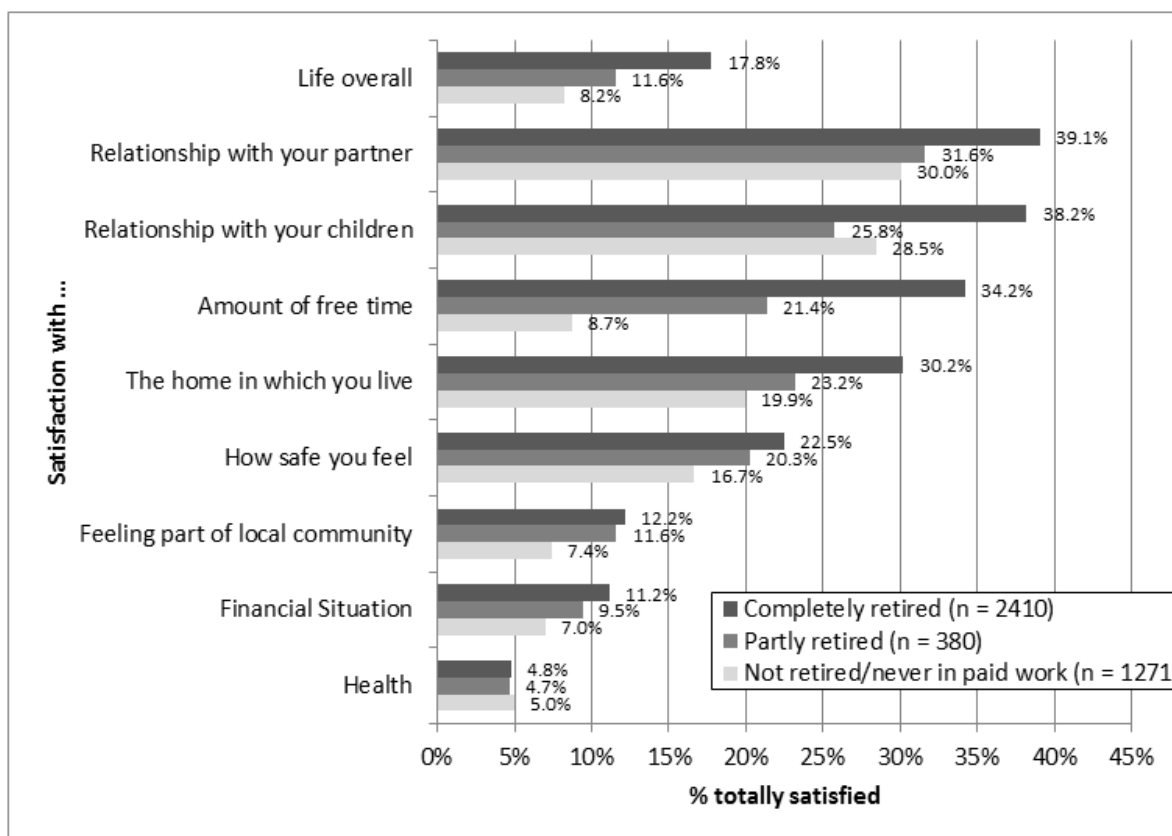
Figure 1. Total satisfaction for life domains by retirement status

Summary

Life satisfaction for Australians aged 55 and older varied according to a range of retirement, demographic and activity variables. The quality of life of Australian retirees' matters and this research paper contributes to an understanding of the level of life satisfaction in this population. In particular, this paper highlights the potential ways in which the planned policy changes to encourage older Australians to remain at work for longer need to be considered more thoroughly rather than from the narrow focus on fiscal policy.

References

Australian Bureau of Statistics. (2013). *Retirement and Retirement Intentions, Australia, 2013*. (cat. no. 6238.0). Canberra: ABS Retrieved from http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/ A46D2A8001FB64B7CA257C39000B6B09/$File/62380_july%202012%20to%20june%202013.pdf

Griffin, B., Hesketh, B., & Loh, V. (2012). The influence of subjective life expectancy on retirement transition and planning: A longitudinal study. *Journal of Vocational Behavior, 81*(2), 129-137. doi: 10.1016/ j.jvb.2012.05.005

Quine, S., & Carter, S. (2006). Australian baby boomers' expectations and plans for their old age. *Australasian Journal on Ageing, 25*(1), 3-8. doi: 10.1111/j.1741-6612.2006.00147.x

Snoke, M., Kendig, H., & O'Loughlin, K. (2011). Australian evidence of Baby Boomers financial security: A Review. *Journal of Economic & Social Policy, 14*(1), 152-178.

Watson, N., & Wooden, M. (2002). *The Household, Income and Labour Dynamics in Australia (HILDA) survey: Wave 1 survey methodology, HILDA Project Technical Paper Series No. 1/02*. Melbourne: Melbourne Institute of Applied Economic and Social Research.

Watson, N., & Wooden, M. (2010). Data Survey: The HILDA Survey: Progress and Future Developments. *Australian Economic Review, 43*(3), 326-336. doi: 10.1111/j.1467-8462.2010.00604.x

SOCIAL CONNECTEDNESS AND RETIREMENT STATUS IN AUSTRALIA: RESULTS FROM THE SOCIAL NETWORKS AND AGEING PROJECT

RIOSECO Pilar[1]

[1]*Australian Demographic and Social Research Institute, The Australian National University*

Abstract

The importance of social connectedness for older adult's health and well-being has been widely recognised. Several studies have also linked health and well-being to retirement, one of the most important transitions of later life. However, the association between social connectedness and retirement has not been examined in detail. Little is known about the role that different aspects of social connectedness, such as social network structure and social engagement, play in the retirement transition. Using data from the first wave of the Social Networks and Ageing Project (SNAP) survey, logistic regression is used to identify significant associations between the different dimensions of social connectedness and retirement status – retired/not-retired – controlling for socio-demographic characteristics. Results indicate that males with a large or small family network are more likely to be retired than those with a medium-size network. Females with a large network of family or a large network of friends are more likely to be retired than those with a medium network of family or friends. Regarding social engagement, participating in voluntary work and group activities are associated with being retired among females. These results show that differences in social connectedness between retirees and non-retirees are complex and differ significantly by gender. Implications for research on retirement are discussed.

Background

The importance of social connectedness for older adult's health and well-being has been widely recognised (e.g, Berkman, Glass, Brissette, & Seeman, 2000). Retirement, in turn, is one of the most important transitions of older adulthood. It involves not only a change in pattern of activities, but it also constitutes a psycho-social transition and a process that starts well before the person leaves work, and continues as a process of adaptation for a number of years (Atchley, 2000). Although both social connectedness and retirement are important aspects of older adults' lives, their association has not been examined in detail. Most research in this area has focused on marital relationships, showing that marital quality is positively associated with probability of retirement (e.g., Szinovacz & DeViney, 2000). A few studies have investigated the social connectedness of retirees and workers. Bossé and colleagues found that male long-term retirees reported smaller networks and lower frequency of contact than workers, but change in labour force status did not have an effect on these indicators (Bossé, Aldwin, Levenson, Spiro, & Mroczek, 1993). Similarly, a study showed that network size remained stable through the retirement transition, but frequency of contact increased (van Tilburg, 1992). A study that focused on social engagement found that social activities with friends, family and neighbours were associated with earlier retirement, while participation in voluntary work or political organisations was associated with later retirement (Lancee & Radl, 2012).

These findings indicate that there is an association between different aspects of social relations and retirement transitions. However, these studies did not distinguish between family and friends networks, incorporated either aspects of network structure or social engagement and did not take into account possible gender differences. The present study aims to extend previous research in two ways. First, it investigates three different types of networks: family, friends and groups. Second, it examines the social connectedness-retirement association separately for males and females. Research has shown that females' networks are more diverse than males' and males tend to rely on spouses for support (Antonucci & Akiyama, 1987). In addition, males' and females' life course experiences regarding employment are different (Moen, 1996). This study aims to identify significant associations between two aspects of social connectedness – network structure and social engagement – and retirement status among older Australian males and females.

Methods

Data are from the first wave of the Social Networks and Ageing Project (SNAP) (collected late 2010-early 2011). The 2122 participants were drawn from a random sample of National Seniors Australia (NSA) members, an advocacy organisation for adults aged 50 and over, and were aged 50 to 90 years (M=65, SD=8.10). Invitations to participate were sent by email and post, and the response rate was 17% (46% responded online and 54% by post). Compared with the Australian population, the sample showed higher levels of education and a similar distribution by marital status. The sample overrepresented those aged 65-

69, while the youngest (50-54) and the oldest (80 and over) age groups were under-represented. The analytical sample includes 1538 participants (778 retired and 760 not retired).

Measures

Retirement status. Participants not in paid work who identified themselves as retired were classified 'retired' (53.1% of males and 48.6% of females).

Network structure. A measure of family network structure was generated using the mean score of three items: number of non-co-resident family members seen in the last four weeks, number of occasions and time spent with them. The same measure was computed for friends network. Both scales showed good internal consistency (family network α = .84; friend network α = .91) and were recoded to categorical variables, in order to identify possible non-linear associations: 0-1.99 'small', 2-3.99 'medium', and 4+ 'large' (Family network males: small 26%, large 11%; Family network females: small 22%, large 18%; Friends network males: small 27%, large 14%; Friends network females: small 16%, large 19%).

Social engagement. Two binary measures of social engagement were used: participation in voluntary work ('yes': 44% of males and 45% of females) and participation in organised group activities, such as committee meeting, gym class, or church service ('yes': 66% of males and 71% of females).

Covariates. The models adjust for socio-demographic characteristics related to retirement status: age (continuous), whether living with partner, self-rated health (assessed with the question "In general, would you say your health is…?" 1 'excellent' to 5 'poor', continuous), subjective life expectancy (calculated by subtracting expected age at death from current age), highest level of education ('University', 'Certificate/ diploma', 'Higher school/ trade apprenticeship', and 'Intermediate/ no school certificate'), and a proxy measure for socio-economic status (level of agreement with the statement "I am comfortable with my standard of living", 1 'Strongly disagree' to 5 'Strongly agree', continuous).

Analytical method

Logistic regressions were used to identify significant associations between social connectedness indicators and retirement status, adjusting for covariates. Models including only the covariates were compared with full models (results not shown): analysis of deviance showed that full models were superior (males X^2 = 14.01, 6, p < .05; females X^2 = 30.06, 6, p < .01).

Results

Table 1 shows that the odds of being retired are higher for males who reported a large family network or a small family network versus those who reported a medium-size network. Among females, having a large family network or a large friends network is associated with higher odds of being retired, compared with a medium network of family or friends. Both social engagement variables are significant among females: participation in voluntary work and participation in group activities are associated with higher odds of being retired.

Table 1. *Logistic regression: social connectedness and retirement status males and females*

	Males		Females	
	OR	*SE*	OR	*SE*
Network structure family (ref: Medium)				
Small	1.68*	.39	1.39	.30
Large	1.98*	.61	1.68*	.39
Network structure friends (ref: Medium)				
Small	1.12	.25	.96	.25
Large	1.63	.49	1.76*	.41
Social engagement				
Does voluntary work (ref: no)	.88	.18	1.46*	.27
Participates in group activities (ref: no)	1.25	.28	1.77**	.37
Intercept (x 10^{-7})	7.78	12.80	1.72	2.61
n	688		850	
Pseudo R^2	.28		.32	

Note: * p < .05; ** p < .01. Adjusting for covariates. OR = Odds ratio.

Discussion

Results showed that network structure is consistently associated with retirement status and the association between social connectedness and retirement status is different for males and females. Only one family-related variable – family network structure – was associated with retirement status among males. Among females, the three types of networks – family, friends and groups – and both aspects of social connectedness – network structure and social engagement – were associated with being retired. This result

may reflect differences found in previous research between males' and females' networks in terms of their size, diversity and integration (Antonucci & Akiyama, 1987; Fiori, Antonucci, & Cortina, 2006).

Previous research has found that older males increased contact with network members after retirement (van Tilburg, 1992). Consistently, results show that having a large family network structure (males and females) and friends network structure (females) is associated with being retired. However, a non-linear association was observed for family network structure among males in the present study: males with small family networks were also more likely to be retired than those with a medium network. In contrast with van Tilburg's (1992) results, other researchers have found no effect of retirement on network size and frequency of contact among males (Bossé et al., 1993) and have reported that male retirees have smaller networks than male workers (Bossé, Aldwin, Levenson, Workman-Daniels, & Ekerdt, 1990). These discrepancies could be related to time in retirement, as there is evidence of significant differences between recent retirees and long-term retirees (Bossé et al., 1993). Follow-up analysis (not shown) indicated that males who have small family networks have been retired for longer in average than those with medium or large networks. Therefore, it is possible that time in retirement is related to these results.

Female retirees were more likely to participate in voluntary work and group activities than non-retirees, which was not found for males. Research has shown that role losses such as widowhood and retirement are associated with increased probability of voluntary work participation (Li, 2007; Mutchler, Burr, & Caro, 2003). The fact that females tend to have larger networks and are more likely than males to belong to diverse and friend-focused social networks (Fiori et al., 2006), could potentially facilitate females' increased social participation in the context of role losses such as retirement, or widowhood or divorce in retirement.

The results illustrate the importance of considering different types of networks and their association with retirement. Different networks play different roles, particularly at older ages, when family members provide more instrumental support, and friends are more likely to provide emotional support (Messeri, Silverstein, & Litwak, 1993). Formal social engagement, in turn, has another function, related to role enhancement and meaning in life (Berkman et al., 2000). Although employment provides an opportunity for social interaction, retirement could allow for more time to engage in personal relationships (van Tilburg, 1998). Results show that females take advantage of this opportunity with all three types of networks, while males focus on family networks.

An important limitation of this study is the cross-sectional nature of the data, which does not allow for the establishment of causality or individual-level change. Changes in social connectedness could have occurred following retirement. However, it is also possible that retirees had these social connectedness characteristics prior to retirement. Future research using longitudinal data will allow a better understanding of the dynamics of social connectedness and retirement. Another limitation is the representativeness of the sample used. Although the sample was randomly selected from NSA members, the NSA membership may not be representative of the population of older Australians.

In conclusion, a multi-dimensional definition of social connectedness which incorporates different types of networks should be included in future research in order to better understand the association with retirement. In addition, the different life course experiences of males and females require the study of social connectedness and retirement transitions to be gender-specific, in order to truly identify the association between these two important aspects of older adults' lives.

References

Atchley, R.C. (2000). *Social Forces and Aging (9th Ed.).* Belmont, CA: Wadsworth.

Antonucci, T., & Akiyama, H. (1987). An examination of sex differences in social support among older men and women. *Sex Roles*, *17*, 737-749.

Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine (1982)*, *51*, 843–57.

Bossé, R., Aldwin, C. M., Levenson, M. R., Spiro, A., & Mroczek, D. K. (1993). Change in social support after retirement: longitudinal findings from the Normative Aging Study. *Journal of Gerontology*, *48*, 210-217.

Bosse, R., Aldwin, C M., Levenson, M. R., Workman-Daniels, K., & Ekerdt, D. J. (1990). Differences in social support among retirees and workers: Findings from the Normative Aging Study. *Psychology and Aging*, 5, 41-47.

Fiori, K. L., Antonucci, T. C., & Cortina, K. S. (2006). Social network typologies and mental health among older adults. *Journal of Gerontology: Psychological Sciences, 61B*, P25-P32.

Lancee, B., & Radl, J. (2012). Social connectedness and the transition from work to retirement. The Journals of Gerontology. Series B, Psychological *Sciences and Social Sciences*, *67*, 481-490. doi:10.1093/geronb/gbs049.

Li, Y. (2007). Recovering from spousal bereavement in later life: Does volunteer participation play a role? *Journal of Gerontology: Social Sciences, 62B*, S257–S266

Messeri, P., Silverstein, M., & Litwak, E. (1993). Choosing optimal support groups: A review and reformulation. *Journal of Health and Social Behavior, 34*, 122-137.

Moen, P. (1996). A life course perspective on retirement, gender, and well-being. *Journal of Occupational Health Psychology*, *1*, 131-44.

Mutchler, J. E., Burr, J. A., & Caro, F.G. (2003). From paid worker to volunteer: Leaving the paid workforce and volunteering in later life. *Social Forces*, *81*, 1267-1293.

Szinovacz, M. E., & Deviney, S. (2000). Marital characteristics and retirement decisions. *Research on Aging*, 22, 470–498. doi:10.1177/0164027500225002

Van Tilburg, T. (1992). Support networks before and after retirement. *Journal of Social and Personal Relationships*, *9*, 433-445.

Van Tilburg, T. (1998). Losing and gaining in old age: changes in personal network size and social support in a four-year longitudinal study. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 53*, 313-323.

WHAT DO OLDER PEOPLE'S LIFE EXPERIENCES TELL US ABOUT EMERGENCY PREPAREDNESS?

CORNELL Victoria[1]

[1]*School of Social Sciences, University of Adelaide*

Abstract

Relatively little research has been undertaken with regard to older people and emergencies, yet older people are often classified as vulnerable. The majority of research to date considers opinion and perspectives of aged care service providers, not older people themselves. Additionally, most is concerned with the response and recovery phases of emergencies. This article discusses research which explored the meaning of being prepared, for older people, with regard to emergencies. The study found that being prepared for an emergency was not a one-off tangible activity – it was a process and a feeling of comfort and security in their world.

Rationale

Although little research has been undertaken with regard to older people and emergencies (Ngo 2001), researchers often classify older people as vulnerable. However, any vulnerabilities are generally due to the issues associated *with* advancing age, such as impaired physical mobility, reduced sensory awareness and economic constraints (Fernandez et al. 2002) - not old age itself.

Recent emergency management planning, events and exercises, have triggered consideration into the way older people are engaged in this process (Cornell, Cusack & Arbon 2012). Most emergency research concerning older people focuses on "displacement and relocation as a consequence of a… disaster" (Marshall & Mathews 2010, p. 80), i.e. the response and recovery phases; there is little research on older people and preparedness. The preparedness research undertaken mostly considers authorities preparing to respond to an event. For example, preparedness of aged care facilities, such as nursing homes - in particular, guidance on whether and when to evacuate a facility, and the best way to evacuate (Hyer et al. 2007; Castle 2008).

There is a dearth of research on preparedness of older people living in their own homes, or to agencies that provide care to older people in their homes (Laditka et al. 2008). Discussion thus far largely considers the development of checklists that will help older people prepare for emergencies, rather than what might influence their decision to prepare.

Method

Eleven older people took part in semi-structured interviews. All resided in their own homes, in the greater Adelaide area, and received low-level in-home care such as assistance with shopping or housework. Participants ranged from 77 to 90 years and comprised eight women and three men. All were of white Anglo-Australian heritage; nine were Australian-born and two were born in England. Ten of the eleven participants were or had been married, while one woman had never married. They came from a range of professional and socio-economic backgrounds.

The in-depth interviews and small sample reflect qualitative methods which allow for the generation of thick descriptions. The interviews explored the variety of emergency events experienced during the participants' lives; how those events may have changed them; the meaning drawn from the events; and the subsequent influence of their experiences on the way they prepare, or perhaps choose not to prepare, for emergency events.

The interviews were audio recorded, and on average lasted an hour and a half. Participants were assigned pseudonyms, which are used in this paper.

Results

Data analysis followed van Manen's three-stage thematic analysis process, during which the transcripts were read in their entirety several times, to identify (i) key words and phrases that reflected the experience of the participants, and their behaviours with respect to being prepared (wholistic phase); and (ii) statements or phrases that helped in representing meaning about being prepared for emergency events (selective phase). Finally, identifying what the key words and statements revealed about being prepared for an emergency event was uncovered (line by line phase).

Three themes were identified.

Understanding my world provided shape and context to the participants' lives, outlining the events they had experienced and how they felt about themselves at this stage in their lives; and started to unravel the meaning of being prepared. The emergency events that the participants wished to discuss were nominated by them; they were not asked if they had experienced specific event types. The events were wide-ranging and included natural hazard events, human-induced events and (for the time in which they occurred) socially unacceptable events such as teenage pregnancies. Imogen, for example, talked about when she fell pregnant as an unmarried 16 year old. Even though the father was the man who would become her husband on his return from service in World War Two, the matter was very distressing to her parents, socially, and:

'The day after my mother found out, I was in a home… I was told that he didn't want anything to do with me, and he was told the same.'

This highlighted that older people have a broad view, recognising that experience, strength and understanding can be gathered from many emergencies in their lives, both big and small. The private and temporal nature of events was clear in the participants' stories. For some, the event was internalised and less significant to, or noticed by, others. An event may not have a clear beginning and certainly may not have an end; it may continue to be part of every day, such as living without a deceased loved one, or giving up a child for adoption.

The participants acknowledged that their physical health was not as strong as it once was, and this did not worry them. Rather than dwell on activities they could no longer do, they either adapted previous activities, or found new ways to enjoy their world. While participants were conscious that reduced physical strength has implications for being prepared for, and also reacting to, an emergency they did not feel vulnerable.

The participants felt mentally prepared to deal with any type of emergency; they felt that mental strength was more important than physical strength. This feeling of mental strength is a positive finding; these older people were not mentally fragile, and in fact felt stronger due to the events they have lived through.

Shrinking my world was noticeable in the participants' smaller social world, reduced contact with others and reduced geographical area in which they engaged. While the participants appreciated that a shrinking social world has implications in terms of emergencies; recognising that strong social resources, including good friends and a strong community spirit, are critical supports in times of an emergency, they did not feel negative or vulnerable. They enjoyed genuine friendships, and the freedom to do what they please, with whom they please. Frances, for example, was happy with a smaller social world, saying that her ideal is to have friends close by in case of an emergency, but to:

'…have your own house. So you could go and visit whenever you wanted to…that…suits me fine but be able to still have time to myself. Because I like company, but I like my own company.'

Finally, in *acceptance of my world*, the participants accepted greater dependence on others. This was not seen as negative and was often a release; they did not feel that dependence implied helplessness. Indeed, acceptance of greater dependence showed a sophisticated type of control being exercised by the participants.

Several of the participants had lived in the Adelaide Hills region, on semi-rural blocks, with lots of vegetation which required considerable bushfire prevention measures. They were aware they were no longer able to manage their properties, and decided to move to a retirement village setting, where gardening and bushfire prevention was the responsibility of the management. When talking of his family home, for example, Brian said:

'... just to walk up and down was becoming difficult, and I certainly couldn't handle cleaning out the gutters and so on any more...'

One notable exception to accepting greater dependence, was when this was seen as seen as a direct corollary to independence, for example relying on others as a result of giving up driving. The mere thought of having to give up driving was also a major concern for some – both in terms of their own general independence and a sense of loss; but also in terms of the broader ramifications of not being able to drive, the possible need to reorganise their lives, and what being unable to drive might mean to their lives in to the future. Art, for example, when talking about the fact that he might one day have to give up driving said:

'That would be a catastrophe...really. I do think about that...and I don't quite know what I'd do. Furthermore, my wife is absolutely dependent upon me.'

The participants felt lucky to have lived long and fulfilled lives. They were not concerned with their reducing future life, were not overly worried about preparing for what might come, were accepting that they may die soon, and confirmed that death held no fear for them.

Discussion and Conclusions

This research brings an ontological view of what it means to be prepared, having explored the lives of

eleven older people, finding that being prepared for an emergency is not about a one-off activity such as completing a checklist. Being prepared is a process; it is about living and learning, which allows a feeling of mental preparedness and ability to cope.

The study also shows that a variety of event types influence behaviour, and help build a feeling of being prepared. It allowed participants to define the emergency event, and also include the incremental effect, of events over a lifetime. Several participants said that an accumulation of smaller experiences enabled them to feel prepared and able to cope.

This research also highlights that while older people might not define themselves as 'being prepared' in terms of traditional emergency management assessments, they do not feel vulnerable. They accept their limitations, but feel confident they can cope. Given their lack of engagement to date, this is a key finding as it has implications for how older people may (and should) be engaged in the future - they should not be approached as a 'vulnerable' group as such; rather a group that has some specific needs, but that also has a wealth of positive attributes in terms of knowledge, experience and sense of community. While the older people in this study might not define themselves as being prepared; they certainly consider themselves to be resilient, in terms of being able to withstand and recover from an event that may occur.

