Ageing research at the George

The George Institute
for Global Health
Australia

Professor Rebecca Ivers MPH PhD
Director, Injury Division
Musculoskeletal Division
Ageing and Physical Disability
theme update
Nov 2016
Ageing and Physical Disability theme aims

• Develop and evaluate effective and cost-effective physical activity interventions to enhance mobility and prevent falls in older people and people with physical disabilities

• Increase availability and uptake of these interventions
Who are we?

Prof Cathie Sherrington (0.8)
A/Prof Anne Tiedemann (0.8)
Dr Leanne Hassett (0.4, also FHS)
Dr Serene Paul (0.2, soon FHS)
Dr Niki Fairhall (0.1)

Full-time PhD students
Juliana de Souza (Anne)
David Lester (Cathie)
Caitlyn Hamilton (Leanne, FHS)

Part-time PhD students
Daniel Treacy (Cathie)
Angela Vratsistas (Cathie)

Research Staff
Cath Kirkham (1.0)
Betty Ramsay (0.6)
Kate Purcell (0.6)
Linda Roylance (0.4)
Sandra O’Rourke (0.2)
Geraldine Wallbank (casual)

More in Adelaide and Orange
**Aim:** To establish the impact of a physical activity and fall prevention programme compared with a healthy eating programme on physical activity and falls among people aged 60+ years.

**BMJ Open**

Health coaching and pedometers to enhance physical activity and prevent falls in community-dwelling people aged 60 years and over: study protocol for the Coaching for Healthy AGEing (CHAnGE) cluster randomised controlled trial

Anne Tiedemann,1 Chris Rissel,2 Kirsten Howard,2 Allison Tong,2 Dafna Merom,3 Stuart Smith,4 James Wickham,5 Adrian Bauman,2 Stephen R Lord,6 Constance Vogler,7,8 Richard I Lindley,1 Judy M Simpson,2 Margaret Allman-Farinelli,9 Catherine Sherrington1

Also:
Kate Purcell
Linda Roylance
David Lester
BEST at home
Balance Exercise Strength Training

A home based exercise program for people aged 65+

NHMRC Partnership Grant, collaboration between:
- Illawarra Shoalhaven Local Health District (ISLHD)
- The George Institute for Global Health
- The University of Sydney

Aim: To determine the effectiveness and cost effectiveness of the BEST at Home program for reducing falls and preventing shoulder dysfunction in people aged 65 years and over (n=556)
Effect of affordable technology on physical activity levels and mobility outcomes in rehabilitation: a protocol for the Activity and MObility UsiNg Technology (AMOUNT) rehabilitation trial

Leanne Hassett,1,2 Maayken van den Berg,3 Richard I Lindley,1 Maria Crotty,3 Annie McCluskey,4 Hidde P van der Ploeg,5,6 Stuart T Smith, Karl Schurr,7,8 Maggie Killington,3 Bert Bongers,9 Kirsten Howard,6 Stephane Heritier,10 Leanne Togher,11 Maree Hackett,1 Daniel Treacy,8 Simone Dorsch,12 Siobhan Wong,13 Katharine Scrivener,14 Sakina Chagpar,1 Heather Weber,3 Ross Pearson,15 Catherine Sherrington1

09/11/16: 300/300 randomised
Exercise and fall prevention self-management to reduce mobility-related disability and falls after fall-related lower limb fracture in older people: protocol for the RESTORE (Recovery Exercises and STepping On afterR fracturE) randomised controlled trial

Catherine Sherrington¹, Nicola Fairhall¹, Catherine Kirkham¹, Lindy Clemson², Kirsten Howard³, Constance Vogler⁴,⁵, Jacqueline CT Close⁶,⁷, Anne M Moseley¹, Ian D Cameron⁸, Jenson Mak⁹,⁸, David Sonnabend⁴ and Stephen R Lord⁷

n=336
Results manuscript under preparation
Exercise to prevent falls in older adults: an updated systematic review and meta-analysis

Catherine Sherrington,¹ Zoe A Michaleff,¹,² Nicola Fairhall,¹ Serene S Paul,¹ Anne Tiedemann,¹ Julie Whitney,³ Robert G Cumming,⁴ Robert D Herbert,⁵ Jacqueline C T Close,⁵,⁶ Stephen R Lord⁵

