Life and living in advanced age: a cohort study in New Zealand, LILACS NZ

Te Puāwaitanga O Nga Tapuwae Kia ora Tonu

Ngaire Kerse, Lorna Dyall, Karen Hayman, Mere Kepa, Simon Moyes.
Advanced age – 85+

- Fastest growing group 1% - 8% by 2050
- Longitudinal studies of ageing
  - 11 completed
  - 31 ongoing
  - 2 of advanced age
- Māori
  - Ageing faster
  - 8 year disparity in longevity
  - Excess of disability
Those involved

- Ngaire Kerse
- Lorna Dyall
- Mere Kepa
- Karen Hayman
- Martin Connolly
- Tim Wilkinson
- Robert Scragg
- Joanna Broad
- Valerie Wright St.Clair
- Elizabeth Robinson
- Avinesh Pillai
- Sally Keeling
- Santosh Jatrana

- Ian Reid
- Janine Wiles
- Robert Doughty
- Kaye Dennison
- Carol Wham
- Ruth Teh
- Bernhard Breier

Tina Elliot, Simon Moyes

"Maaku anoo hei hanga i tooku nei whare
Ko ngaa poupou o roto he maahoe, he patatee
Ko te taahuhu he hiinau"
Roopu Kaitiaki o nga tikanga Māori
the protectors of the principles of proper conduct in Māori research

- Hone Kameta
- Florence Kameta
- Paea Smith
- Betty McPherson
- Leiana Raipae Reynolds

Advise on all aspects pertaining to Māori
Advise on relationship building and recruitment

Pilot study and Main study

Academic
- Mere Kepa
- Lorna Dyall
- Dr Pip Pehi
- Dr Mel Taitimu
- Dr Robyn Manuel
- Dr Lisa Chant
- Dr Marama Muru-Lanning
- Dr Pam Bennett
- Dr Jane McKendrick
- Dr Anna Rolleston

Supervise Māori data analyses
Objectives -

• What factors predict successful advanced ageing for older Māori and non-Māori?
• What pathways do those in advanced age take?
• What is the relative importance of health, frailty, cultural, social & economic factors (and others) to relevant outcomes?
• Health status of those in advanced age
LiLACS NZ - Longitudinal study

- Collect all those reaching advanced age (p90) and follow their journey
  - 80-90yr for Māori
  - 85yr for non-Māori
- Learn balance of issues that are related to wellbeing
- Environmental, social, cultural, health, family/whanau
- Take narrow age band

Follow the journey, understand the exposures
Where and how many?

<table>
<thead>
<tr>
<th></th>
<th>Māori 78-90yr</th>
<th>Non M 85 yr</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>494</td>
<td>266</td>
<td>760</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Māori 78-90yr</th>
<th>Non M 85 yr</th>
<th>Total</th>
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<tbody>
<tr>
<td></td>
<td>868</td>
<td>836</td>
<td>1704</td>
</tr>
</tbody>
</table>
We asked about

- Socio-demographic, economic resources
- Family/whanau make up, contact and support
- Social support- perceived and actual
- Cultural practices, attitudes
- Health
  - General function – NEADL, Physical activity, Cardiovascular disease, Nutrition, Bones and injuries
  - Medications
- Quality of life – SF-12
- Health services, access and use
- Environmental- locality, accessibility, paths, supermarkets

Measured
- BP, FEV-1, height, weight, walking speed, grip strength
- Blood tests for markers

All by interview at home or at local place
Recruiting

ELECTORAL ROLL
1640 – nM 871, M 769

NOT ELIGIBLE
nM, M
Wrong age 7, 30
Lives out of area 16, 6
Moved out of area 6, 27
Deceased prior to 2010 3, 15

TOTAL ELIGIBLE
nM  M
1621 - 878, 743

LOCATED FROM OTHER SOURCES
GP ... 54
Rest home ... 5
Word of mouth ... 29
Media ... 1
Other ... 2

ENROLLED
nM  M
941 – 523, 418
60%, 56%

NOT ENROLLED
nM  M
680 - 354, 326
ENROLLED
nM M
941 – 523, 418

NOT ENROLLED
nM M
680 – 354, 326

DECLINED
nM M
Too busy 16, 5
Poor health (own) 32, 8
Poor health (family/othr) 28, 5
Refused – didn’t want to 167, 64
Family/other on behalf 20, 11
Other, unspecified 19, 96

DECEASED BEFORE CONTACT
nM M
63, 66

UNABLE TO CONTACT
nM M
5, 58

OTHER
nM M
4, 3
<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-Maori</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>522</td>
</tr>
<tr>
<td>Age (sd)</td>
<td>85.1 (0.6)</td>
</tr>
<tr>
<td>Gender n%male</td>
<td>236 (45.9%)</td>
</tr>
<tr>
<td>Residential care n%</td>
<td>20 (4.9%)</td>
</tr>
<tr>
<td>Retirement village</td>
<td>74 (18.1%)</td>
</tr>
<tr>
<td>Lives alone n%</td>
<td>198 (48.3%)</td>
</tr>
<tr>
<td>MI (by self report)</td>
<td>76 (15.0%)</td>
</tr>
<tr>
<td>Stroke (by self report)</td>
<td>33 (6.5%)</td>
</tr>
<tr>
<td>3MS n% &lt;75</td>
<td>22 (5.5%)</td>
</tr>
<tr>
<td>Mean sd</td>
<td>90.5 (10.5)</td>
</tr>
<tr>
<td>Screen II</td>
<td>49.7 (6.4)</td>
</tr>
<tr>
<td>GDS n% &gt;4</td>
<td>42 (10.4%)</td>
</tr>
<tr>
<td>NEADL N% &lt;14</td>
<td>63 (15.5%)</td>
</tr>
<tr>
<td>N% 15-18</td>
<td>125 (30.8%)</td>
</tr>
<tr>
<td>N% &gt;18</td>
<td>218 (53.7%)</td>
</tr>
<tr>
<td>Grip strength</td>
<td>22.9 (7.7)</td>
</tr>
</tbody>
</table>
General function

