The determinants and consequences of population change – challenges to providing services for the whanau and family of today

Cutting Edge National Addiction Treatment Conference, Nelson
3 September 2015
Len Cook, Families Commissioner
Our purpose

To increase the use of evidence by people across the social sector so that they can make better decisions to improve the lives of New Zealanders, New Zealand’s communities, families and whānau
One of a number of initiatives

Superu

Science Advisors

Integrated Data Infrastructure

New Zealand Data Futures Forum

Analytics & Insights
Natural Increase reduces as death numbers increase, births remain steady.
Natural Increase reduces as death numbers increase, births remain steady
Population by broad age groups: New Zealand excluding Auckland

Source: Statistics New Zealand
Population by broad age groups: Auckland

Source: Statistics New Zealand
Auckland - trends in net inter regional migration gain
Concentration of migration outflow: 2004-2007

KIM DUNSTAN MAY UPDATE

![Graph showing concentration of migration outflow for New Zealand born and Overseas born individuals across different age groups. The y-axis represents thousands of people, and the x-axis represents age in years.](image)

- **New Zealand born**
- **Overseas born**
### Projected future growth of ethnic populations, New Zealand 2001 (base) - 2021

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Population 2001 (000)</th>
<th>Population 2013 (000)</th>
<th>Population 2038 (000)</th>
<th>Population increase (percent)</th>
<th>Total Fertility Rate 2001 (# births per woman)</th>
<th>Total Fertility Rate 2013 (# births per woman)</th>
<th>Total Fertility Rate 2038 (# births per woman)</th>
<th>Median Age 2001 (years of age)</th>
<th>Median Age 2013 (years of age)</th>
<th>Median Age 2038 (years of age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>3,074</td>
<td>3,312</td>
<td>3,607</td>
<td>9%</td>
<td>1.77</td>
<td>1.90</td>
<td>1.85</td>
<td>36.9</td>
<td>40.5</td>
<td>44.4</td>
</tr>
<tr>
<td>Maori</td>
<td>586</td>
<td>692</td>
<td>1,074</td>
<td>55%</td>
<td>2.59</td>
<td>2.45</td>
<td>2.20</td>
<td>22.1</td>
<td>23.7</td>
<td>28.0</td>
</tr>
<tr>
<td>Pacific</td>
<td>262</td>
<td>344</td>
<td>599</td>
<td>74%</td>
<td>2.94</td>
<td>2.71</td>
<td>2.30</td>
<td>21.4</td>
<td>22.3</td>
<td>25.8</td>
</tr>
<tr>
<td>Asian</td>
<td>270</td>
<td>541</td>
<td>1,148</td>
<td>112%</td>
<td>1.67</td>
<td>1.64</td>
<td>1.60</td>
<td>28.6</td>
<td>30.6</td>
<td>36.7</td>
</tr>
<tr>
<td><strong>Total NZ</strong></td>
<td><strong>3,880</strong></td>
<td><strong>4,510</strong></td>
<td><strong>5,499</strong></td>
<td><strong>22%</strong></td>
<td><strong>1.97</strong></td>
<td><strong>1.95</strong></td>
<td><strong>1.90</strong></td>
<td><strong>34.7</strong></td>
<td><strong>37.5</strong></td>
<td><strong>41.8</strong></td>
</tr>
</tbody>
</table>

*note: Total NZ data relate to 2014, instead of 2013*

Source: Statistics New Zealand, Ethnic Population Projections, 2013(base) - 2038
Period life expectancy at birth

Figure 14: Independent life expectancy at birth, non-Maori females, 1996-2013

Note: ILE = independent life expectancy, LED nd = life expectancy with dependency requiring non-daily assistance, LED d = life expectancy with dependency requiring daily assistance.
Figure 11: Independent life expectancy at birth, Maori males, 1996-2013

Note: ILE = independent life expectancy, LED nd = life expectancy with dependency requiring non-daily assistance, LED d = life expectancy with dependency requiring daily assistance
The rise and fall of fertility over the 20th century
- cumulative fertility rate by age 20 and 25 of single year of age birth cohorts
How is the age of mothers changing?