**Results** 99 comparisons from 88 trials with 19,478 participants were available for meta-analysis. Overall, exercise reduced the rate of falls in community-dwelling older people by 21% (pooled rate ratio 0.79, 95% CI 0.73 to 0.85, p<0.001, I² 47%, 69 comparisons) with greater effects seen from exercise programmes that challenged balance and involved more than 3 hours/week of exercise. These variables explained 76% of the between-trial heterogeneity and in combination led to a 39% reduction in falls (incident rate ratio 0.61, 95% CI 0.53 to 0.72, p<0.001). Exercise also had a fall
Contract from the NSW Office of Preventive Health to host this searchable database of physical activity opportunities.
Who are we?

Prof Rebecca Ivers
A/Prof Lisa Keay
Dr Jagnoor (Australia/India)
Dr Maoyi Tian (China)
Dr Kate Hunter

Full-time PhD students
Anna Palagyi
Caroline Lukasyzk
Ke Peng
Alex Ehrenberg
Michael Dinh
Patricia Cullen
Courtney Ryder
Julieann Coombes
Lisa Dillon
Vu Quang Do
Katherine Brown

Research Staff
Aliki Christou
Bobby Porykali
Martyn Ralph
Kirsten Jakobsen
Celeste Poulton
Lalit Yadav (India)
Jing Zhang (China)
PlaTFORM

PrevenTing Falls in a high risk, vision impaired population through specialist ORientation and Mobility services: a randomised trial

NHMRC Project Grant 2016-2019
LiFE program

- Lifestyle integrated Functional Exercise (LiFE)
- Developed for high risk populations (Clemson et al 2010)
- Demonstrated to reduce falls (IRR 0.69, 95% CI 0.48-0.99) (Clemson et al, 2012)
Recruitment by letter and phone calls (database, n=2500)

Baseline home visit: functional testing and questionnaires (n=588)

On-line randomization

Intervention: LiFE program and usual care

Control: usual care

12 month: Blinded assessment and monthly falls reporting
Trial outcomes

Primary:
- Falls during 12 months
- Late Life Function and Disability Index (LLFDI)

Secondary:
- Falls requiring medical care

Quality of life EQ-5D-5L (economic evaluation)

✓ Process evaluation
✓ Economic evaluation
The FOCUS Study: Fall Risk & Cataract

• Aim: to evaluate the risk and determinants of falls, and secondary health outcomes, in older people with cataract during their surgical waiting period and in the months following first and second eye cataract surgery.
  - 717 participants aged 65 years or older
  - Bilateral cataract; recommended for 1st eye surgery
  - 8 national study sites (Sydney, Melbourne, Perth), all public hospital eye clinics

• 2013–2015 NHMRC Project Grant (no cost extension through 2016)

• FOCUS is the first extended investigation of falls risk and fall-related injury in older Australians with cataract to follow participants throughout their surgical journey.
The FOCUS Study: Fall Risk & Cataract

Baseline assessment

PRE-SURGERY

First eye cataract surgery

R₀: Falls rate before 1st eye surgery

Follow-up 1: 3 months after 1st eye surgery

BW-SURGERY

Second eye cataract surgery

R¹: Falls rate before 2nd eye surgery

Follow-up 2: 3 months after 2nd eye surgery

POST-SURGERY

R²: Post surgical falls rate

6 months after 2nd eye surgery or 24 months
Original Article

Depressive symptoms in older adults awaiting cataract surgery

Anna Palagyi MPH,¹ Kris Rogers PhD,¹ Lynn Meuleners PhD,²,³ Peter McCluskey FRANZCO PhD,⁴ Andrew White FRANZCO PhD,⁴,⁵,⁶ Jonathon Q Ng FRANZCO PhD,³ Nigel Morlet FRANZCO³ and Lisa Keay PhD¹

¹The George Institute for Global Health, ⁴Save Sight Institute, Sydney Medical School, University of Sydney, ⁵Westmead Institute for Medical Research, ⁶Department of Ophthalmology, Westmead Hospital, Sydney, New South Wales, ²Curtin-Monash Accident Research Centre (C-MARC), Faculty of Health Sciences, Curtin University, and ³Eye and Vision Epidemiology Research Group, School of Population Health, University of Western Australia, Perth, Western Australia, Australia
While We Waited: Incidence and Predictors of Falls in Older Adults With Cataract

Anna Palagyí,1 Peter McCluskey,2 Andrew White,2-4 Kris Rogers,1 Lynn Meuleners,5,6 Jonathon Q. Ng,6 Nigel Morlet,6 and Lisa Keay1

1The George Institute for Global Health, Sydney Medical School, University of Sydney, New South Wales, Australia
2Save Sight Institute, Sydney Medical School, University of Sydney, New South Wales, Australia
3Westmead Institute for Medical Research, Sydney, New South Wales, Australia
4Department of Ophthalmology, Westmead Hospital, Sydney, New South Wales, Australia
5Curtin-Monash Accident Research Centre (C-MARC), Faculty of Health Sciences, Curtin University, Perth, Western Australia, Australia
6Eye & Vision Epidemiology Research Group, School of Population Health, University of Western Australia, Perth, Western Australia, Australia
Function in older people following road injury

- Functioning and health-related quality of life following injury in older people: a systematic literature review
- Exploration of road injury in older people via Motor Accident Insurance Claims database (type, severity, cost)
- HRQoL and function in older people following RTI – FISH Study (inception cohort)
- Qualitative research investigating experiences of older people following RTI – impact on life, experience with claims process
Previous work via retrospective study highlighted significant evidence-practice gap as compared with best practice care for hip fracture
e.g. times from injury to admission and admission to surgery, the availability of geriatrician assessment, the availability of a falls assessment, and the availability of proven osteoporosis treatment

Objectives:
To document the practice of patients with hip fracture in hospital and after discharge, so that the patient journey is covered including surgery, care and rehabilitation;
To identify potential barriers and facilitators to provide evidence-based hip fracture management.
INORMUS

In adult patients presenting to hospital with musculoskeletal trauma (fracture or dislocation), the study aims

- To determine the incidence of major complications (mortality, re-operation, and infection) within 30-days of admission as a composite outcome

- To identify the factors (treatment, patient, system) associated with the composite of major complications within 30-days of admission

Prospective data collection
40,000 patients globally
Collaboration with McMasters University
Prospective studies following injury in India

North India Cohort
- Prospective observational study of 3000 at 1 tertiary and 2 secondary care hospitals in North India
- All injured admissions of more than 24 hours, May 2014-Oct 2015
- Data collected at baseline, 1, 2, 4, 12 months
- HRQoL (EQ5D), function, out of pocket costs

REPAIR
- Cohort of 300 to assess rehabilitation following lower limb injury
- Injury, treatment, rehabilitation, EQ5D, return to work
Behind the Wheel: Driving exposure and participation from a randomised controlled trial for older drivers

Kristy Coxon¹,², Anna Chevalier¹, Kate Hunter¹,³ Julie Brown⁴, Elizabeth Clarke⁵, Kris Rogers¹, Soufiane Boufous⁶, Rebecca Ivers¹, Lisa Keay¹.

1. The George Institute for Global Health, The University of Sydney, Sydney, Australia
2. Western Sydney University, School of Science and Health, Campbelltown, Australia
3. The Poche Centre for Indigenous Health, Australia
4. Neuroscience Research Australia, The University of New South Wales, Sydney, Australia
5. Kolling Institute, The University of Sydney, Sydney, NSW, Australia
6. Transport and Road Safety, The University of New South Wales, Sydney, NSW, Australia
SAFE MOBILITY is key to enabling active aging, fostering independence and maintaining community connections.
Aim

To measure, in a randomised controlled trial, the impact of an individualised one-on-one safe-transport program on older driver safety and mobility:

1. Driving exposure (distance, time of day, routes, travel from home)
2. Community participation
3. Safety, near misses and crashes

Coxon & Keay BMC Research Notes, 2015.
Contrast Sensitivity is the eye's ability to detect differences in light and dark objects. Have a look at this writing. It is difficult to read writing with poor contrast.

Driving into the sun: Reduced contrast sensitivity makes it hard to see objects in bright light when driving.

Drive in the day: The safest time to drive is in the day between 9.30am-2.30pm.