<table>
<thead>
<tr>
<th>Score</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NEADL: Non-Maori</td>
<td></td>
</tr>
</tbody>
</table>

The chart shows the distribution of NEADL scores for men and women.
Non-Maori

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen II</td>
<td>0.3349</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Gender</td>
<td>-13.0898</td>
<td>0.0062</td>
</tr>
<tr>
<td>Screen II * Gender</td>
<td>0.02663</td>
<td>0.7772</td>
</tr>
<tr>
<td>BMI</td>
<td>0.1371</td>
<td>0.0486</td>
</tr>
</tbody>
</table>

Grip Strength Regression

Adj Regression F
Adj Regression M

Grip Strength
Regression
Adj Regression F
Adj Regression M
**Non-Maori**

**Screen II**
- beta = 0.2113
- p = <0.0001

**Screen II*Gender**
- beta = 0.005596
- p = 0.92

**BMI**
- beta = -0.07578
- p = 0.0637

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**NEADL**

Regression
- F
- M

Adj Regression F

Adj Regression M

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The scatter plot above shows the relationship between NEADL and Screen II, Screen II*Gender, and BMI. The regression analysis indicates a significant relationship between Screen II and NEADL (beta = 0.2113, p < 0.0001). The relationship between BMI and NEADL is also significant (beta = -0.07578, p = 0.0637). However, the relationship between Screen II*Gender and NEADL is not statistically significant (beta = 0.005596, p = 0.92).
Non-Maori, Activity

The chart shows the comparison of PASE scores for men and women, distinguishing between those who are active with others and those who are active alone.

- Men who are active with others have a significantly higher score compared to those active alone.
- Women also show a higher score for those active with others, followed by those active alone.

The scores are measured on a scale from 0 to 140, with higher scores indicating higher levels of physical activity.
<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (sd)</td>
<td>83.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Gender n % male</td>
<td>172</td>
<td>42.7%</td>
</tr>
<tr>
<td>Residential care n%</td>
<td>2</td>
<td>0.8%</td>
</tr>
<tr>
<td>Retirement village</td>
<td>7</td>
<td>2.7%</td>
</tr>
<tr>
<td>Lives alone n%</td>
<td>108</td>
<td>41.2%</td>
</tr>
<tr>
<td>MI (by self report)</td>
<td>74</td>
<td>18.5%</td>
</tr>
<tr>
<td>Stroke (by self report)</td>
<td>34</td>
<td>8.6%</td>
</tr>
<tr>
<td>3MS n% &lt;75*</td>
<td>36</td>
<td>13.8%</td>
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<tr>
<td>Mean sd</td>
<td>85.1</td>
<td>15.9</td>
</tr>
<tr>
<td>Screen II</td>
<td>47.6</td>
<td>6.4</td>
</tr>
<tr>
<td>GDS n% &gt;4</td>
<td>38</td>
<td>15.3%</td>
</tr>
<tr>
<td>NEADL N% &lt;14</td>
<td>44</td>
<td>17.7%</td>
</tr>
<tr>
<td>N% 15-18</td>
<td>78</td>
<td>31.3%</td>
</tr>
<tr>
<td>N% &gt;18</td>
<td>127</td>
<td>51.0%</td>
</tr>
<tr>
<td>Grip strength</td>
<td>23.1</td>
<td>7.9</td>
</tr>
</tbody>
</table>
General function

<table>
<thead>
<tr>
<th>Gender</th>
<th>NEADL: Maori</th>
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<tbody>
<tr>
<td>Male</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
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</table>

![Bar chart showing NEADL distribution for men and women]
Gender: 
- Beta coefficient: \( \beta = -18.1834 \)
- p-value: \( p = 0.0035 \)

Age: 
- Beta coefficient: \( \beta = -0.3601 \)
- p-value: \( p = 0.0208 \)

BMI: 
- Beta coefficient: \( \beta = 0.02142 \)
- p-value: \( p = 0.7691 \)

Screen II: 
- Beta coefficient: \( \beta = 0.1392 \)
- p-value: \( p = 0.0911 \)

Screen II*Gender: 
- Beta coefficient: \( \beta = 0.162 \)
- p-value: \( p = 0.2029 \)

Beta = -0.2087
p = 0.336

Beta = -18.1834
p = 0.0035

Beta = -0.3601
p = 0.0208

Beta = 0.1392
p = 0.0911

Beta = 0.162
p = 0.2029

Beta = 0.02142
p = 0.7691
Maori

- NEADL
  - Regression: beta=-0.115, p=0.0098
  - Adjusted Regression for Gender: beta=-0.1352, p=0.3457
  - Adjusted Regression for Age: beta=-5.7184, p=0.1622
  - Adjusted Regression for Screen II*Gender: beta=0.142, p=0.0932
  - Adjusted Regression for BMI: beta=-0.00992, p=0.8389

- Screen II
  - Beta: 0.115, p=0.0098
Maori

- Screen-II
- SF-12 Physical
- SF-12 Mental

Scores for Men and Women, with others and alone.
Living alone, food and CVD

Nutrition risk

SCREEN II score

- with others
- alone
- any CVD
- no CVD
Conclusions

Preliminary

Predictors of successful ageing
• food, company

Trajectories
• Awaited

Health status
• In general, well, independent