The LiLACS NZ longitudinal study was started in 2010 by the School of Population Health at the University of Auckland.

In 2010 LiLACS NZ interviewed 934 people of advanced age; Māori aged 80–90 years and non-Māori aged 85 years living in the Bay of Plenty and Lakes District Health Boards region.

The same participants have been interviewed every year—with the option of a full or partial questionnaire. The study is currently on its 5th year.

For more information: Phone: 0800 LILACS, Email: lilacs@auckland.ac.nz, Website: https://www.fmhs.auckland.ac.nz/en/faculty/lilacs.html

Most participants are happy in their relationships.

75% still lived with their partner/spouse in 2013.

Less than two percent of participants lived in Residential care in 2010, this increased to 3% by 2013.
Kaiāwhina: Carers

92% of participants have carers and 63% of carers were interviewed each year from Wave 3.

Over seventy percent of informal carers began caring for participants more than two years ago.

69% of married participants listed their spouse as their carer.

68% of widowed participants with children listed them as their carer.

One in ten carers give more than fifty hours of care per week.

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**Total amount of time spent giving care in a typical week by primary caregiver**

- **3 or less**
- **4-9 hours**
- **10-19 hours**
- **20-49 hours**
- **50+ hours**

The diagram shows the distribution of time spent giving care, with the highest percentage falling in the 20-49 hours category.
When we started the first interview with LiLACS NZ participants in 2010, we found that nearly half (49%) of Māori participants and 38% of non-Māori participants were at risk of under-nutrition (not eating enough). Two common risk factors were living alone and having depressive symptoms.

Older women tend to be at greater risk of under-nutrition especially those who are socially isolated and have difficulty accessing food due to transport difficulties. Studies abroad show that meals eaten with others tend to be larger and increase the variety of food, providing a wider range of nutrients needed for proper body functioning.

In the second interview, we asked about the types of food and how they were eaten. The acceptable range of energy intake from carbohydrates, protein and fat for people aged 70 years and above are listed in the table below.

In LiLACS NZ, we found that the average energy intake from carbohydrate, protein and fat were close to the acceptable range; carbohydrate and protein were at the lower end whereas fat was at the higher end of the acceptable range.

<table>
<thead>
<tr>
<th>Acceptable range of energy intake (%) pf total energy for men &amp; women aged 70 and above</th>
<th>LiLACS NZ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Māori (aged 81-91)</td>
</tr>
<tr>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>45 – 65%</td>
</tr>
<tr>
<td>Protein</td>
<td>15 – 25%</td>
</tr>
<tr>
<td>Fat</td>
<td>20 – 35%</td>
</tr>
</tbody>
</table>
The main source of **carbohydrate** is from bread. On average, women ate more fruit than men, and non-Māori ate more fruit than Māori.

### Top 10 sources of carbohydrate

- Pies/chips/burger/pizza
- Vegetables
- Biscuits
- Beverages, non-alcoholic
- Dairy
- Potato & tuber
- Cereals and pseudo-cereals
- Muffin/cakes/confectionery/puddings/dessert
- Fruit
- Bread

The main source of **protein** is from meat/meat products. On average, Māori ate more meat/meat products than non-Māori, and men ate more meat/meat products than women.

The second main source of protein is dairy. Non-Māori ate more dairy than Māori, and women ate more dairy than men.

### Top 10 sources of protein

- Potato & tuber
- Beverages, non-alcoholic
- Muffin/cakes/confectionery/puddings/dessert
- Eggs
- Vegetables
- Cereals and pseudo-cereals
- Seafood
- Bread
- Dairy
- Meat/meat products

Understanding common foods that are eaten tells us about nutritional wellness.

The main source of **fat** is from dairy, closely followed by meat and meat products. Dairy is a good source of calcium.