Confidence Building (Plan)

Changes I will make now:
1. Avoid driving on high traffic roads
2. Avoid driving at night
3. Always turn right onto Seven Hills Road at traffic lights
4. Limit driving on freeways
5. Limit driving in the rain to essential trips only

Adapted from the KEYS program (Owsley & Stalvey)
Participants

Inclusion criteria:
• Drivers aged 75 years and older
• Resident in Northwest Sydney
• Conversational English
• Primary driver of own vehicle

Exclusion criteria:
• Shared a vehicle
• More than two errors on the Short Portable Mental status Questionnaire
Trial Outcomes

Primary Outcomes:
Distances travelled during 1 year
Keele Assessment of Participation

Secondary outcomes:
Behaviour profile toward self-regulation
Uptake of alternative transport
Depressive symptoms
Randomised Controlled Trial

380 older drivers

Randomisation

Control group (n=190)
Safe mobility program (n=190)

362/380 vehicle instrumented (95%)
366/380 completed (96%)
## Results

### Characteristics of Study Participants

<table>
<thead>
<tr>
<th></th>
<th>Intervention (n=190)</th>
<th>Control (n=190)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years), mean±SD</strong></td>
<td>80±4</td>
<td>80±4</td>
</tr>
<tr>
<td><strong>Sex (male), n (%)</strong></td>
<td>128 (67)</td>
<td>102 (54)</td>
</tr>
<tr>
<td><strong>Comorbidities, n (%)</strong></td>
<td>5.3±2.7</td>
<td>5.6±2.6</td>
</tr>
<tr>
<td><strong>Number prescription medications, n (%)</strong></td>
<td>3.8±2.7</td>
<td>3.6±2.8</td>
</tr>
<tr>
<td><strong>Contrast sensitivity (units), mean±SD</strong></td>
<td>1.65±0.10</td>
<td>1.66±0.10</td>
</tr>
<tr>
<td><strong>Trail Making Test Part B (seconds), mean±SD</strong></td>
<td>101±49</td>
<td>102±50</td>
</tr>
<tr>
<td><strong>DriveSafe (0-128), mean±SD</strong></td>
<td>84±15</td>
<td>81±16</td>
</tr>
<tr>
<td><strong>DriveAware (3-26), mean±SD</strong></td>
<td>13±2</td>
<td>13±2</td>
</tr>
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</table>
## Results

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Intervention</th>
<th>n</th>
<th>Control</th>
<th>Difference Estimate (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Outcomes</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Total distance driven/week</td>
<td>172</td>
<td>135.1 (6.8)</td>
<td>175</td>
<td>140.6 (6.9)</td>
<td>-5.5 (-24.5 to 13.5)</td>
</tr>
<tr>
<td>Participation (KAP score)</td>
<td>183</td>
<td>1.3 (0.17)</td>
<td>183</td>
<td>1.4 (0.17)</td>
<td>-0.1 (-0.6 to 0.3)</td>
</tr>
<tr>
<td><strong>Secondary Outcomes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behaviour profile, n (%)</td>
<td>183</td>
<td>P1 n=92 (50%)</td>
<td>P2 n=36 (20%)</td>
<td>P3 n=31 (17%)</td>
<td>P4 n=24 (13%)</td>
</tr>
<tr>
<td>Alternate transport use</td>
<td>182</td>
<td>4.8 (0.55)</td>
<td>183</td>
<td>4.7 (0.55)</td>
<td>0.1 (-1.4 to 1.6)</td>
</tr>
</tbody>
</table>
## Results: Depressive Symptoms

<table>
<thead>
<tr>
<th>Geriatric Depression Scale</th>
<th>n</th>
<th>Intervention n (%)</th>
<th>n</th>
<th>Control n (%)</th>
<th>Odds ratio (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All participants</td>
<td>181</td>
<td>155 (86%)</td>
<td>183</td>
<td>167 (91%)</td>
<td>1.8 (0.9 to 3.4)³</td>
<td>0.10</td>
</tr>
<tr>
<td>Score of 1 or less</td>
<td>n=155 (86%)</td>
<td></td>
<td>n=167 (91%)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Score 2 or more</td>
<td>n=26 (14%)</td>
<td></td>
<td>n=16 (9%)</td>
<td></td>
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<td></td>
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<tr>
<td>DriveSafe Category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DriveSafe Score 0-76</td>
<td>181</td>
<td>35 (78%)</td>
<td>182</td>
<td>65 (92%)</td>
<td>3.1 (1.04 to 9.2)³</td>
<td>0.04</td>
</tr>
<tr>
<td>Score of 1 or less</td>
<td>n=35 (78%)</td>
<td></td>
<td>n=65 (92%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Score 2 or more</td>
<td>n=10 (22%)</td>
<td></td>
<td>n=6 (8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DriveSafe Score 77-95</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Score of 1 or less</td>
<td>n=83 (88%)</td>
<td></td>
<td>n=61 (90%)</td>
<td></td>
<td>1.2 (0.4 to 3.2)³</td>
<td>0.78</td>
</tr>
<tr>
<td>Score 2 or more</td>
<td>n=11 (12%)</td>
<td></td>
<td>n=7 (10%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DriveSafe Score 96-128</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Score of 1 or less</td>
<td>n=37 (88%)</td>
<td></td>
<td>n=41 (95%)</td>
<td></td>
<td>2.8 (0.5 to 15.1)³</td>
<td>0.24</td>
</tr>
<tr>
<td>Score 2 or more</td>
<td>n=5 (12%)</td>
<td></td>
<td>n=2 (5%)</td>
<td></td>
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</tbody>
</table>
## Subgroup Analysis

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Intervention</th>
<th>Control</th>
<th>Favours Intervention</th>
<th>Favours Control</th>
<th>Mean difference (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>135.1 (6.84)</td>
<td>140.6 (6.87)</td>
<td></td>
<td></td>
<td>-5.5 (-24.5, 13.5)</td>
<td>0.670</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>143.6 (8.44)</td>
<td>148.8 (10.12)</td>
<td></td>
<td></td>
<td>-5.1 (-31.0, 20.8)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>118.2 (11.34)</td>
<td>131.8 (9.08)</td>
<td></td>
<td></td>
<td>-13.6 (-42.1, 14.9)</td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.810</td>
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<tr>
<td>75-80</td>
<td>162.2 (9.59)</td>
<td>167.6 (9.72)</td>
<td></td>
<td></td>
<td>-5.4 (-32.2, 21.4)</td>
<td></td>
</tr>
<tr>
<td>&gt;80</td>
<td>93.9 (6.65)</td>
<td>103.2 (7.38)</td>
<td></td>
<td></td>
<td>-9.3 (-28.8, 10.2)</td>
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</tr>
<tr>
<td>Drivesafe Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.120</td>
</tr>
<tr>
<td>0-76</td>
<td>90.5 (8.84)</td>
<td>115.1 (8.93)</td>
<td></td>
<td></td>
<td>-24.6 (-49.2, 0.0)</td>
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<tr>
<td>77-95</td>
<td>151.1 (10.37)</td>
<td>142.9 (11.03)</td>
<td></td>
<td></td>
<td>8.2 (-21.5, 37.9)</td>
<td></td>
</tr>
<tr>
<td>96-128</td>
<td>146.9 (13.12)</td>
<td>187.2 (16.29)</td>
<td></td>
<td></td>
<td>-40.3 (-81.3, 0.8)</td>
<td></td>
</tr>
</tbody>
</table>
Process evaluation

Program fidelity
- Educator notes
- Number of sessions delivered and timing

What was learnt (dose received)
- Semi-structured interview after program delivery
- Whether they developed a plan for retirement from driving

Participants who developed a retirement from driving plan reduced their average distance driven per week by 38km on average compared with participants who did not devise a plan (95%CI:-7.5 to -68.7km).
### Predictive of developing a plan for retirement from driving

<table>
<thead>
<tr>
<th>Socio-demographics</th>
<th>女性 (OR 2.5, 95% CI 1.1-5.8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>符号: 女性 (OR 1.1, 95% CI 1.1-1.3 每年)</td>
</tr>
<tr>
<td></td>
<td>符号: 较低学历 (OR 95% CI 1.04-1.2)</td>
</tr>
<tr>
<td>Visual and cognitive function</td>
<td>错误: 共病 (Comorbidities)</td>
</tr>
<tr>
<td></td>
<td>错误: Drivesafe/Driveaware score</td>
</tr>
</tbody>
</table>
**Logic Model for ‘Behind the Wheel’**