In allowing the participants to self-define the emergency events they discussed, events that from a professional 'disaster management sector' perspective might not be considered to influence preparedness were raised. This has implications for the development of preparedness messaging and education, and concurs with Graham's (2011, p. 20) suggestion that "The most effective messages are relevant to all hazards and meaningful on a day to day basis, while also effective in an emergency". This statement was with respect to disaster recovery, but there are parallels for preparedness – by being too specific about 'being prepared for a bushfire', the opportunity to engage with people about being prepared for emergency events generally may be lost.

At this stage in their lives being prepared for specific emergency types is less important to the participants. They are confident of their resilience and their ability to cope. Designing preparedness materials for older people on specific hazard types, therefore, may serve lesser purpose. Ensuring older people are secure, safe and feel mentally strong is important.

For the older people who took part in this study, being prepared is principally a mental state of being. In accepting their advancing years and deteriorating physical ability, the participants gain comfort in knowing that their life experiences, including emergencies, have left them feeling comfortable and strong enough mentally to deal with any potential future emergency.

This research has implications in terms of developing well informed emergency preparedness and resilience policy and practice. By understanding what influences older people living in the community to prepare for emergency events – indeed, understanding that for this group of older participants being prepared is less important than being resilient – appropriate policies and processes can be developed; rather than making assumptions about what this target group wants or needs.

References
Australian Bureau of Statistics. (201). *2071.0 - Reflecting a nation: stories from the 2011 census, 2012–2013*, viewed 8 February 2014, http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2071.0main+features752012-2013.
Castle, N. (2008). Nursing home evacuation plans. *American Journal of Public Health,* 98, 7, pp. 1235-1240.
Cornell, V., Cusack, L., & Arbon, P. (2012). Older people and disaster preparedness: a literature review. *Australian Journal of Emergency Management*, 27 (3) pp.49-53.
Fernandez, L., Byard, D., Lin, C., & Barbera, J. (2002). Frail elderly as disaster victims: Emergency management strategies. *Prehospital and Disaster Medicine,* 17, 2, pp. 67-74.
Graham, W. (2011). *To study the effectiveness of disaster assistance programs in promoting individual and community resilience in recovery from disasters.* The Winston Churchill Memorial Trust of Australia, viewed 3 October 2013, http://www.churchilltrust.com.au/fellows/detail/3548/wendy+graham
Hyer, K., Polivka-West, L. & Brown, L. (2007). Nursing homes and assisted living facilities: Planning and decision making for sheltering in place or evacuation, *Generations,* 31, 4, pp. 29-33.

Jenkins, P., Laska, S., Williamson, G. (2007). Connecting Future Evacuation to Current Recovery: Saving the Lives of Older People in the Next Catastrophe. *Generations*, 31(4) pp.49-52.

Laditka, S., Laditka, J., Cornman, C., Davis, C., & Chandlee, M. (2008). Disaster preparedness for vulnerable persons receiving in-home, long term care in South Carolina. *Prehospital and Disaster Medicine*, 23(2) pp.133-42.

Loke, A. Y., Lai, C.K.Y., & Fung, O. W. M. (2012). At-home disaster preparedness of elderly people in Hong Kong. *Geriatrics & Gerontology International*, 12(3) pp. 524-31.

Marshall, I., & Mathews, S. (2010). Disaster preparedness for the elderly: An analysis of international literature using symbolic interactionist perspective. *The Journal of Aging in Emerging Economies*, pp. 79-92.

Ngo, E. (2001). When disasters and age collide: Reviewing vulnerability of the elderly. *Natural Hazards Review*, 2, 2, pp. 80-89.

Paek, H-J., Hilyard, K., Freimuth, V., Barge, J.K., & Mindlin, M. (2010). Theory-based approaches to understanding public emergency preparedness: Implications for effective health and risk communication. *Journal of Health Communication*, 15(4) pp. 428-44.

United Nations. (2009). *World population ageing 2009*. United Nations, New York.

BRINGING THE OLDEST-OLD INTO THE DIGITAL AGE: OVERCOMING CHALLENGES OF MOBILITY, LITERACY, AND LEARNING

HARVIE Gillian[1], BURMEISTER Oliver[1], EUSTACE Ken[1]

[1]*School of Computing and Mathematics, Charles Sturt University*

Abstract

It has been recognised for some time that while innovations in technology are advancing rapidly, the elderly are increasingly unable to keep up. In particular, those in the oldest-old (people 80 years and over) age-group, many of whom have not been exposed to technology in their home or working lives, are at a disadvantage as daily tasks are increasingly performed electronically. For example, service providers and banks prefer to send bills electronically rather than by the postal service and encourage customers to pay in the same way. There have been attempts to assist older people with training courses aimed at their level of expertise, with varying degrees of success. While these may help the young-old, as people age they become less mobile, and less able to attend such courses. A number of online communities are also specifically targeted at the aged to provide information and support. This paper investigates the training courses and online communities which assist the oldest-old, examining whether these are useful for those in the age group and if not, what might be the alternatives. If we ignore this oldest generation they risk being increasingly isolated.

Introduction

Learning to use technology and adapting to the ever changing interfaces present challenges for the oldest-old. If seniors are to be encouraged to use technology, there is a need for research concerning the diminished capacity of some seniors to learn as they become older (Baltes & Smith, 2002). For example, it has been shown that Australian seniors learning to access online communities require longer learning times (Burmeister, 2010). The oldest-old need to learn how to navigate the digital spaces, digital language and interaction styles, and ever changing technology. Literacy and learning are thus challenges that need to be addressed. This is true for all use of technology by the elderly. Increasingly the elderly encounter tasks that were once familiar to them that are now performed digitally.

The learning divide is a sub-set of a wider digital divide (DD) to do with education. Montagnier, Muller, and Vickery (2002) claimed that all DD literature could be generalised as addressing either some form of socioeconomic divide or some form of education divide. One can extrapolate regarding education, that less well-educated seniors are likely to face more of an age-based learning divide than better-educated ones. It is also possible that the kind of work undertaken by seniors during their working lives, will have an influence on their ability to participate online.

Furthermore, there is an age-based divide. Hiltz and Czaja (2006, p. 309) claimed "…data for the U.S. indicate that although the use of computers and the Internet among older adults is increasing there is still an age-based digital divide." Earlier Montagnier et al. (2002, p. 3) argued that compared to other age categories, "older people have lower rates of access to PCs and the Internet." Montagnier et al. (2002) compared ICT penetration by age for various OECD countries in 2000, including Australia. These comparisons showed that for people aged 18 to 24, close to 90 percent of them accessed the Internet, whilst for people aged 55 to 64 it was less than 50 percent and for people aged 65 and over, it was well under 20 percent. A report on ageing in Germany claimed, however, that the situation is changing, and that there are indications that technology can make a significant contribution to ageing successfully (Joint Academy Initiative on Aging, 2010).

An example of the age-based divide is that some seniors experience access limitations due to age-related disabilities. Montagnier et al. (2002) reported that in the year 2000 people with disabilities only experienced half the benefits of Internet access at home, compared to those without a disability. Given the increasing prevalence of disability with age (Vanderheiden, 1997), public access through schools and libraries, alone, does not sufficiently overcome the challenges faced by seniors with age-related disabilities. Given that many daily tasks are now being performed over the Internet (Harvie, 2013), these challenges must not be ignored.

One explanation for the age-based divide is that, with increasing age, there appears to be a diminution of power (purchasing power, political power, and position in society). However, it seems that the DD may be closing as more seniors use the Internet, email and other electronic forms of communication. Sociological

research has shown that 'experience counts.' That is, the longer people have engaged in online activities, the more use they find for the Internet.

Technology uptake amongst seniors in Australia has been growing rapidly and continues to do so. Australian data showed a 220% increase in Internet usage between May 1998 and May 2000 for persons aged 55 or older (ABS, 2001). Many seniors are using online social networks , they engage with each other online and they participate in online communities (Burmeister, Weckert, & Williamson, 2011; Pfeil, Arjan, & Zaphiris, 2009; Xie, 2008). There are also many online communities that cater specifically to the needs of seniors. Examples include SeniorNet (based in the USA), OldKids (based in China) and various online communities dedicated to older people in Australia, including Australian Golden Girls, Silver Surfers, and Seniors Helping Seniors.

Illustrative case – northern Victorian retirement village
A precursor to the work-in-progress being addressed in this article was The Village Study, which focused on seniors in Westmont Aged Care Services Ltd, a nursing home in Baranduda, rural north-eastern Victoria (Burmeister, 2013; Eustace & Burmeister, 2013). In planning a new facility in 2007, Westmont decided to include a computer room in the centre of the main facility. Its purpose was to increase the social engagement of Westmont residents. It also recognised the fact that more and more retirees have acquired computer skills during their working lives and expect access to computers in retirement. The study investigated the extent to which residents in the facility were using that new technology for social engagement. Although studies have examined the use of ICT for social engagement amongst seniors (Burmeister, 2012; Xie, 2008), few studies have looked at this within the context of institutional care (Hedström, 2007).

Two ladies in the oldest-old category at ages 83 (alias April) and 100 years old (alias May) were a special case study on the challenges faced in the use of technology. These challenges included the need to overcome motor skill impairment due to hearing loss, eyesight, hand movements (arthritis) etc., a fear of technology and lack of confidence and then to encourage them to accept the need to develop the digital literacies such as typing, using a mouse to interact with the screen or a webcam and headphones for video calls etc. as needed for using computers and Internet services. April and May have become good friends and socialise as they use the computer room together where they co-develop their self-efficacy with email and Skype to contact sons, daughters and granddaughters on the "outside". April is deaf in her right ear and May can't move her neck to the left so all is well as long as May always sits at the computer on the left side of April.

April worked in telecommunications with teleprinters in her working life, so she was already confident and competent with using some technology before old age. April has maintained her computer use owing to her own children and grandchildren being big users of technology around their home. May had worked as a personnel officer in Human Resources and retired in 1980 when computers were just about to make an impact in her workplace. May uses a track ball as the mouse was too hard to use with arthritis and the track ball cursor with trail also made it easier to see on the screen.

