Each day in Tasmania...

- 16 people are born
- 18.8% of households receive rent assistance from the Australian Government
- 15% of people smoke
- 61% of people are overweight or obese
- 19% of people have 3 or more chronic health conditions
- 7,550 people see a GP
- 565 people are admitted to a hospital
- 35 hospital admissions are potentially preventable
- 12 people die
- 4 people die prematurely (aged less than 75)
Setting the scene: Avoidable hospital admissions in Tasmania

- Snapshot of Tasmania’s population
- Disease burden
- Hospital use
- Over to Prof Richard Reed to talk about myths and how to bust them
Tasmania’s population
Median age and % aged 65 years and over by jurisdiction, 2011

AUSTRALIA: Median Age in Years 37, % aged 65+ 14.0%
ACT: Median Age in Years 34, % aged 65+ 10.7%
NT: Median Age in Years 31, % aged 65+ 5.7%
TAS: Median Age in Years 40, % aged 65+ 16.3%
WA: Median Age in Years 36, % aged 65+ 12.3%
SA: Median Age in Years 39, % aged 65+ 16.1%
QLD: Median Age in Years 36, % aged 65+ 13.1%
VIC: Median Age in Years 37, % aged 65+ 14.2%
NSW: Median Age in Years 38, % aged 65+ 14.7%
An ageing population

3222.0 - Population Projections, 2006 to 2101. *Series B projections
We have high rates of self-reported disability

NSW: 18.6%
Vic: 18.4%
Qld: 17.9%
SA: 20.9%
WA: 17.4%
Tas: 22.7%
NT: 15.2%
ACT: 16.1%
Aus: 18.5%

ABS, Disability Australia 2009, 2011
We have low average household income

Mean gross weekly household income

ABS, Household Income and Income Distribution, Australia 2011-12, August 2013, Table 17
Our life expectancy is behind the nation’s
### Leading causes of death in Tasmania

<table>
<thead>
<tr>
<th>Rank</th>
<th>Disease (ICD-10*)</th>
<th>Number of deaths</th>
<th>% of all deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cancer (all types) (C00-C97)</td>
<td>1,209</td>
<td>28.3%</td>
</tr>
<tr>
<td>2</td>
<td>Ischaemic heart diseases (I20-I25)</td>
<td>666</td>
<td>15.6%</td>
</tr>
<tr>
<td>3</td>
<td>Cerebrovascular diseases (I60-I69)</td>
<td>310</td>
<td>7.3%</td>
</tr>
<tr>
<td>4</td>
<td>Other forms of heart disease (I30-I52)</td>
<td>266</td>
<td>6.2%</td>
</tr>
<tr>
<td>5</td>
<td>Organic, including symptomatic, mental disorders (F00-F09)</td>
<td>234</td>
<td>5.5%</td>
</tr>
<tr>
<td>6</td>
<td>Chronic lower respiratory diseases (J40-J47)</td>
<td>227</td>
<td>5.3%</td>
</tr>
<tr>
<td>7</td>
<td>Injury &amp; poisoning (V01-Y98)</td>
<td>218</td>
<td>5.1%</td>
</tr>
<tr>
<td>8</td>
<td>Diabetes mellitus (E10-E14)</td>
<td>161</td>
<td>3.8%</td>
</tr>
<tr>
<td>9</td>
<td>Diseases of arteries, arterioles and capillaries (I70-I79)</td>
<td>76</td>
<td>1.8%</td>
</tr>
<tr>
<td>10</td>
<td>Hypertensive diseases (I10-I15)</td>
<td>70</td>
<td>1.6%</td>
</tr>
<tr>
<td></td>
<td>All other causes of death</td>
<td>832</td>
<td>19.5%</td>
</tr>
</tbody>
</table>
We have a growing chronic disease burden

<table>
<thead>
<tr>
<th>Condition</th>
<th>2009</th>
<th>2013</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye diseases</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression/Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteoporosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthritis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High blood sugar</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Risk factors for disease in Tasmania
Poor nutrition

This has purple stuff inside. Purple is a fruit.
Physical inactivity
Smoking
Alcohol consumption

- Single occasion:
  - Male: 57.0%
  - Female: 33.2%

- Lifetime:
  - Male: 28.5%
  - Female: 13.3%

Alcohol causing risk of harm
Obesity

Tasmanian Population Health Survey 2016; *statistically significantly higher than 2009
Hospitalisations
### Dialysis for kidney disease

- 1.4 million hospitalisations
- **99% Same-day**

### Cancer

- **1.1 million hospitalisations**
- Skin: 146,000
- Prostate: 25,000
- Breast: 30,000
- Bowel: 29,000
- Lung: 19,000
- **89% Same-day**

### Digestive system

- **1 million hospitalisations**
- Diseases of the intestines: 267,000
- Hernia: 94,000
- Impacted and impacted teeth: 77,000
- Reflux: 71,000
- Gallstones: 66,000
- Appendicitis: 40,000
- **41% Involved an endoscopy**
- **62% Same-day**

### Injury and poisoning

- **651,000 hospitalisations**
- Fractures: 266,000
- Complications related to medical and surgical care: 118,000
- Open wounds: 73,000
- Dislocation/sprain: 35,000
- **3% Involved a stay in ICU**
- **34% Same-day**

### Musculoskeletal and connective tissue

- **534,000 hospitalisations**
- Arthritis/osteoarthritis: 122,000
- Neck/shoulder pain: 67,000
- Internal knee injury: 66,000
- Shoulder pain: 32,000
- **42% Same-day**
- **65% Involved surgery**

### Pregnancy and childbirth

- **559,000 hospitalisations**
- Vaginal delivery: 197,000
- Cesarean section: 101,000
- NF involvement: 68,000
- Chemotherapy: 44,000
- Cancer screening: 12,000
- Palliative care: 24,000
- Follow-up examination: 54,000
- **8% of normal deliveries were same-day**
- **35% of childbirth hospitalisations involved a cesarean section**

### Circulatory

- **490,000 hospitalisations**
- Arrhythmias: 86,000
- Heart failure: 56,000
- Heart attack: 54,000
- Angina: 47,000
- Stroke: 38,000
- **24% Same-day**
- **7% Involved a stay in ICU**
- **25% Involved surgery**

### Respiratory

- **438,000 hospitalisations**
- Pneumonia: 87,000
- COPD: 77,000
- Tracheotomy: 41,000
- Asthma: 40,000
- **20% Same-day**
- **3% Involved a stay in ICU**
- **21% Involved surgery**

### Eye diseases

- **383,000 hospitalisations**
- Cataracts: 242,000
- Macular degeneration: 53,000
- Glaucoma: 5,000
- **97% of cataract extractions were same-day**
- **97% Involved surgery**
Public hospital separations per 1,000 people, 2015-16
All-cause hospitalisations in Tasmania

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>63,788</td>
<td>75,859</td>
</tr>
<tr>
<td>2003</td>
<td>65,704</td>
<td>77,479</td>
</tr>
<tr>
<td>2004</td>
<td>63,684</td>
<td>74,093</td>
</tr>
<tr>
<td>2005</td>
<td>64,798</td>
<td>79,345</td>
</tr>
<tr>
<td>2006</td>
<td>70,556</td>
<td>83,906</td>
</tr>
<tr>
<td>2007</td>
<td>74,346</td>
<td>87,881</td>
</tr>
<tr>
<td>2008</td>
<td>73,762</td>
<td>86,659</td>
</tr>
<tr>
<td>2009</td>
<td>79,948</td>
<td>93,724</td>
</tr>
<tr>
<td>2010</td>
<td>81,444</td>
<td>93,697</td>
</tr>
<tr>
<td>2011</td>
<td>89,554</td>
<td>101,895</td>
</tr>
</tbody>
</table>

Statewide Morbidity Database, Tasmania.
ED presentations in Tasmania

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Rate per 1,000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012/13</td>
<td>147,064</td>
<td>287.1</td>
</tr>
<tr>
<td>2011/12</td>
<td>141,700</td>
<td>277.0</td>
</tr>
<tr>
<td>2010/11</td>
<td>133,848</td>
<td>262.6</td>
</tr>
<tr>
<td>2009/10</td>
<td>141,630</td>
<td>279.8</td>
</tr>
<tr>
<td>2008/09</td>
<td>130,108</td>
<td>259.5</td>
</tr>
</tbody>
</table>
## Reason for hospitalisation

<table>
<thead>
<tr>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dialysis</td>
<td>68,821</td>
</tr>
<tr>
<td>Subacute care</td>
<td>30,203</td>
</tr>
<tr>
<td>Ill-defined</td>
<td>27,271</td>
</tr>
<tr>
<td>Chemo</td>
<td>20,229</td>
</tr>
<tr>
<td>Disorders of the eye</td>
<td>18,939</td>
</tr>
<tr>
<td>Arthropathies</td>
<td>15,625</td>
</tr>
<tr>
<td>All other cancers</td>
<td>14,176</td>
</tr>
</tbody>
</table>
All-cause public hospital overnight separations per 1,000 population by jurisdiction, 2011-12 (age-standardised)

AIHW, Australian hospital statistics, 2011-12, 2013, table 7.4
Overnight medical admissions by Medicare Local, age- and sex standardised number per 100,000 population

Number per 100,000 population

Position of Medicare Local
Avoidable/potentially preventable hospitalisations
Tasmania has low potentially preventable hospitalisation rate

Note: Rates are age-standardised to the Australian 2001 population.
What influences avoidable hospitalisations?
Potentially preventable hospitalisations, Tasmania

Notes: 1. Rates are age standardised to the Australian 2001 population. 2. The error bars represent the 95% confidence intervals of the rate.
Alternative – frequent presenters
• 500 out of 52,165 patients (0.96%)
• 4512 admissions out of the 80,559 eligible admissions (5.6%)
• 24,225 bed days out of 389,321 (6.2%)
• Average length of admission for the 500 patients is 5.4 days. This is 12% longer than the average length of the other eligible admissions (4.8 days). After adjusting for DRG mix the admissions of the 500 patients are only 2.1% longer, and this difference is only marginally significant (p=0.07).
Which hospitals did the 500 patients go to?
Amount of time patients spend in hospital*

- Minimum: 7 nights
- Mean 48.5
- Median 41
Ages of the 500 patients on 1 October 2012

- Mean age 60.0
- Median 63.4
- 253 female patients, 247 male patients
## Top 20 DRGs

<table>
<thead>
<tr>
<th>DRG</th>
<th>Number of admissions</th>
<th>Number of distinct patients admitted under this DRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>E65B: Chronic Obstructive Airways Disease W/O Catastrophic CC</td>
<td>240</td>
<td>65</td>
</tr>
<tr>
<td>U67Z: Personality Disorders and Acute Reactions</td>
<td>124</td>
<td>40</td>
</tr>
<tr>
<td>R61B: Lymphoma and Non-Acute Leukaemia W/O Catastrophic CC</td>
<td>123</td>
<td>26</td>
</tr>
<tr>
<td>F62B: Heart Failure and Shock W/O Catastrophic CC</td>
<td>112</td>
<td>53</td>
</tr>
<tr>
<td>U61B: Schizophrenia Disorders</td>
<td>98</td>
<td>23</td>
</tr>
<tr>
<td>G66A: Abdominal Pain and Mesenteric Adenitis</td>
<td>84</td>
<td>53</td>
</tr>
<tr>
<td>G70B: Other Digestive System Disorders W/O Catastrophic or Severe CC</td>
<td>79</td>
<td>50</td>
</tr>
<tr>
<td>G70A: Other Digestive System Disorders W Catastrophic or Severe CC</td>
<td>70</td>
<td>47</td>
</tr>
<tr>
<td>F62A: Heart Failure and Shock W Catastrophic CC</td>
<td>67</td>
<td>40</td>
</tr>
<tr>
<td>E65A: Chronic Obstructive Airways Disease W Catastrophic CC</td>
<td>66</td>
<td>40</td>
</tr>
</tbody>
</table>
Pairs of comorbidities that occur in 20 or more people

Thicknesses of grey curved lines between comorbidities are proportional to the numbers of people with both
What to do?

Ask Richard!!!