Cancer in New Zealand: trends and projections

Martin Tobias, Edith Hodgen, Jit Cheung
Public Health Intelligence
Ministry of Health
What I will cover

- Data sources and methods
- All adult cancer
- Drivers of change
- Impact of tobacco
- Selected major cancers
- Summary
Data sources

- Incidence (registrations): NZCR
- Mortality: NZHIS
- Population estimates and projections: SNZ
- Cancer site selection
- Data filtration
Methods

• Separate incidence and mortality models and projections
• Age / period / cohort modelling
• Analysis of drivers
• Impact of tobacco
All Adult Cancer
Drivers of change

(a) Male registrations

(b) Male deaths

(c) Female registrations

(d) Female deaths

* Adjusted for the "PSA effect".

Key:
- Risk effect
- Population size effect
- Population ageing effect
Impact of Tobacco
Selected Major Cancers

• Lung
• Colorectal
• Prostate
• Breast
• Cervical
Lung cancer
Colorectal cancer
Breast cancer
Breast cancer mortality – impact of screening
Cervical cancer
Cervical cancer – impact of screening

Key:
- Observed
- Fitted and projected, using data to the 1986/87 five year period
- Fitted and projected, using data to the 1996/97 five year period
Summary of projections
– All adult cancer

• Incidence: 50% increase in count, 7% increase in risk

• Mortality: 20% increase in count, despite 20% (males) – 10% (females) decrease in risk
## Selected sites

<table>
<thead>
<tr>
<th>Site</th>
<th>Inc</th>
<th>Mort</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>M ↓ F ↔</td>
<td>M ↓ F ↑</td>
<td>Crossover 2010-15</td>
</tr>
<tr>
<td>Colorect</td>
<td>M ↔ F ↓ F</td>
<td>M ↓ F ↓</td>
<td>Peaked 1990s</td>
</tr>
<tr>
<td>Prostate</td>
<td>↑ ↔</td>
<td>↓ ↔</td>
<td>Excludes PSA effect</td>
</tr>
<tr>
<td>Breast</td>
<td>↑ ↓</td>
<td>↓ ↓</td>
<td>Mort reduction 15-20% greater than without screening</td>
</tr>
<tr>
<td>Cervix</td>
<td>↓ ↓</td>
<td>↓ ↓</td>
<td>Further reduction despite cohort effect – depends on improving coverage</td>
</tr>
</tbody>
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