Proposed methodology
A qualitative approach and interpretive paradigm will uncover some fundamental questions and use of the narrative style using semi-structured interviews of residents, staff and trainers and recorded observations of residents in training sessions:

1. What factors contribute to effective outcomes from the training courses and online communities that assist the oldest-old?
2. Are these outcomes useful for those in the age group and if not, what might be the alternatives?
3. How will the training courses and online communities improve the digital literacy of the oldest-old over time?
4. What impact will these experiences have upon the practice of residents, staff and trainers?

The use of questions provides a focus for this research. It is important to gather and triangulate all perspectives from informants as this can help to avoid the influence of any pre-conceived theories.

Online social media is interpreted or constructed by people and is therefore different from the physical world. The interpretive approach is holistic in nature by looking at the 'big picture' and is not constructed to prove a point but look for understanding the meanings within the phenomenon (Janesick, 2000).

All observed and interview data will be transcribed for analysis using Nvivo software.

Conclusion

One implication of the rise in ageing populations in Western nations is that more seniors will be accessing technology than ever before. This trend is likely to continue as governments and other agencies involved with seniors require more electronic interaction in order to save costs and increase access. There are efforts taking place to train the elderly to provide them with the tools and skills to attain and maintain this access. This project seeks to identify the efficiency of this training and determine whether more is to be done.

References

ABS. (2001). *Census of Population and Housing: selected social and housing characteristics, Australia, 2001*. Australian Bureau of Statistics. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/productsbyCatalogue/1EA78AFE3DE2EDCACA256BDA0073EB53?OpenDocument.

Baltes, P. B., & Smith, J. (2002). *New frontiers in the future of ageing: From successful ageing of the young old to the dilemmas of the fourth age.* Paper presented at the Valencia Forum Valencia, Spain.

Burmeister, O. K. (2010). Websites for seniors: Cognitive accessibility. *International Journal of Emerging Technologies and Society, 8*(2), 99-113.

Burmeister, O. K. (2012). What seniors value about online community. *Journal of Community Informatics, 8* (1).

Burmeister, O. K. (2013). Technological social inclusion of rural and regional seniors and well-being. In A. T. Ragusa (Ed.), *Rural lifestyles, community well-being and social change: Lessons from country Australia for global citizens* (pp. 338-379).

Burmeister, O. K., Weckert, J., & Williamson, K. (2011). Seniors extend understanding of what constitutes universal values. *Journal of Information, Communication & Ethics in Society, 9*(4), 238-252.

Eustace, K., & Burmeister, O. (2013, December). *Ethics and Governance of ICT-based social engagement in institutional aged care.* Paper presented at the Seventh Australian Institute of Computer Ethics Conference, Burwood.

Harvie, G. K. (2013, December). Are We Failing A Generation? Paper presented at the *Seventh Australian Institute of Computer Ethics Conference*, Burwood.

Hedström, K. (2007). The values of IT in elderly care. *Information Technology and People, 20*(1).

Hiltz, S. R., & Czaja, S. J. (2006). Introduction to the special issue on information systems for an aging society. *ACM Transactions on Computer-Human Interaction, 13*(3), 309-312.

Janesick, V. 2000, The choreography of qualitative research, in Handbook of Qualitative Research, 2nd Edition. ed(s). Norman Denzin and Yvonna Lincoln. Thousand Oaks, CA: Sage Publications, pp. 379-399.

Joint Academy Initiative on Aging. (2010). More years, more life (Vol. 372, pp. 1-89). Halle, Germany: German Academy of Sciences Leopoldina – National Academy of Sciences.

Montagnier, P., Muller, E., & Vickery, G. (2002). The digital divide: Diffusion and use of ICTS *OECD Report* (pp. 1-77). Paris, France.

Pfeil, U., Arjan, R., & Zaphiris, P. (2009). Age differences in online social networking - A study of user profiles and the social capital divide among teenagers and older users in MySpace. *Computers in Human Behavior, 25*(3), 643-654.

Vanderheiden, G. C. (1997). Design for people with functional limitations due to disability, aging, or circumstances. In G. Salvendy (Ed.), *Handbook of Human Factors and Ergonomics* (pp. 2010-2052). New York: John Wiley & Sons.

Xie, B. (2008). Multimodal computer-mediated communication and social support among older Chinese internet users. *Journal of Computer-Mediated Communication, 13*(3), 728-750.

ERA 2015

The details for the 2015 ERA conference will be announced shortly. We hope to see you there!

To keep up to date, join our mailing list at http://www.era.edu.au/era-register.php or like us on our Facebook page at https://www.facebook.com/EmergingResearchersinAgeing

Flinders Centre for Ageing Studies
Flinders University
GPO Box 2100
Adelaide SA 5000

Telephone: 08 8201 2041
Web: http://www.flinders.edu.au/sabs/fcas/