Surveillance in Practice
Evidence and Effectiveness

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South Australian Department of Health
Evidence and effectiveness

- **Evidence**
  - Health policy makers, health planners & health promoters
  - Standardised methods
  - Comparable

- **Effectiveness**
  - Has it made a change?
  - Did the information make a difference?
Australia
South Australia (SA)

- 4th largest state in area
- Population = 1.5 million (14% of Australia)
- State of festivals and fine wine
SA Festivals and Fine Wine
SA Festivals and Fine Wine
South Australian Monitoring & Surveillance System (SAMSS)

- Commenced July 2002
- Continuous chronic disease and risk factor surveillance system
- CATI (Computer Assisted Telephone Interviews)
- $n = 600$ per month
- Random selection of South Australians of all ages ($0+$ years)
Health Omnibus Survey (HOS)

- Conducted annually since early 1990s
- Face-to-face interviews
- 15+ year olds
- Representative, clustered area sample
- n=3000 per year each September/October
Structure of presentation

Time & Place
Time & Place

Ways to use surveillance data
T  Trends
I  Interventions
M  Mapping
E  Extract

Risk factors
P  Physical Activity
L  Life style
A  Alcohol
C  Cigarette
E  Eating
Time & Place

T - Trends
Trends

- Long term movement in time series data
  - Early warning system
  - Detecting change
  - Linked to interventions
  - Important for evidence based policy & program development
  - Emphasises priorities
  - Measuring progress
Prevalence of BMI (adults) in SA

Source: Health Omnibus Surveys, 18+ years, age-gender standardised
Prevalence of obesity in metropolitan (urban) and country (rural/remote) South Australia

Source: Health Omnibus Surveys, 15+ years
Trends

• Consistency in methodology
• Consistency in questions
• Analysis techniques
I – Interventions
Interventions

• Measuring success or otherwise
  – for health promoters,
  – of policy initiatives,
  – for health planners
• Has the intervention produced the desired results?
• Mindful of other influences
• Powerful tool
Fruit and vegetable consumption campaign

• Go for 2&5 Campaign®
  – Awareness raising and educating
  – Comprehensive Media Campaign May-June 2005
  – National and State based activities
  – $A100,000 in SA; Nationally $A4.75 million
  – “Go for 2&5 Fruit and Vegetable man” events
Fruit & vegetable consumption campaign

An Australian Government, State and Territory health initiative.
Proportion eating 5+ serves vegetables/day (pre and post campaign)

Source: SAMSS 2002-2007
Proportion eating 5+ serves vegetables/day (pre and post campaign) by Gender

Source: SAMSS 2002-2007
Proportion eating 5+ serves vegetables/day (pre and post campaign) by BMI

Source: SAMSS 2002-2007
Proportion eating 2+ serves fruit per day (pre and post campaign)

Source: SAMSS 2002-2007
Proportion eating 2+ serves fruit per day (pre and post campaign) by Season

- **Winter Jul-Oct**: Dashed line
- **Summer Nov-Jun**: Solid line

<table>
<thead>
<tr>
<th>Month</th>
<th>Prevalence 2+ fruit (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 2002</td>
<td>40</td>
</tr>
<tr>
<td>January 2003</td>
<td>35</td>
</tr>
<tr>
<td>July 2003</td>
<td>45</td>
</tr>
<tr>
<td>January 2004</td>
<td>30</td>
</tr>
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</tr>
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<td>40</td>
</tr>
<tr>
<td>January 2006</td>
<td>50</td>
</tr>
<tr>
<td>July 2006</td>
<td>45</td>
</tr>
<tr>
<td>January 2007</td>
<td>40</td>
</tr>
</tbody>
</table>
Need for an intervention??
BMI (adults) by SEIFA

Data Source: HOS 1994-2006, age 18 years and over
Prevalence of obesity and percentage increase, 1994-2006

Data Source: HOS 1994-2006, age 18 years and over
Time & Place

M - Mapping
Mapping

• Maps are
  – Clear
  – Quick to assess
  – Interpretation presented
• Common in all types of public health surveillance
• Care with survey surveillance
  – Sparsely populated areas
  – Limitation of the data
• Recognise epidemics
Monitoring risk factors - OBESITY

Prevalence of obesity:

- 0.0 – 9.9%
- 10.0 – 14.9%
- 15.0 – 19.9%
- 20.0 – 24.9%
- 25.0 – 29.9%
- 30.0+ %

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division
Monitoring risk factors - OBESITY

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Government of South Australia
Department of Health
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Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division
Time & Place