**Inputs**
- Educator (Registered Occupational Therapist)
- Knowledge Enhances Your Safety (KEYS) Curriculum
- Funding
- Research Evidence
- Resources to support program

**Preparation of materials**
- Adapt KEYS program for the Australian context; extend content to include physical/cognitive changes, and refine content using focus group data
- Develop alternate transport option resources for local government areas
- Obtain information from the participant: PAPM stage and inventory of regular trips taken each week
- Tailor messages to meet the PAPM stage of the participant
- Identify alternate forms of transport to match regular trips taken by the participant

**Activities**
- Adapt KEYS program for the Australian context; extend content to include physical/cognitive changes, and refine content using focus group data
- Develop alternate transport option resources for local government areas
- Obtain information from the participant: PAPM stage and inventory of regular trips taken each week
- Tailor messages to meet the PAPM stage of the participant
- Identify alternate forms of transport to match regular trips taken by the participant

**Outputs**
- Drivers aged 75 years and over
- Living in northwest Sydney
- Education delivered face-to-face, in an informal one-on-one format in participants’ homes

**Participation**
- Contested understood
- Development of a safe mobility plan
- Become more engaged in the process of self-regulation (move to higher PAPM stage/profile toward adoption of driving self-regulation)
- Development of a retirement from driving plan

**Proximal**
- Reduced radial distance travelled from home per week
- Reduction in total kilometres driven per week
- Reduction in total kilometres driven outside of daylight hours per week

**Distal**
- Older people will drive safely for longer
- Reduced crash involvement among older drivers
- Community participation will be maintained

**Global**
- Older people will drive safely for longer
- Reduced crash involvement among older drivers
- Community participation will be maintained

**Assumptions**
- Self-regulation (e.g. reduced driving exposure, avoiding night driving) and planning for retirement from driving can be enhanced through education
- Self-regulation in later life can help older people drive safely for longer
- Planning for retirement from driving will help older people maintain community participation when driving is no longer a safe option
- Education leading to self-regulation will confer an on-road safety benefit

**External Factors**

**Barriers to driving self-regulation**
- Rural residence - Participants living in rural areas were found to drive 51km per week more on average ($t_{172}=2.36$, $p=0.02$, 95%CI: 8.3-93.8km) and 7km more at night per week ($t_{172}=2.75$, $p=0.007$, 95%CI: 2.0-12.0km) than participants living in urban areas.
- Responsibility to drive others, availability of another driver, distance to essential services and preference to drive were not associated with driving exposure outcomes.
Key Findings

1. This individualised safe transport program engages older drivers in the process of self-regulation and preparation for retirement from driving.

2. No significant reduction in mileage overall, though some indication of a response in older drivers with reduced function.

3. Taking ownership and developing a retirement from driving plan is critical

4. Importantly, community participation was not restricted from participation in the program

5. BUT older people with low function experienced elevated depressive symptoms
Implications and future directions

• A targeted approach with low and high functioning drivers
• Decline in driving function is a difficult message to receive and linked to increased likelihood to report elevated depressive symptoms
• Education should include strategies to:
  ➢ support psychological and practical transition to not driving
  ➢ prepare and plan alternative transport
Thank-you
Preventing falls amongst older Aboriginal people: development and pilot evaluation of the Ironbark Project

Lukaszyk C¹, Coombes J¹, Sherrington C¹, Keay L¹, Tiedemann A¹, Cumming R², Broe T³, Ivers RQ¹

1. The George Institute for Global Health, Sydney Medical School, University of Sydney
2. Sydney School of Public Health, University of Sydney
3. Neuroscience Research Australia, UNSW
Background

In NSW, the primary cause of injury-related hospitalisations for Aboriginal people is falls.

The highest rates of hospitalised falls are among those aged 65+ for Aboriginal females and those aged 60-64 for Aboriginal males.

The proportion of Australia’s Aboriginal population aged 55+ years is predicted to double by 2021.

Background

Are mainstream falls prevention programs equally effective in Aboriginal populations?

Prevention strategies need to be different for Aboriginal people:

- differing views of health
- different community priorities
- varying household structures and environments

Important elements of success for Aboriginal programs include: locally owned community based programs, Aboriginal leadership and capacity, sustained and sufficient culturally appropriate resources

Aims

1. Determine what falls prevention services are currently available in NSW, and whether these are used by older Aboriginal people

   **Service audit**

2. Explore the current status of falls prevention amongst older Aboriginal people from a health service perspective

   **Service provider interviews**

3. Gain community input on the type of falls prevention program local Aboriginal communities would like to be involved in

   **Yarning circles**

4. Develop a culturally appropriate and acceptable falls prevention program for older Aboriginal people, trailing it in community
Methods: 1. Service audit

- Developed a 1-page audit tool, circulated to Aboriginal and mainstream, health and community services in June 2014
- 131 respondents representing all metropolitan, rural & regional LHDs
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## DESIGN INTERVENTION

### INTERVENTION FUNCTIONS

Intervention should be evidence-based, while remaining flexible in its content and delivery, allowing it to be tailored to the local community.

### PROMOTING INTERVENTION USE

The intervention should be fun, community-based and social, with an opportunity for participants to meet other people.
## 2. Service provider interviews

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### DELIVER INTERVENTION

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<td>In partnership with Aboriginal communities, create a safe, culturally appropriate and welcoming environment that is easily accessible. Appropriately trained local Aboriginal staff deliver the intervention free of cost</td>
<td>Adequate resources are made available to services offering the intervention while communication occurs between other mainstream and Aboriginal services to support and promote the intervention</td>
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3. Yarning circles

- 10 yarning circles held in Sydney, the Central Coast, Central West, and Illawarra Shoalhaven
- Total of 76 participants (16 males, 60 females)
3. Yarning circles

- Loss of independence
- Unable to care for grandchildren
- Not being able to pass on cultural knowledge
- Loss of community connection
- Disconnection to kinship
- The shame of needing to rely on others
“People tend to not go forward if they think they’re going to be judged. I feel so relaxed among these people, who are my people. I feel that I can’t do anything wrong, and if I do do something wrong one of them will let me know. Therefore I’m not being pulled up or jerked by somebody who is a superior being, I’m pulled up by my peers”

(Female, Gosford)
3. Yarning circles

Need for an on-going program

“This six weeks or this eight weeks thing, it’s just no good for the Koori community because people get sick. People drop out through winter. People drop out for various reasons… they [need to be able to] come back and pick up where they left off and continue on. You can’t offer Koori communities short term fixes because it doesn’t fix anything.”

(Female, Nowra)
“Well, if I could say, being part of the group just gives me that big uplift. It gives me the emotion to feel stronger, better and just all in all healthy and to feel confident in myself. I’m not the only one out there, or we’re not the only ones out there and it gives you the lift - seeing others improving”

(Male, Nowra)
• On-going program
• Delivered in Aboriginal community settings, overseen by local Aboriginal staff
• Free
• Delivered in a 1 x1.5 hour class on a weekly basis
  • 45 minute ‘yarning both ways’ session – education component
  • 45 minute exercise session – based on Otago exercises
• Program materials developed with culturally specific images and photographs
• Program was trialed at 6 pilot sites for a 3 or 6 month period: Umina, Nowra, Mount Druitt, Windsor, Ulladulla, Redfern
Program materials and resources

Level 1: use two hands

- Sit on a chair that is not too low
- Put your hands on the chair
- Bring your feet back under you
- Lean forward
- Push up with both hands to stand up
- Reach both hands back to the chair and sit down safely
- Repeat 3-6 times
Program materials and resources

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- Repeat 3-6 times

Remember; slow and steady wins the race!
As we get older, we have time to slow down - there is no reason to rush! Rushing is bound to cause a fall.

Here are some tips to help you:

- Have a night-light beside your bed
- Sit up and slowly put your legs over the side of the bed before standing up
- Walk slowly up or down stairs, hold on if you can, and watch out for the last step
- Take sure and steady steps when out and about
- Watch for spills in shopping areas
- Look out for where the gutter is while slowly making your way out of a car
- When gardening, look down at the ground for obstacles
Program materials and resources

TOPIC 9: TIME TO GET MY EYES CHECKED

At the beginning of each yarning circle, always ask questions and let the participants tell you the answers. Start with how, what, where, when and who questions. Always ask the participants what they remembered from last week.

Ask about homework.

Objectives for this topic:
1. Talk about vision
2. Discuss eye diseases that are to be checked for with age
3. Know about any eye conditions participants may have – there may be certain topics in this two years with an eye specialist or ophthalmologist. Many of us would be more comfortable with this.

When gardening, look down at the ground for obstacles

CATARACTS

If you have cataracts and have had a fall, cataracts can make it difficult to see. Some lighting conditions, such as:

- Ask about homework.

- BIFOCALS & MULTIFOCALS

Bifocals are good for seeing far edges and start with your vision in the distance. They may be better to a good idea to bring shoe props for this session:

- NIGHT

Shoe:

- Has a firm arch support
- Has a sole that is flexible under ball of foot and thick
- Covers most of foot
- Lightweight
- Has a roomy toe area for comfort
- Lace or Velcro fastenings for stability

- A sole that grips:
  - Non-slip and rubber
  - Textured for grip with grooves on the sole of the shoe

- A heel that is stable AND grips will be:
  - Non-slip and textured
  - A low heel

1. Talk about safe shoes
2. Understand the features of a safe shoe
3. Has a firm arch support
4. Has a sole that is flexible under ball of foot and thick
5. Covers most of foot
6. Lightweight
7. Has a roomy toe area for comfort
8. Lace or Velcro fastenings for stability

At night:

- A sole that grips:
  - Non-slip and rubber
  - Textured for grip with grooves on the sole of the shoe

- A heel that is stable AND grips will be:
  - Non-slip and textured
  - A low heel
Program materials and resources

- Reduce the amount of caffeine you have each day and avoid caffeinated drinks after lunchtime.
- Make sure your bedroom is not too hot or cold.
- Avoid naps during the day. If you do nap, keep it to 20 minutes and before 3pm.
- Ensure you are comfortable and your bedroom is quiet and dark.
- Avoid heavy meals, exercise, smartphones or working on the computer in the evening.
- Don’t stay in bed if you are awake for more than 20 minutes – go to another room and do something relaxing.
Evaluation

- Baseline, 3 and 6 month measurements by Aboriginal Research Assistants
- Physical measurements:
  - Timed sit to stand
  - Timed 4m walk
  - Standing balance tests
- Questionnaires
- Weekly feedback slips
- Facilitator and site manager weekly feedback forms
Mingaletta – Central Coast

Aunty Jean’s Chronic Care Program – Nowra

Hawkesbury Elders Group – Windsor

Baabayn – Mount Druitt

Aunty Jean’s Chronic Care Program – Ulladulla

Wyanga – Redfern
### Outcomes

Mean participant outcomes, all pilot sites grouped:

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<tr>
<th>Outcome</th>
<th>Baseline (n=77) mean (SD)</th>
<th>3 months (n=77) mean (SD)</th>
<th>Change between baseline and 3 months mean (SD), p</th>
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<td>44.8 (8.1)</td>
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<td>4 meter walk (sec)</td>
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“I enjoyed it, you learn so much. You go out now and stand tall, you feel confident and you don’t feel like a little old lady. It’s not just good physically, it is good mentally. I go around to others that live in my retirement village and move hazards. I never sit down at home and I like doing my exercises.” (Female, Nowra)

“This is a very good program because it is about respecting us as Elders, what our needs are. It’s good - really good - I like it. I have learnt to talk about things. You always think about things but talking is great.” (Male, Redfern)

“The program meant a lot and I have learnt a lot. It was not rushed and you felt confident doing it. Gyms are full-on and here, you’re relaxing and knowing that you’re getting something out of it. It’s important to have an Aboriginal specific program as we feel welcomed here and we see our Auntie’s and sisters.” (Female, Mt Druitt)
Pathways to Ageing Well

- Cluster RCT planned
- 60 sites
- Powered for falls outcomes
Acknowledgments

The Ironbark Project is funded by the NSW Health Aboriginal Injury Prevention and Safety Promotion Demonstration Grants Program

Partnering organisations: Mingaletta Aboriginal & Torres Strait Islander Corporation, Aunty Jeans Chronic Care Program (Nowra, Ulladulla), Baabayn Aboriginal Corporation, Mt Druitt Health and Community Centre, Hawkesbury District Health Service, Wyanga Aged Care Program, Redfern

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Project team: Caroline Lukaszyk (Project Manager), Julieann Coombes (Aboriginal Research Officer), Elizabeth Hillmann (Aboriginal Community Liaison Officer)
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