Figure 19: Fertility rate trends by age compared with the Total Fertility Rate; 1991-2013

Source: Statistics New Zealand infoshare/population/births.
Changing Family Formation Norms CAN SUPERU UPDATE

Social Policy Evaluation and Research Unit
Proportion of young people living with a partner at selected ages, NZ born birth cohorts
Growing Up in New Zealand - mobility of mothers

Figure 04: Proportion of the Growing Up in New Zealand cohort who experienced residential mobility
Residential mobility and age of mothers

Figure 06: Residential mobility between birth and nine months of age according to maternal age during pregnancy
Residential mobility and housing tenure

Figure 09: Residential mobility between birth and nine months of age according to housing tenure
Proportion of single year of age cohorts enrolled in any form of education
Proportion of women in full-time employment at selected ages, New Zealand born birth cohorts

Proportion of cohort


15-19  20-24  25-29

no data  no data  no data  no data  no data  no data  no data  no data
Birth cohort comparisons: proportion of cohort in receipt of benefit income in the last 12 months - at ages 15-19 and 20-14 years

- No data

Cohort 1952-1956
Cohort 1957-1961
Cohort 1962-1966
Cohort 1967-1971
Cohort 1972-1976
Cohort 1977-1981
Cohort 1982-1986
Cohort 1987-1991

Proportion of cohort

10-15
20-25
30-35
40-45

15-19
20-24
25-29

superu
An example of challenge to providing services to whanau’s and families

Given the wider context of structural and system changes, now look at an issue that affects the entire life-course, and presents potential challenge for the future

Foetal alcohol exposure
• results from Superu analysis of GUiNZ data
• Foetal alcohol exposure can lead to adverse life outcomes
• GUiNZ asks expectant mothers how much they drink
  – before pregnant or before becoming aware they were pregnant
  – At the first trimester
  – After the first trimester
Percentage of women who reported the level of alcohol consumption at different stages of their pregnancy.
Percentage of women who reported the level of alcohol consumption at different stages of their pregnancy, by 5-year age group

Percentage of women who reported the level of alcohol consumption at different stages of their pregnancy, by ethnicity

Percentage of women who reported the level of alcohol consumption at different stages of their pregnancy, by household income
### Selected results of logistic regression of alcohol consumptions status at different stages of pregnancy

<table>
<thead>
<tr>
<th></th>
<th>Before awareness</th>
<th>First trimester</th>
<th>After first trimester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alcohol consumptions before awareness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not drink</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Less than 1 drink a week</td>
<td>18.98***</td>
<td>10.20***</td>
<td></td>
</tr>
<tr>
<td>1–3 drinks a week</td>
<td>37.72***</td>
<td>20.62***</td>
<td></td>
</tr>
<tr>
<td>4–19 drinks a week</td>
<td>61.17***</td>
<td>42.35***</td>
<td></td>
</tr>
<tr>
<td>20 or more drinks a week</td>
<td>90.39***</td>
<td>82.90***</td>
<td></td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European</td>
<td>8.37***</td>
<td>1.36*</td>
<td>2.16**</td>
</tr>
<tr>
<td>Māori</td>
<td>5.58***</td>
<td>1.77**</td>
<td>1.65*</td>
</tr>
<tr>
<td>Pacific</td>
<td>1.99***</td>
<td>1.20</td>
<td>0.66</td>
</tr>
<tr>
<td>Asian</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Household income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;$30k</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>$30 – $50k</td>
<td>1.05</td>
<td>1.06</td>
<td></td>
</tr>
<tr>
<td>$50 – $100k</td>
<td>1.45**</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>$100 – $150k</td>
<td>2.78***</td>
<td>1.15</td>
<td></td>
</tr>
<tr>
<td>&gt;$150k</td>
<td>4.55***</td>
<td>1.68*</td>
<td></td>
</tr>
<tr>
<td>Non-response</td>
<td>1.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current smoker</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2.16***</td>
<td>1.36**</td>
<td>1.64***</td>
</tr>
<tr>
<td>No</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td><strong>Planned pregnancy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>2.12***</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

*** P<0.001; ** P<0.01; * P<0.05
Changes for each main pathway in alcohol consumption over the course of pregnancy.
In Summary

• High proportion of women who drink before pregnancy, but most stopped during pregnancy
• Alcohol consumption is not confined to any one particular sub-group in the population, but is very diverse
• Socio-demographic profiling combined with the pathways of behavioural changes provide insights to constructing and targeting public health messages.
Improving social sector outcomes

Children and families can’t benefit from something they don’t get

Effective policies & interventions + Effective implementation = Positive outcomes

Instead of evidence being on the outside of decision-making we need to bring it inside from the beginning (Obama Administration)