E – Extract
Accumulation of data

• Geographic
  – Health regions
  – Divisions of General Practice
• Priority populations
  – Aboriginal & Torres Strait Islanders (ATSI)
  – Carers
  – People with psychological distress
  – Socioeconomic status (SEIFA)
  – Arthritis
  – CVD (Cardiovascular Disease)
Accumulation of data
• 14 Divisions
• Local networks of General Practitioners (doctors)
• July 2002-Dec 2003 (18 months)
  – 7346 interviews (range 2240 to 120 per division)
• Jan 2004 – Dec 2006 (2 years)
  – 17236 interviews (range 5200 to 300 per division)
## Self-Reported BMI by Divisions of General Practice
(obese, as classified by WHO BMI criteria) 18+ years

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<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>n</td>
<td>% (95% CI)</td>
</tr>
<tr>
<td>Adelaide Central and Eastern</td>
<td>163</td>
<td>15.1 (13.1 - 17.4)</td>
</tr>
<tr>
<td>Adelaide Northern</td>
<td>195</td>
<td>24.6 (21.7 - 27.7)</td>
</tr>
<tr>
<td>Adelaide North East</td>
<td>98</td>
<td>13.8 (11.5 - 16.5)</td>
</tr>
<tr>
<td>Adelaide Southern</td>
<td>296</td>
<td>18.2 (16.4 - 20.1)</td>
</tr>
<tr>
<td>Adelaide Western</td>
<td>144</td>
<td>17.0 (14.6 - 19.7)</td>
</tr>
<tr>
<td>Adelaide Hills</td>
<td>44</td>
<td>16.6 (12.7 - 21.6)</td>
</tr>
<tr>
<td>Barossa</td>
<td>12</td>
<td>6.5 (3.7 - 11.0)</td>
</tr>
<tr>
<td>Eyre Peninsula</td>
<td>40</td>
<td>18.2 (13.6 - 23.8)</td>
</tr>
<tr>
<td>Flinders and Far North</td>
<td>27</td>
<td>30.6 (21.9 - 40.9)</td>
</tr>
<tr>
<td>Limestone Coast</td>
<td>77</td>
<td>26.8 (22.0 - 32.2)</td>
</tr>
<tr>
<td>Mid North Rural SA</td>
<td>37</td>
<td>18.6 (13.8 - 24.6)</td>
</tr>
<tr>
<td>Murray Mallee</td>
<td>33</td>
<td>24.6 (18.1 - 32.5)</td>
</tr>
<tr>
<td>Riverland</td>
<td>44</td>
<td>28.1 (21.7 - 35.6)</td>
</tr>
<tr>
<td>Yorke Peninsula</td>
<td>25</td>
<td>23.3 (16.2 - 32.1)</td>
</tr>
<tr>
<td>Overall</td>
<td>1235</td>
<td>18.5 (17.5 - 19.4)</td>
</tr>
</tbody>
</table>
Sufficient physical activity by Divisions of General Practice

18 years and over (state average = 50.8%)

- Division of General Practice
  - July 2002 to December 2003
  - January 2004 to December 2006
Aboriginal and Torres Strait Islanders report

- Census 2001 –
  - 1.1% of SA adults identify as Aboriginal & Torres Strait Islanders

- Surveillance system
  - 0.7% of sample identified as ATSI
BMI by Aboriginal and Torres Strait Islander status

Source: SAMSS July 2002-Dec 2005, 18+ years
Mental health status by Aboriginal & Torres Strait Islander status

SAMSS July 2002-Dec 2005
Overall health status by Aboriginal and Torres Strait Islander status

Source: SAMSS July 2002-Dec 2005
P – Physical Activity
Proportion undertaking sufficient physical activity by season

Source: SAMSS 2002-2007
Proportion undertaking sufficient physical activity by BMI

Source: SAMSS 2002-2007
Proportion undertaking sufficient physical activity by gender

Data source: SAMSS, age 16 years and over
Proportion undertaking sufficient physical activity by income

Data source: SAMSS, age 16 years and over
Proportion undertaking sufficient physical activity by SEIFA

Data source: SAMSS, age 16 years and over
Proportion undertaking sufficient physical activity by overall health status

Data source: SAMSS, age 16 years and over
Proportion undertaking sufficient physical activity by smoking status

Data source: SAMSS, age 16 years and over
L - Lifestyle
Household money situation by gender

(spending more money than getting, just enough money to get through to next pay, money left over but just spend it)

Data source: SAMSS, age 16 years and over
Time & Place

A - Alcohol
Standard drink definitions in different countries

- Australia
- Austria
- Belgium
- Denmark
- Finland
- France
- Hungary
- Italy
- Japan
- Netherlands
- Portugal
- UK
- USA

[Bar chart showing grams of alcohol per standard drink in different countries]
Recommendations of safe level of alcohol consumption

- Australia (proposed)
- Austria
- Belgium*
- Denmark*
- Finland*
- France
- Italy
- Japan
- Netherlands
- Portugal
- UK
- USA

Grams of pure ethanol per day
(*converted from weekly recommendation)

- Females
- Males
Australian alcohol guidelines (2001)

• Old guidelines
  – Males
    • On average no more than 4 standard drinks a day (no more than 28 standard drinks a week)
    • No more than 6 standard drinks in any one day
    • 1 or 2 alcohol free days per week
  – Females
    • An average of no more than 2 standard drinks per day (no more than 14 standard drinks per week)
    • Not more than 4 standard drinks in any one day
    • 1 or 2 alcohol-free days per week
• New guidelines (low risk drinking)
  – Males & Females

• 2 standard drinks or less in any one day
Time & Place

C - Cigarettes
Smoking interventions

• Tobacco control
  – $A4 million per year (South Australia)

• Smoking cessation
  – Quit programs, media and social marketing

• Prevention
  – Focus: youth, ATSI, schools
Proportion of adults smoking

Data source: SAMSS, age 16 years and over
Proportion of adult smokers by gender

Data source: SAMSS, age 16 years and over
Smoking policy and legislation

- Dec 2004
  - Smoke-free workplaces
- May 2007
  - Ban on smoking in cars with children less than 16 years
- Nov 2007
  - All enclosed public places and workplaces
- Current policy targeting retail sales displays
Proportion of adults reporting smoking undertaken in the home

Data source: SAMSS, age 16 years and over
E - Eating
Proportion of those who drink low fat milk

Data source: SAMSS, age 16 years and over
Proportion of those who drink low fat milk by gender

Data source: SAMSS, age 16 years and over
Proportion of those who drink low fat milk by age

Graphs by two age groups

Data source: SAMSS, age 16 years and over
Proportion of those who drink low fat milk by metropolitan and country location

Graphs by AREA3 Area of residence (Health regions)

Data source: SAMSS, age 16 years and over
Proportion of those who drink low fat milk by income

Graphs by Income group

Data source: SAMSS, age 16 years and over
Proportion of those who drink low fat milk by chronic condition

Data source: SAMSS, age 16 years and over
Average serves of fast food consumed per year

Data source: SAMSS, age 16 years and over
Average serves of fast food consumed per year by gender

Data source: SAMSS, age 16 years and over
Average serves of fast food consumed per year by metropolitan and country location

Data source: SAMSS, age 16 years and over
Measuring effectiveness
Effectiveness

- Health promotion activities informed by data
- Health planning
  - State Strategic Plan
- Media
- Evaluation
South Australia’s Strategic Plan

• Objectives
  1. Growing prosperity
  2. Improving wellbeing
  3. Attaining sustainability
  4. Fostering creativity and innovation
  5. Building communities
  6. Expanding opportunity

• 98 targets
SA Strategic Plan

• Target 2.2 Healthy weight
  – Increase the proportion of South Australians 18 and over with healthy weight by 10 percentage points by 2014

• Target 2.6 Chronic diseases
  – Increase by 5 percentage points, the proportion of people living with a chronic disease whose self-assessed health status is good or better

• Target 2.7 Psychological wellbeing
  – Equal or lower than the Australian average for psychological distress by 2014
Effectiveness

- Health promotion campaigns informed by data
- Health planning
  - State Strategic Plan
- Media ▶
- Evaluation
Risk factor surveillance results in the media

Obesity a growing problem

Why we're headed for an early grave

Cancer risks ignored

Socio-economic indicators in SA study

20pc of four-year-olds overweight

Staying healthy 'a way of life'

When in Robe, shed kilos just like the locals
Effectiveness

- Health promotion campaigns informed by data
- Health planning
  - State Strategic Plan
- Media
- Evaluation
Evaluation
Evaluation

• Center for Disease Control (CDC)\textsuperscript{1}
  – Level of usefulness
  – Simplicity
  – Flexibility
  – Data quality
  – Acceptability
  – Representativeness
  – Timeliness
  – Stability

\textsuperscript{1} CDC (1988). Guidelines for evaluating surveillance systems. MMWR. 37(S5), pp.1-18.
Conclusion

• Aim
  – Improvement on health outcomes
  – Value for money
  – Use of data

An effective risk factor surveillance system will provide the evidence for change
Population Research & Outcome Studies (PROS)
South Australian Department of Health

PROS Website: