



Government
of South Australia

Department of Health

Surveillance in Practice

Evidence and Effectiveness

Associate Professor Anne Taylor
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



Government of South A
Department of Health

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



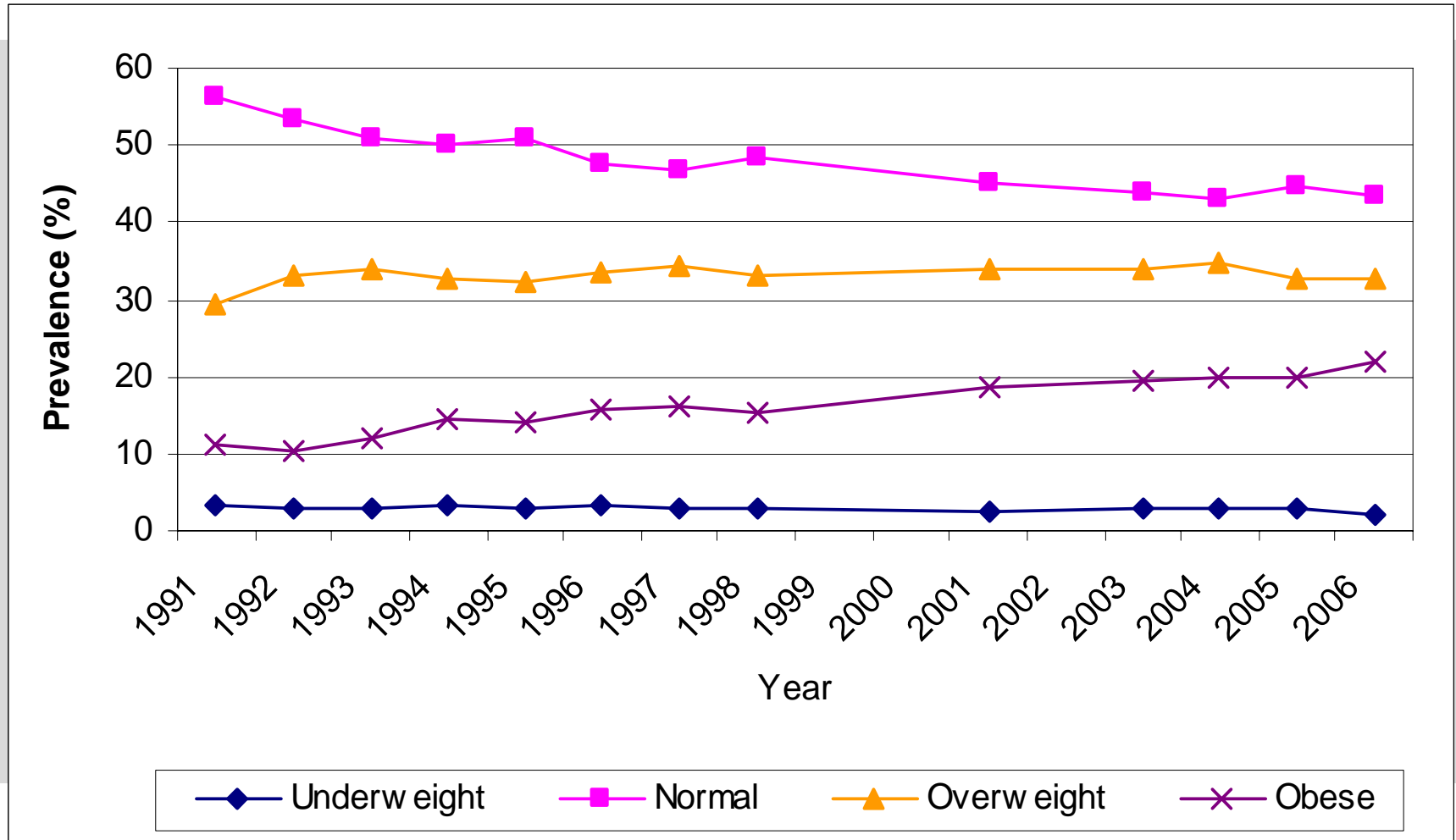
T - Trends

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



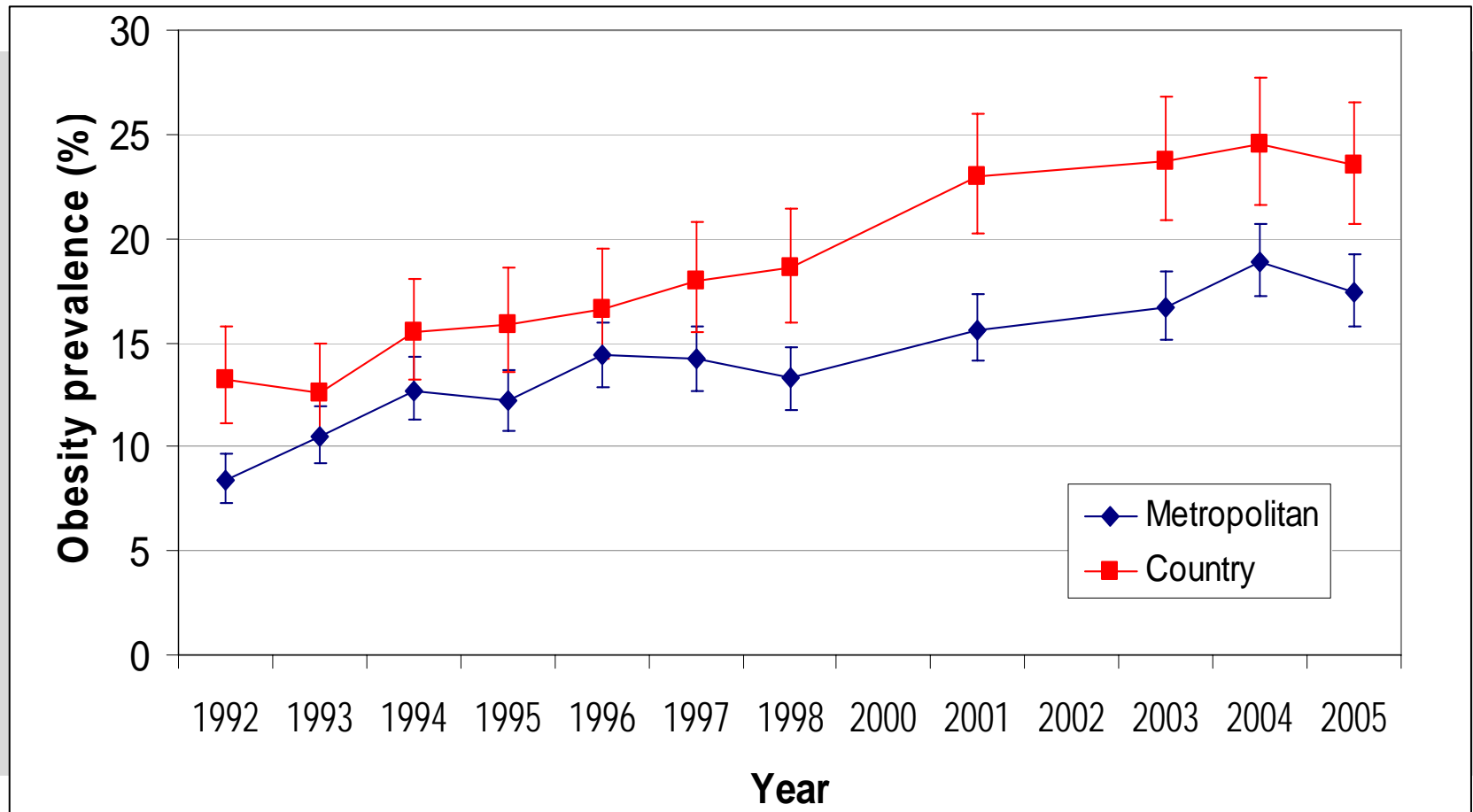
Prevalence of BMI (adults) in SA



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

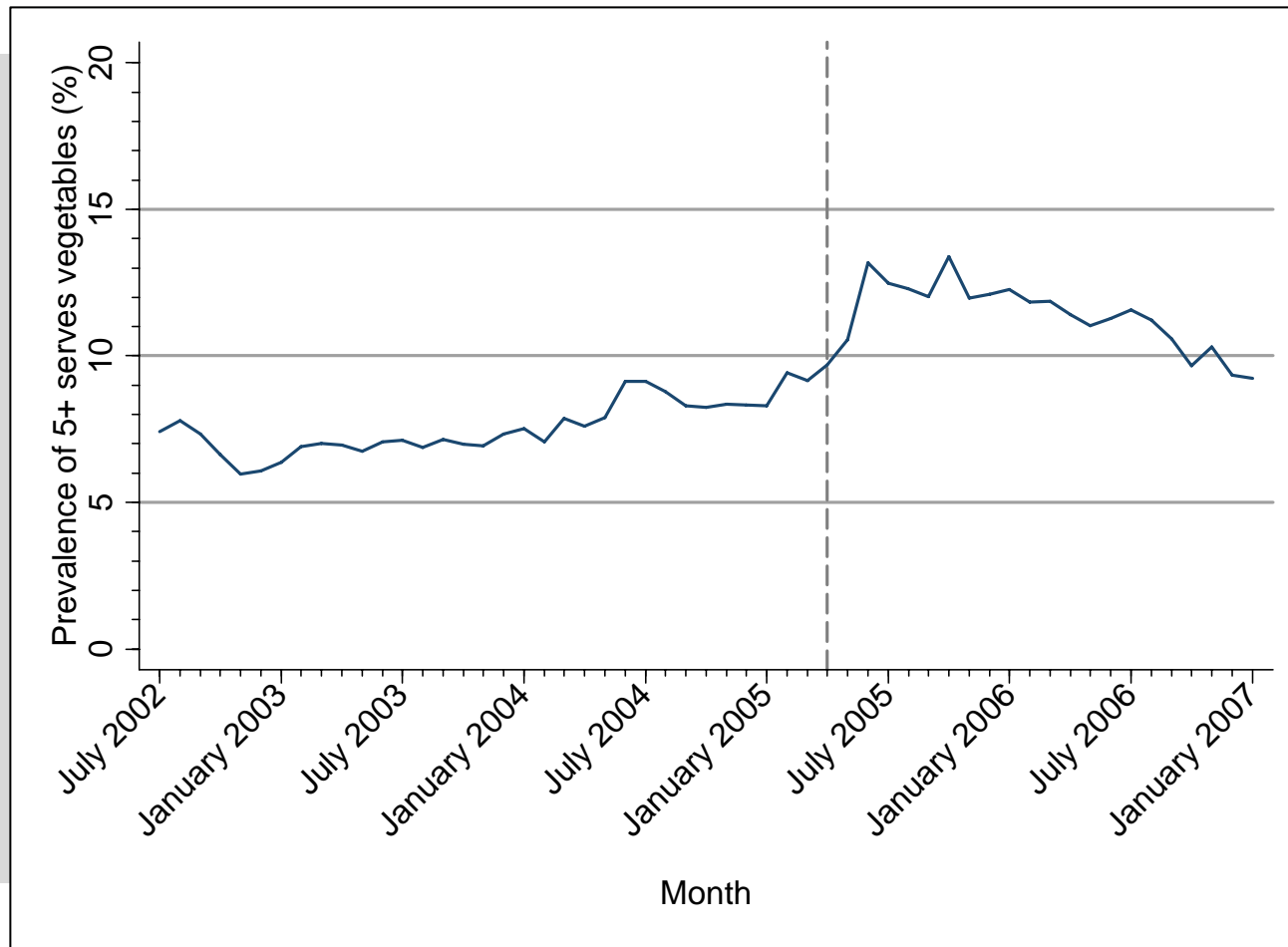


Fruit & vegetable consumption campaign



An Australian Government, state and territory health initiative.

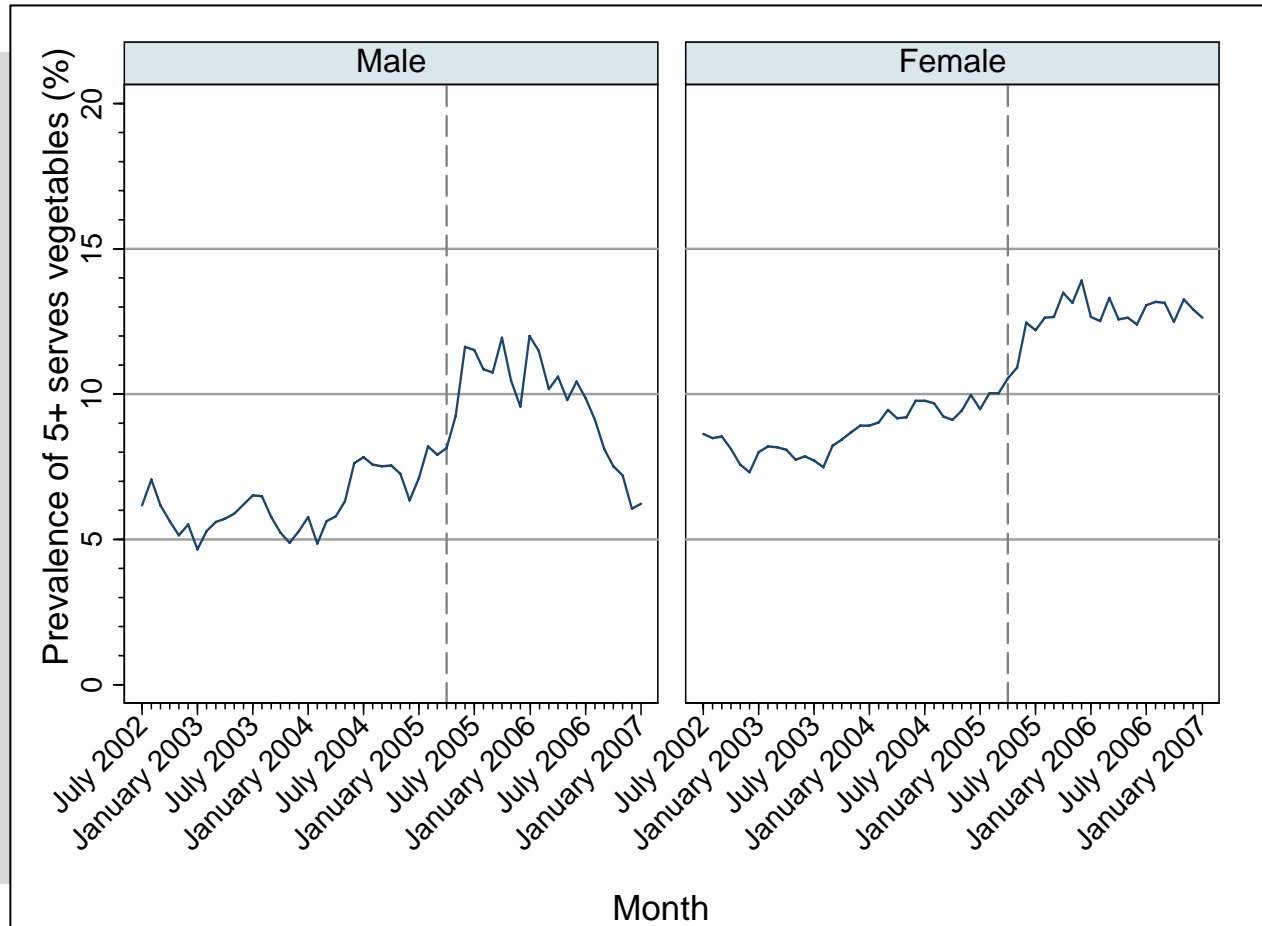
Proportion eating 5+ serves vegetables/day (pre and post campaign)



Source: SAMSS 2002-2007



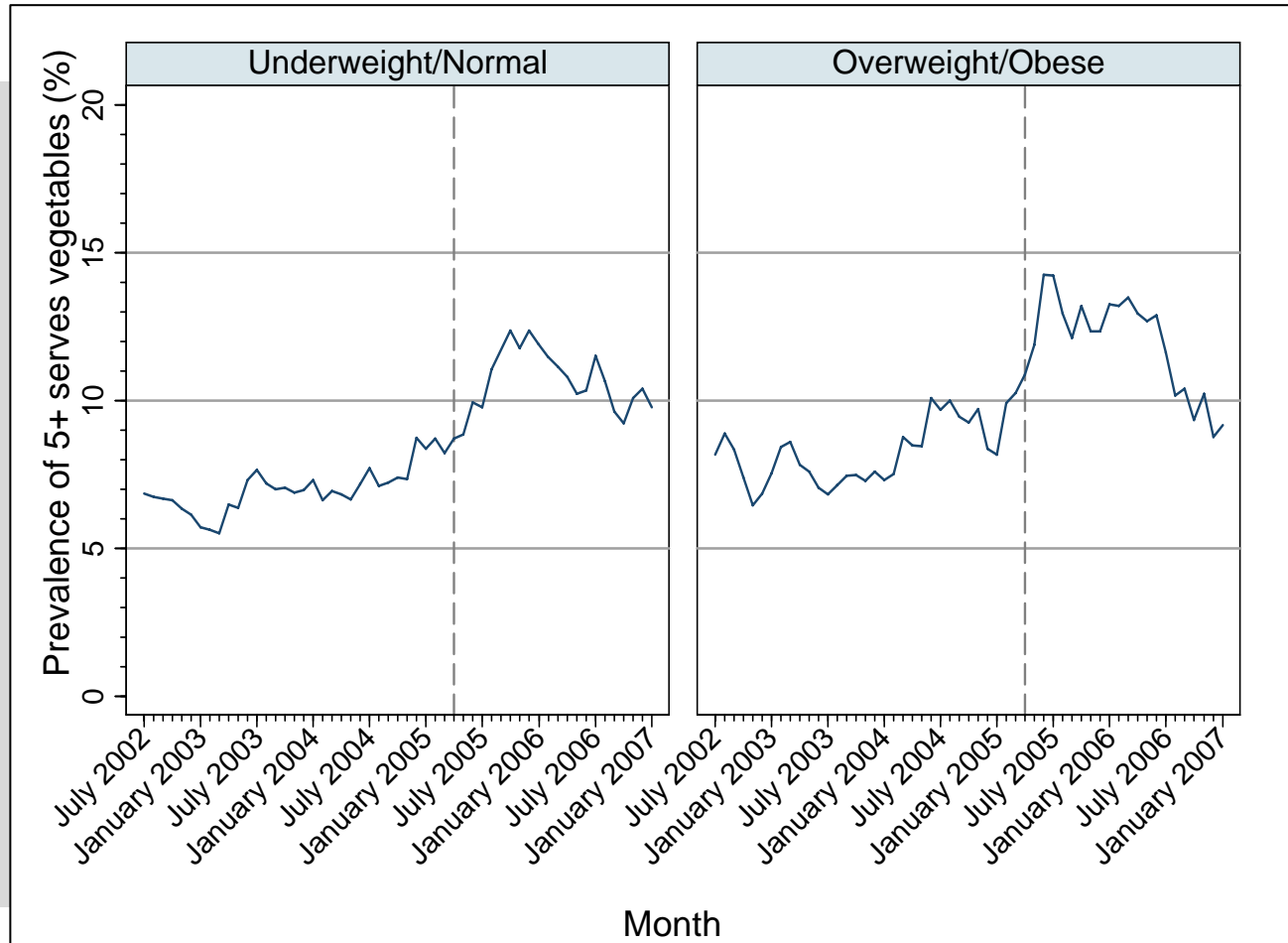
Proportion eating 5+ serves vegetables/day (pre and post campaign) by Gender



Source: SAMSS 2002-2007



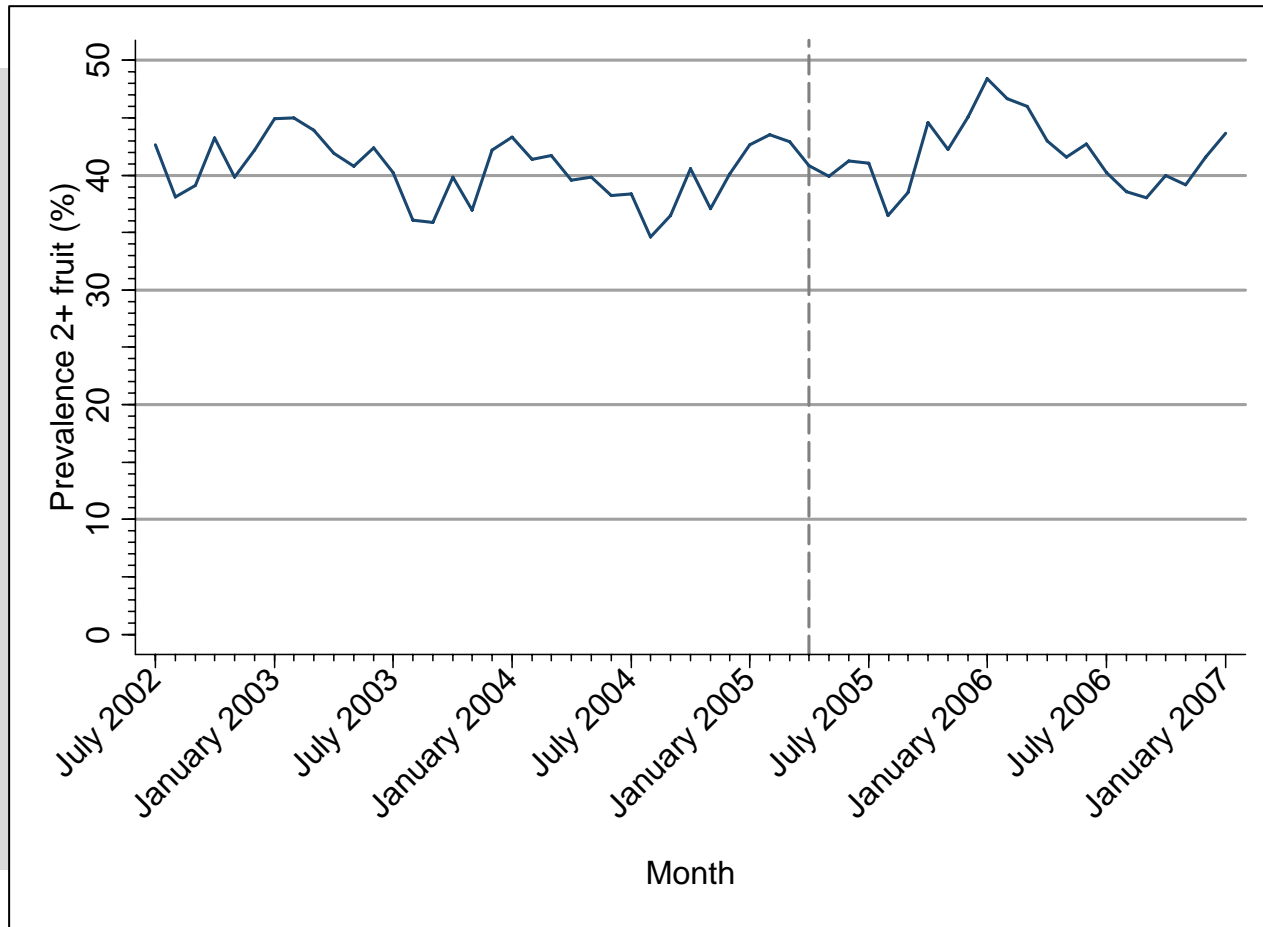
Proportion eating 5+ serves vegetables/day (pre and post campaign) by BMI



Source: SAMSS 2002-2007



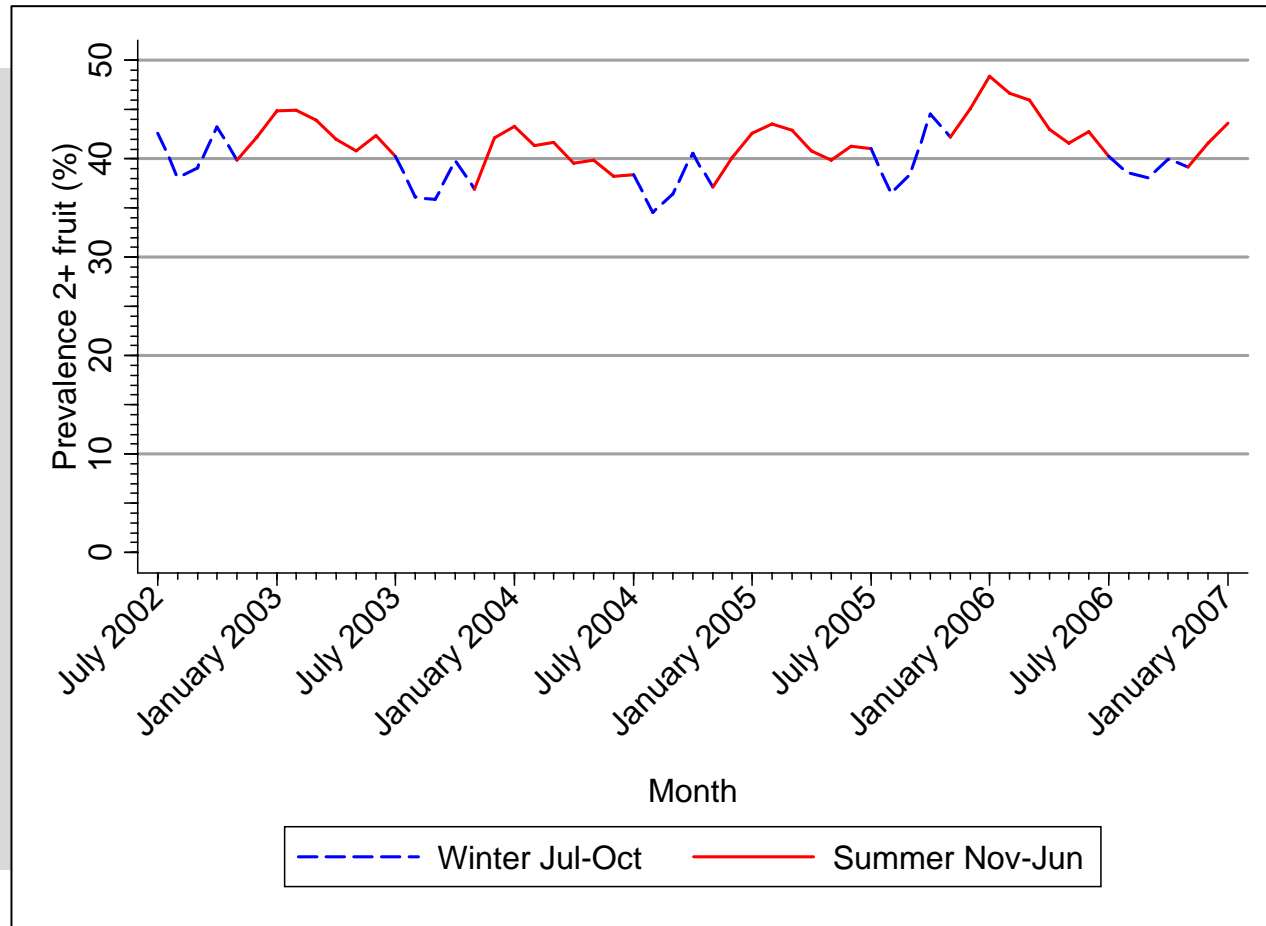
Proportion eating 2+ serves fruit per day (pre and post campaign)



Source: SAMSS 2002-2007



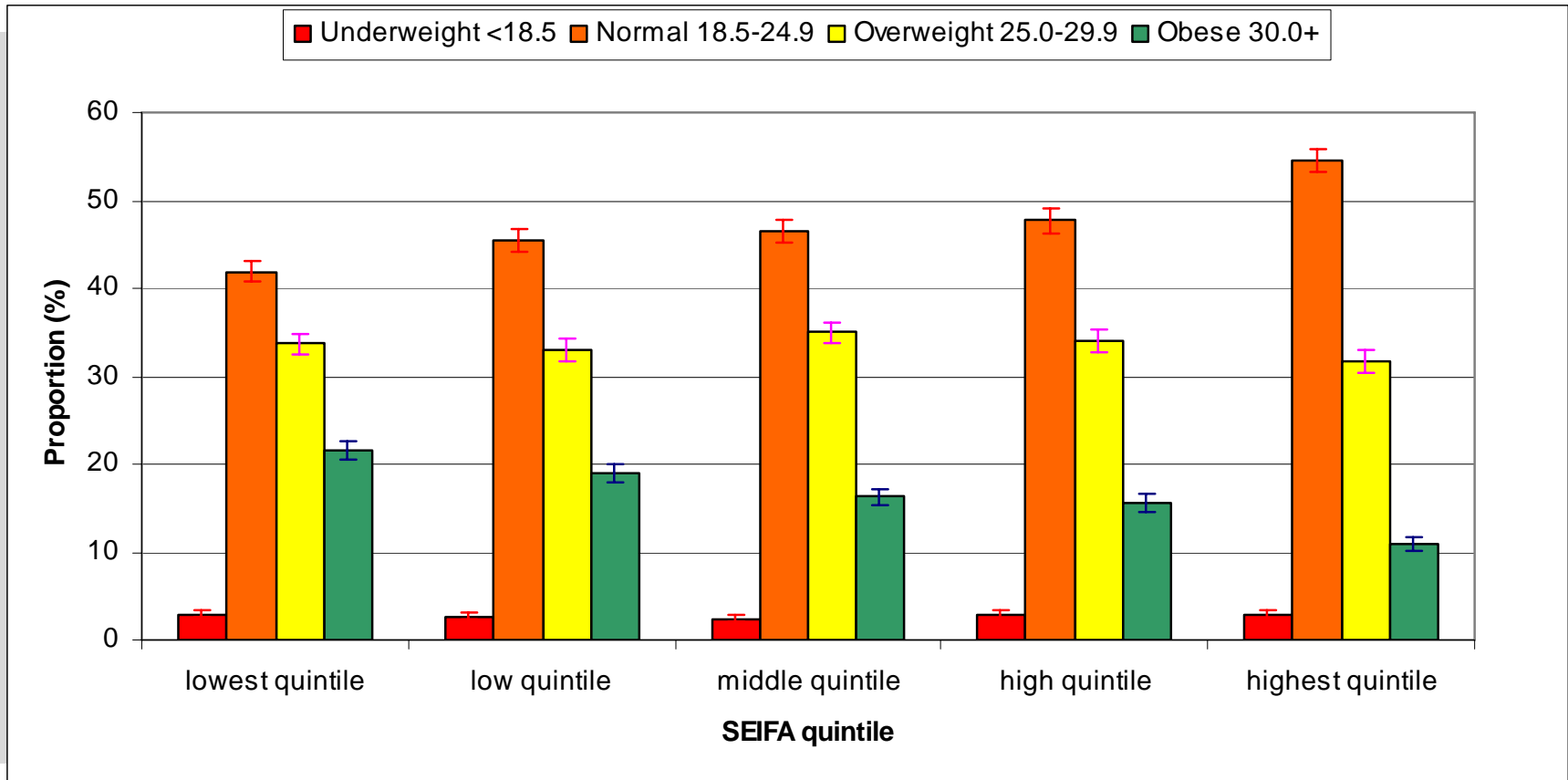
Proportion eating 2+ serves fruit per day (pre and post campaign) by Season



Need for an intervention??

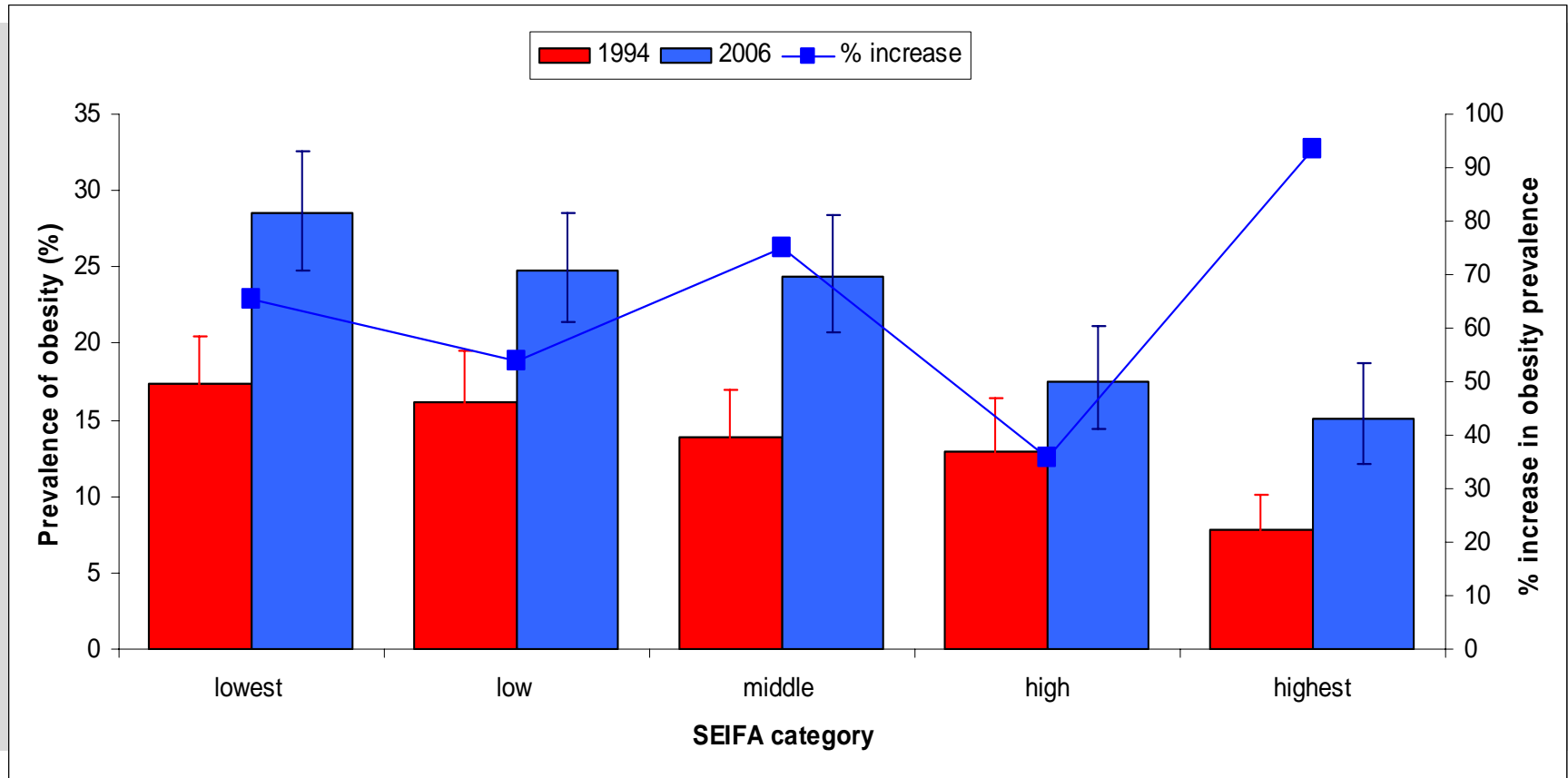


BMI (adults) by SEIFA



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

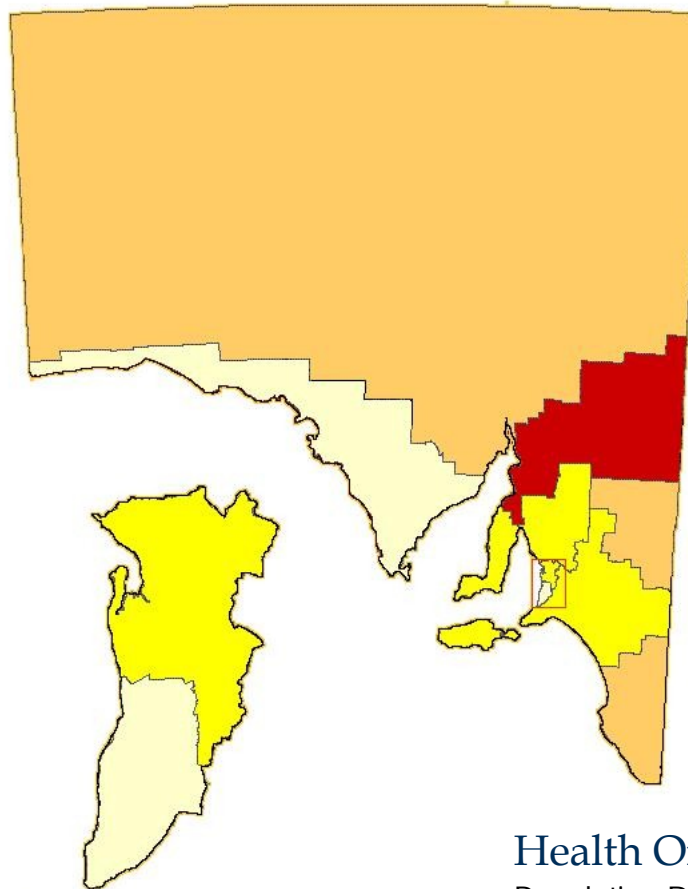
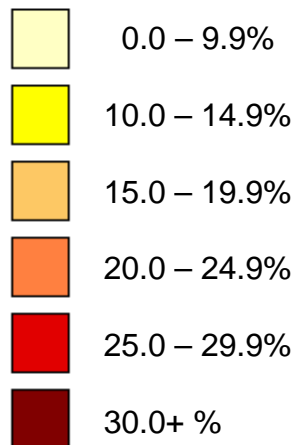
M - Mapping

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:

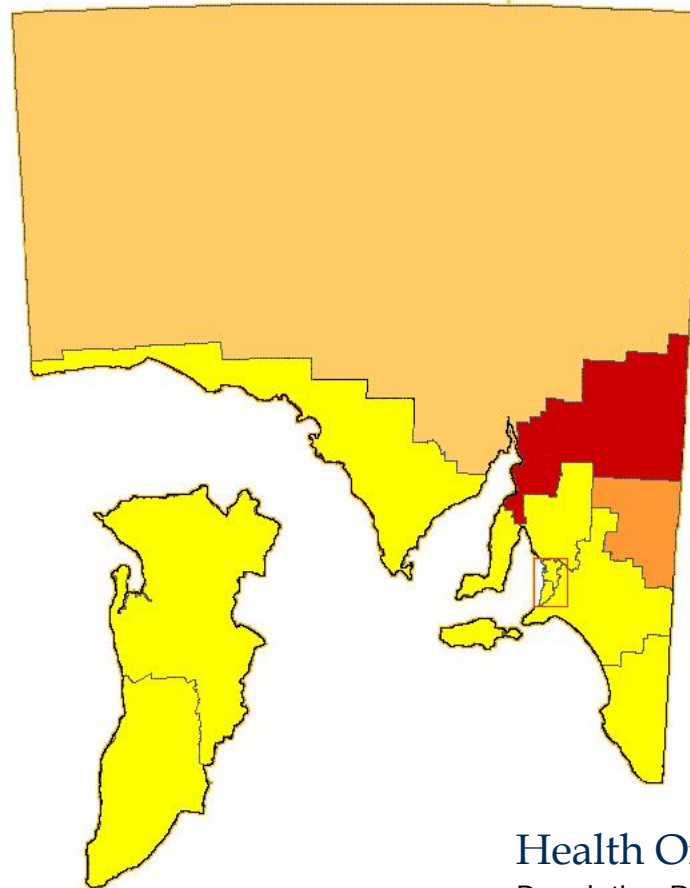
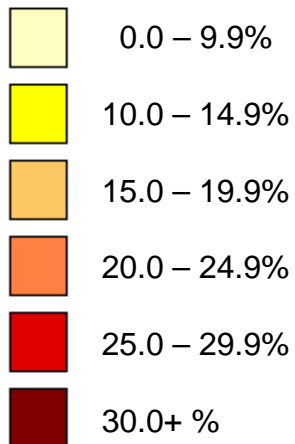


1993

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

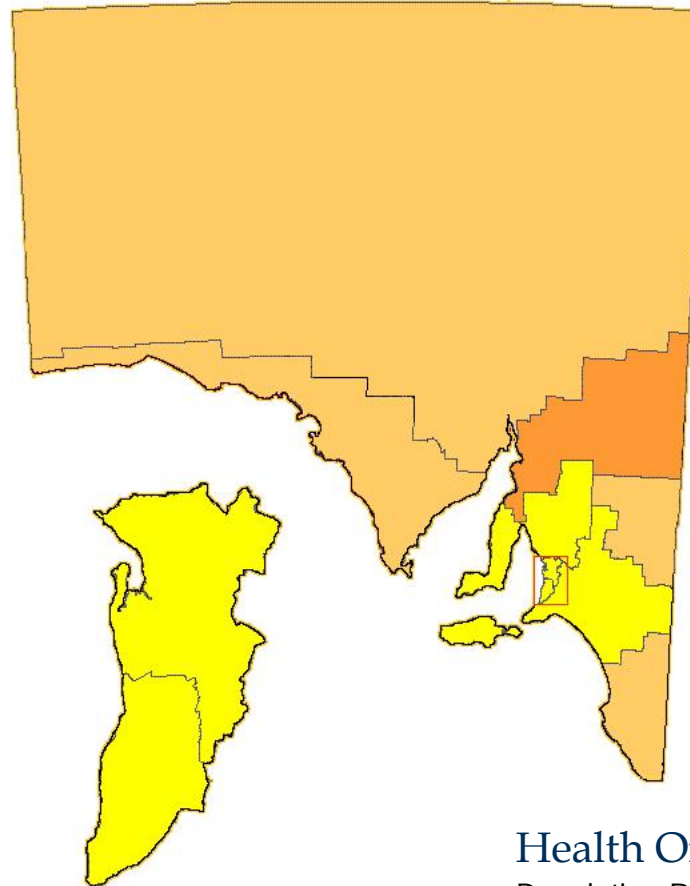
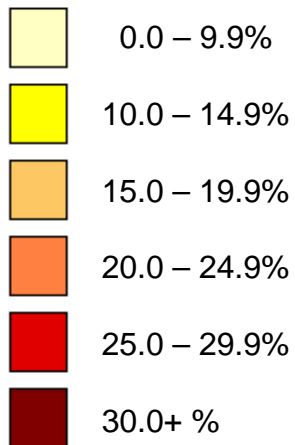


1994

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

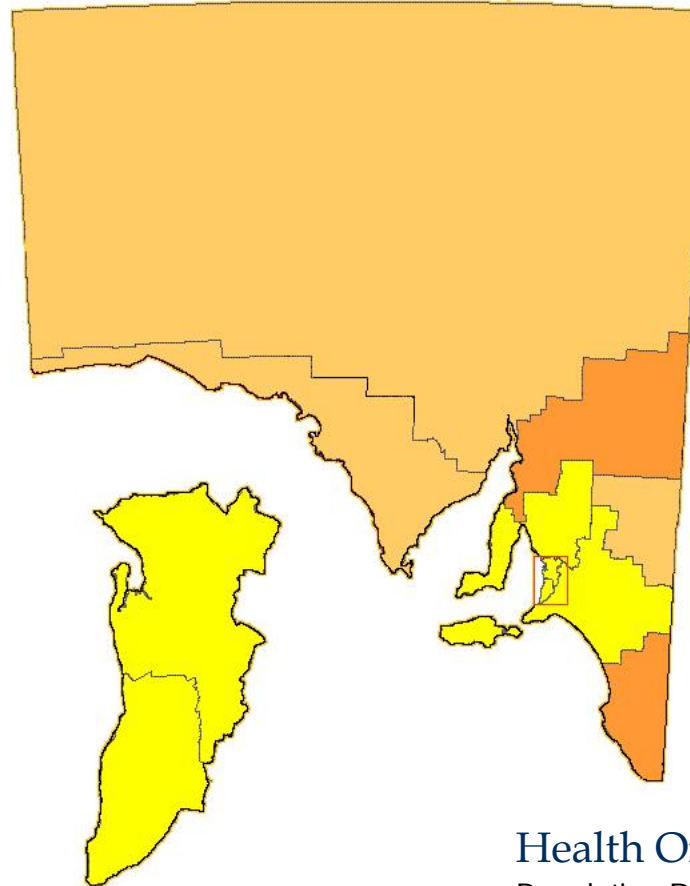
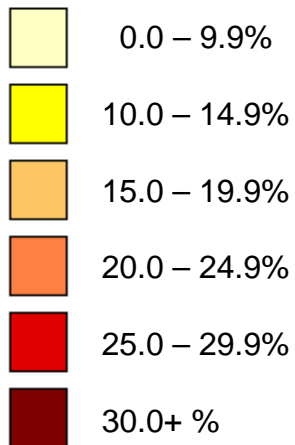


1995

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

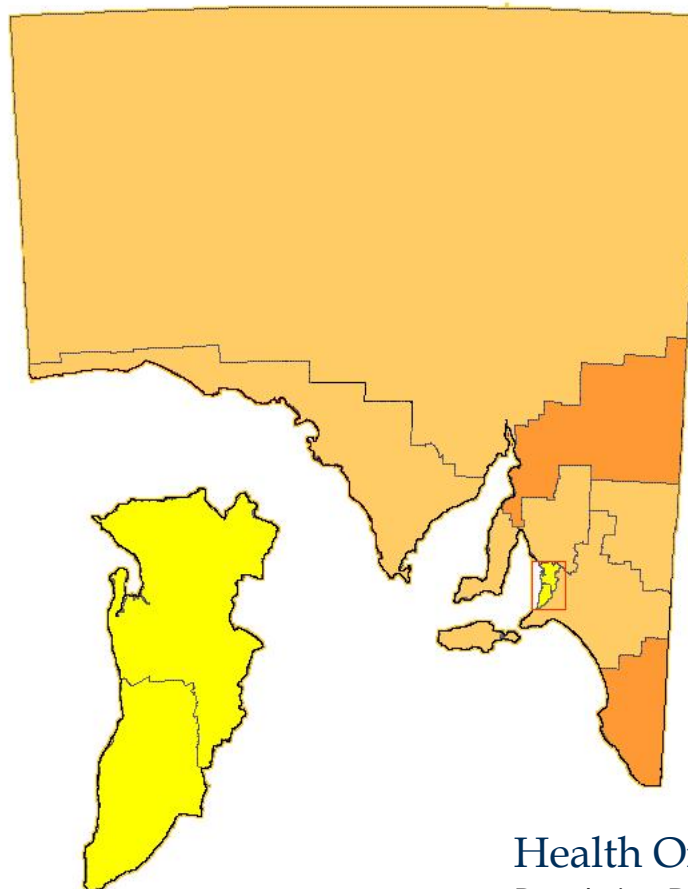
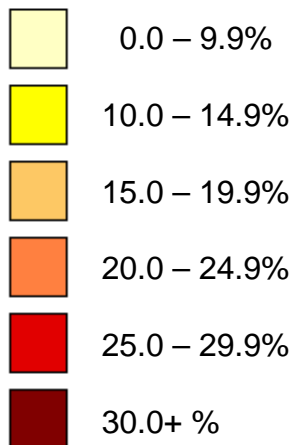


1996

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

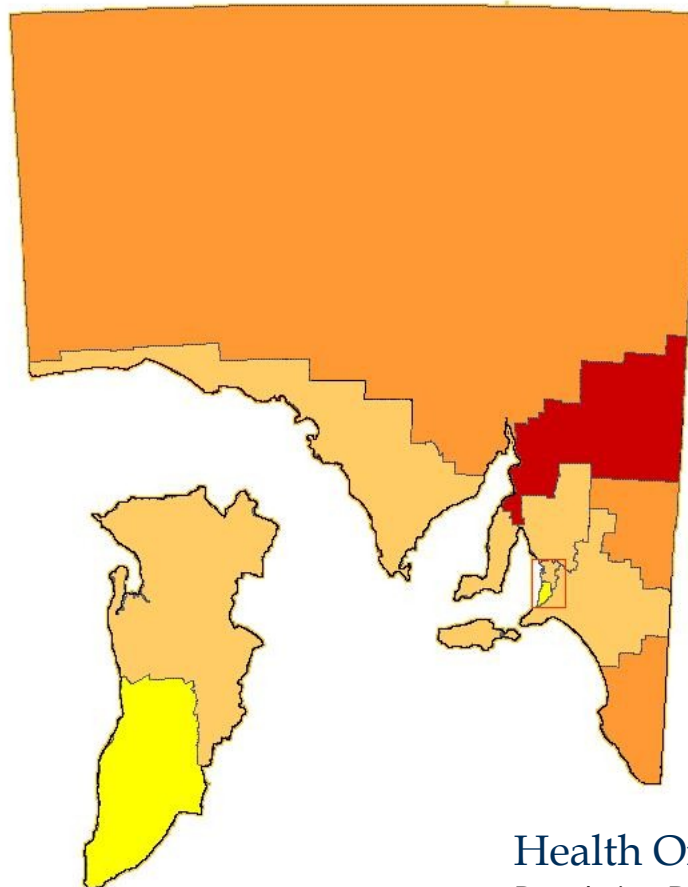
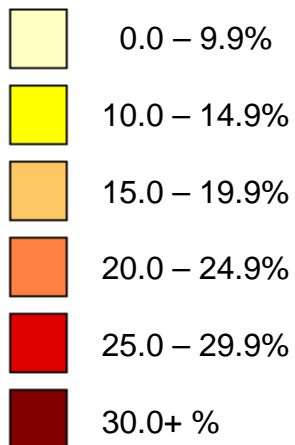


1997

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

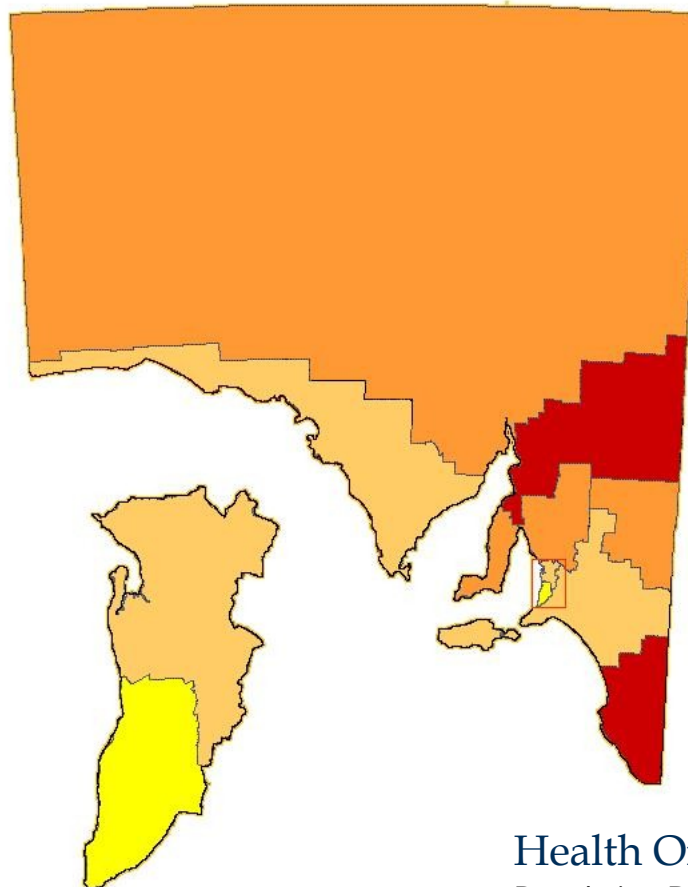
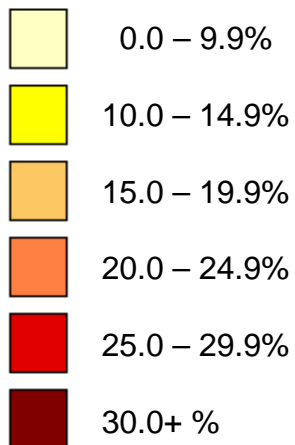


1998

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

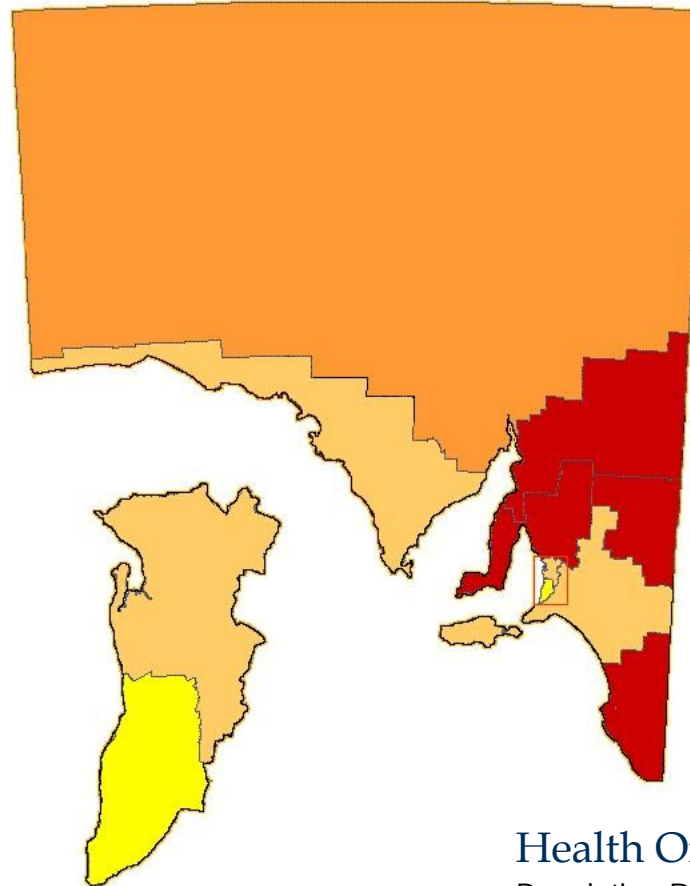
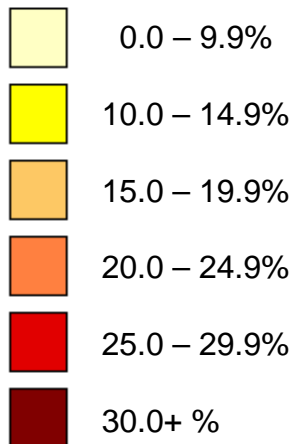


2001

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:



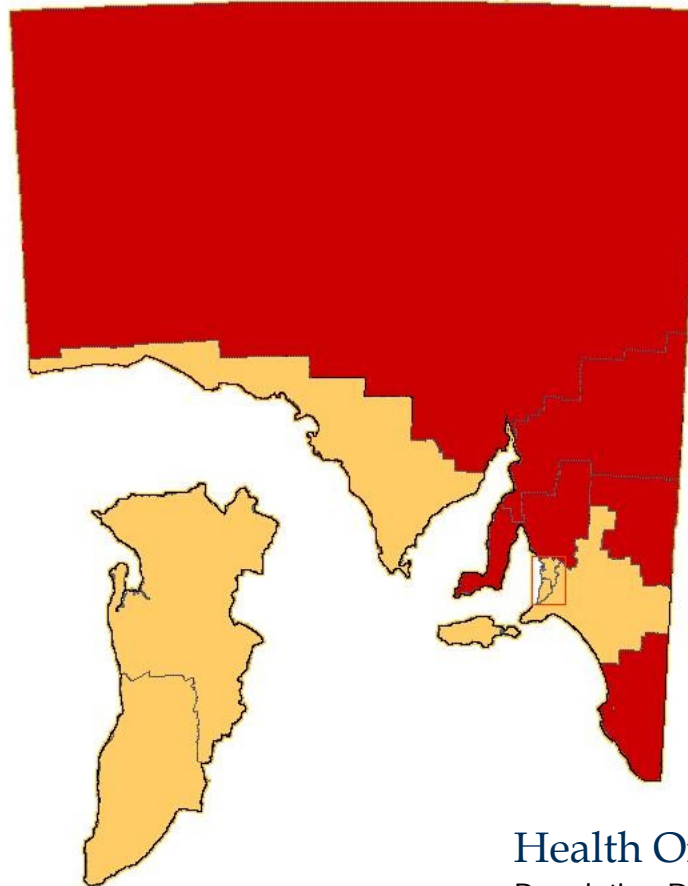
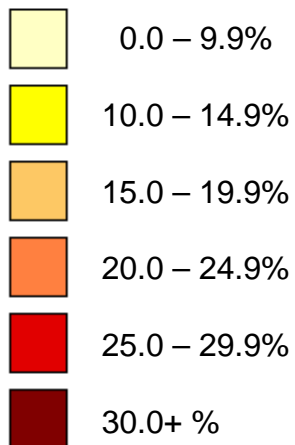
2003

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division



Monitoring risk factors - OBESITY

Prevalence of obesity:

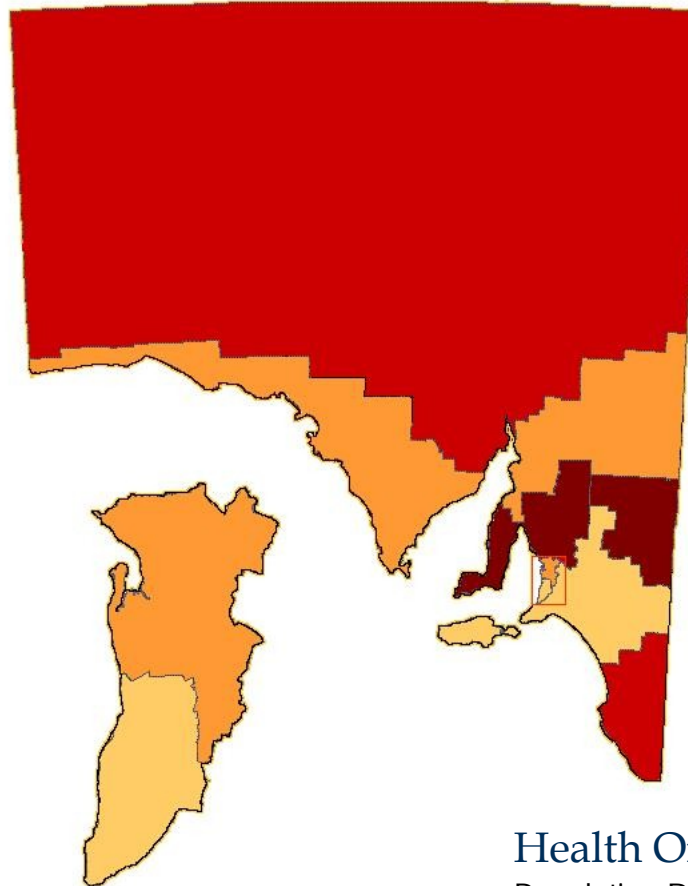
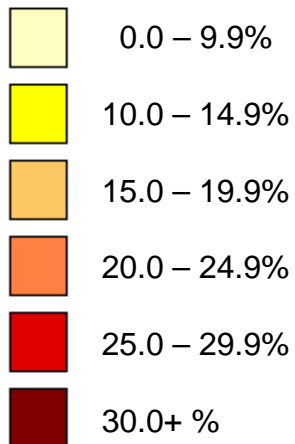


2004

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:

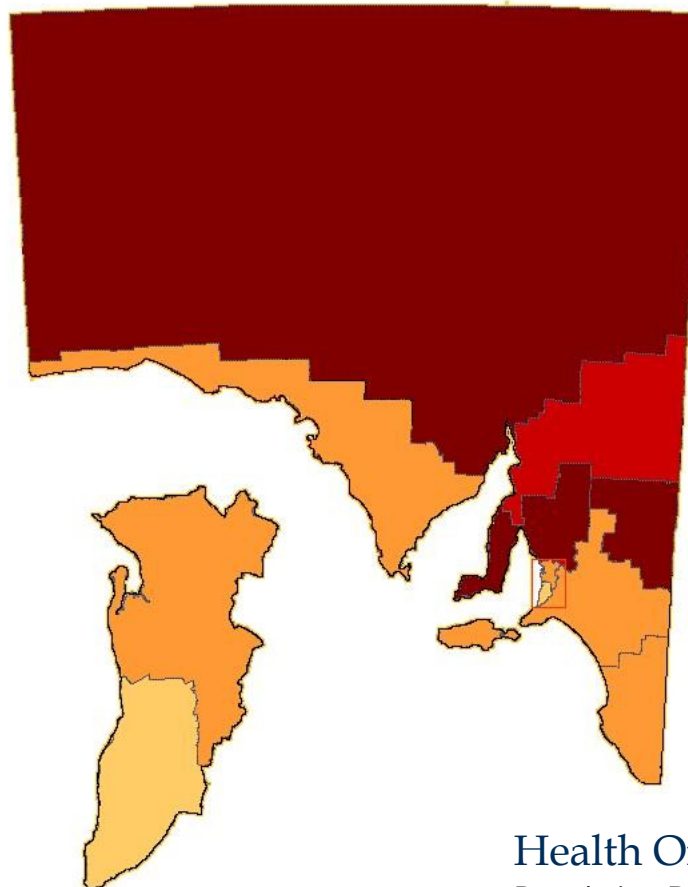
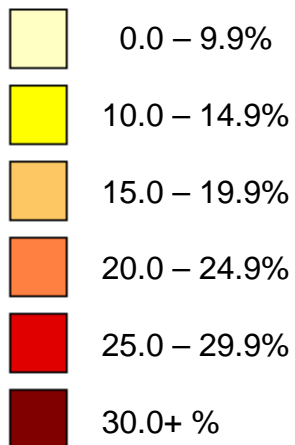


2005

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

Monitoring risk factors - OBESITY

Prevalence of obesity:



2006

Health Omnibus Survey, 18+ years
Population Research and Outcome Studies Unit
Health System Improvement and Reform Division

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



South Australian Monitoring and Surveillance System (SAMSS)

The Health Status of South Australians by SEIFA

Eleonora Dal Grande
Anne Taylor
Heather Jurg
Natalie Green

Population Research and Outcome Studies Unit



The Health Status of People Living in SA Divisions of General Practice

South Australian Monitoring and Surveillance System (SAMSS)



Government of South Australia
Department of Health

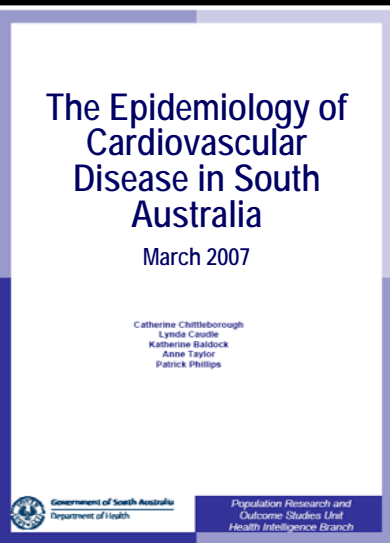
South Australian Monitoring and Surveillance System (SAMSS)

The Health Status of People Living in the Southern Adelaide Health Region: Overweight and Obese, Physical Activity and Nutrition



Chartbook of the Health and Wellbeing Status of Aboriginal and Torres Strait Islanders in South Australia 2006

Population Research & Outcome Studies Unit



Government of South Australia
Department of Health



Government of South Australia
Department of Health

An Epidemiological Analysis of Arthritis Prevalence Among South Australian Adults

Prepared for
Arthritis Foundation of SA

Tiffany Gill
Heather Jurg
Anne Taylor



Department
of Health

South Australian Monitoring and Surveillance System (SAMSS)

Which South Australians Experience Psychological Distress?

Jodie Avery
Eleonora Dal Grande
Anne Taylor
Tiffany Gill

Population Research and Outcome Studies

The Health and Wellbeing of Adult Family Carers in South Australia

An epidemiological analysis 1994 – 2004

Tiffany Gill
Heather Jurg
Jodie Avery
Rosemary Warrington
Anne Stacey
Anne Taylor

Population Research and Outcome Studies Unit
Health Intelligence Branch
Intergovernmental Relations

Division of General Practice report

- 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)



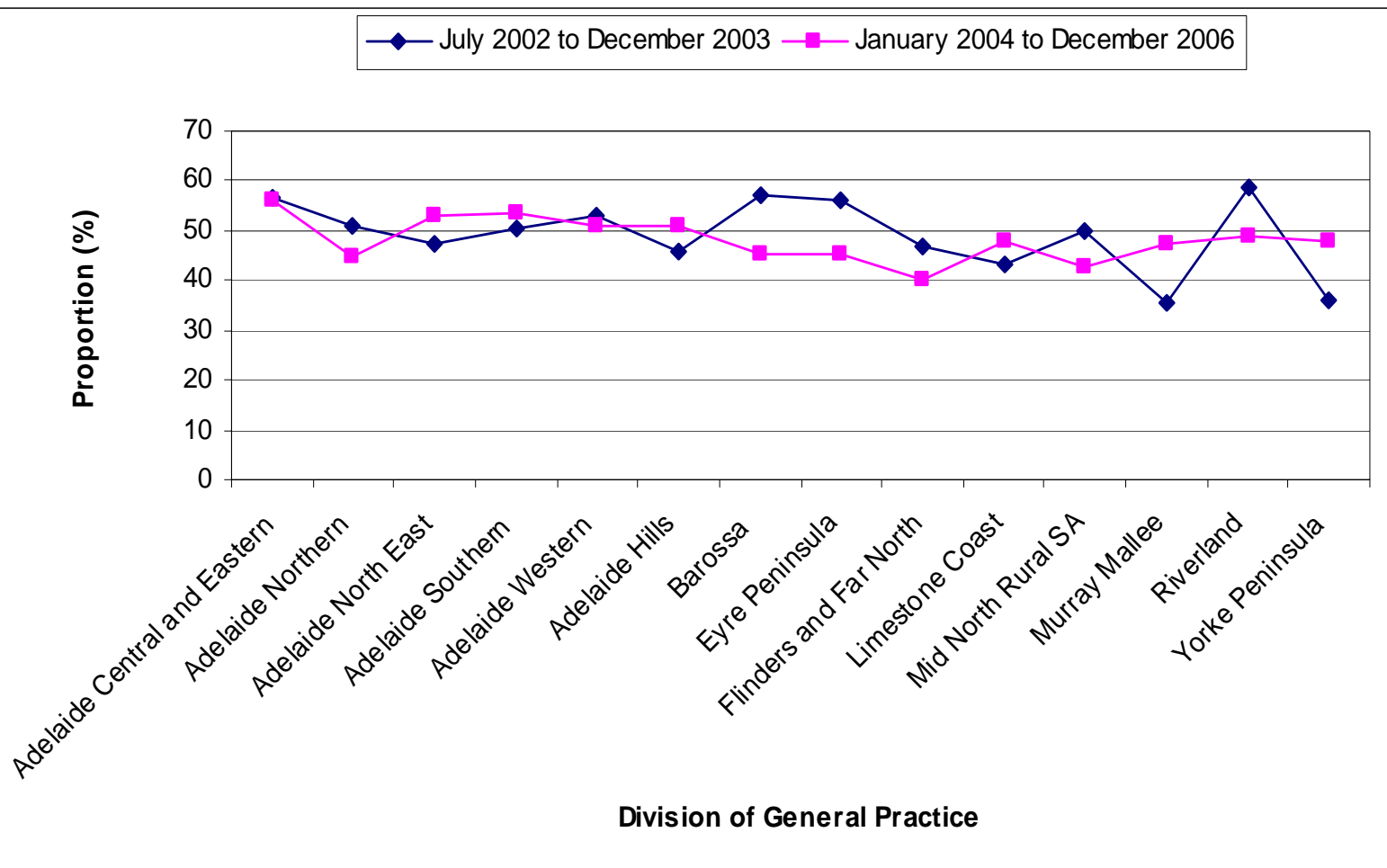
Self-Reported BMI by Divisions of General Practice (obese, as classified by WHO BMI criteria) 18+ years

| | July 2002 – December 2003 | | | | January 2004 – December 2006 | | | |
|------------------------------|---------------------------|------|---------------|---|------------------------------|------|---------------|---|
| | Obese | | | | Obese | | | |
| | n | % | (95% CI) | | n | % | (95% CI) | |
| Adelaide Central and Eastern | 163 | 15.1 | (13.1 - 17.4) | ↓ | 306 | 13.2 | (11.9 - 14.7) | ↓ |
| Adelaide Northern | 195 | 24.6 | (21.7 - 27.7) | ↑ | 432 | 24.3 | (22.3 - 26.3) | ↑ |
| Adelaide North East | 98 | 13.8 | (11.5 - 16.5) | ↓ | 309 | 18.0 | (16.3 - 19.9) | |
| Adelaide Southern | 296 | 18.2 | (16.4 - 20.1) | | 633 | 17.4 | (16.2 - 18.6) | ↓ |
| Adelaide Western | 144 | 17.0 | (14.6 - 19.7) | | 345 | 17.9 | (16.3 - 19.7) | |
| Adelaide Hills | 44 | 16.6 | (12.7 - 21.6) | | 112 | 16.3 | (13.7 - 19.2) | |
| Barossa | 12 | 6.5 | (3.7 - 11.0) | ↓ | 96 | 22.4 | (18.7 - 26.6) | |
| Eyre Peninsula | 40 | 18.2 | (13.6 - 23.8) | | 114 | 23.6 | (20.0 - 27.6) | ↑ |
| Flinders and Far North | 27 | 30.6 | (21.9 - 40.9) | ↑ | 69 | 32.6 | (26.6 - 39.1) | ↑ |
| Limestone Coast | 77 | 26.8 | (22.0 - 32.2) | ↑ | 150 | 24.3 | (21.1 - 27.8) | ↑ |
| Mid North Rural SA | 37 | 18.6 | (13.8 - 24.6) | | 86 | 22.7 | (18.8 - 27.2) | |
| Murray Mallee | 33 | 24.6 | (18.1 - 32.5) | | 91 | 26.8 | (22.4 - 31.8) | ↑ |
| Riverland | 44 | 28.1 | (21.7 - 35.6) | ↑ | 66 | 21.2 | (17.1 - 26.1) | |
| Yorke Peninsula | 25 | 23.3 | (16.2 - 32.1) | | 68 | 27.3 | (22.1 - 33.1) | ↑ |
| Overall | 1235 | 18.5 | (17.5 - 19.4) | | 2878 | 19.1 | (18.5 - 19.7) | |



Sufficient physical activity by Divisions of General Practice

18 years and over (state average = 50.8%)

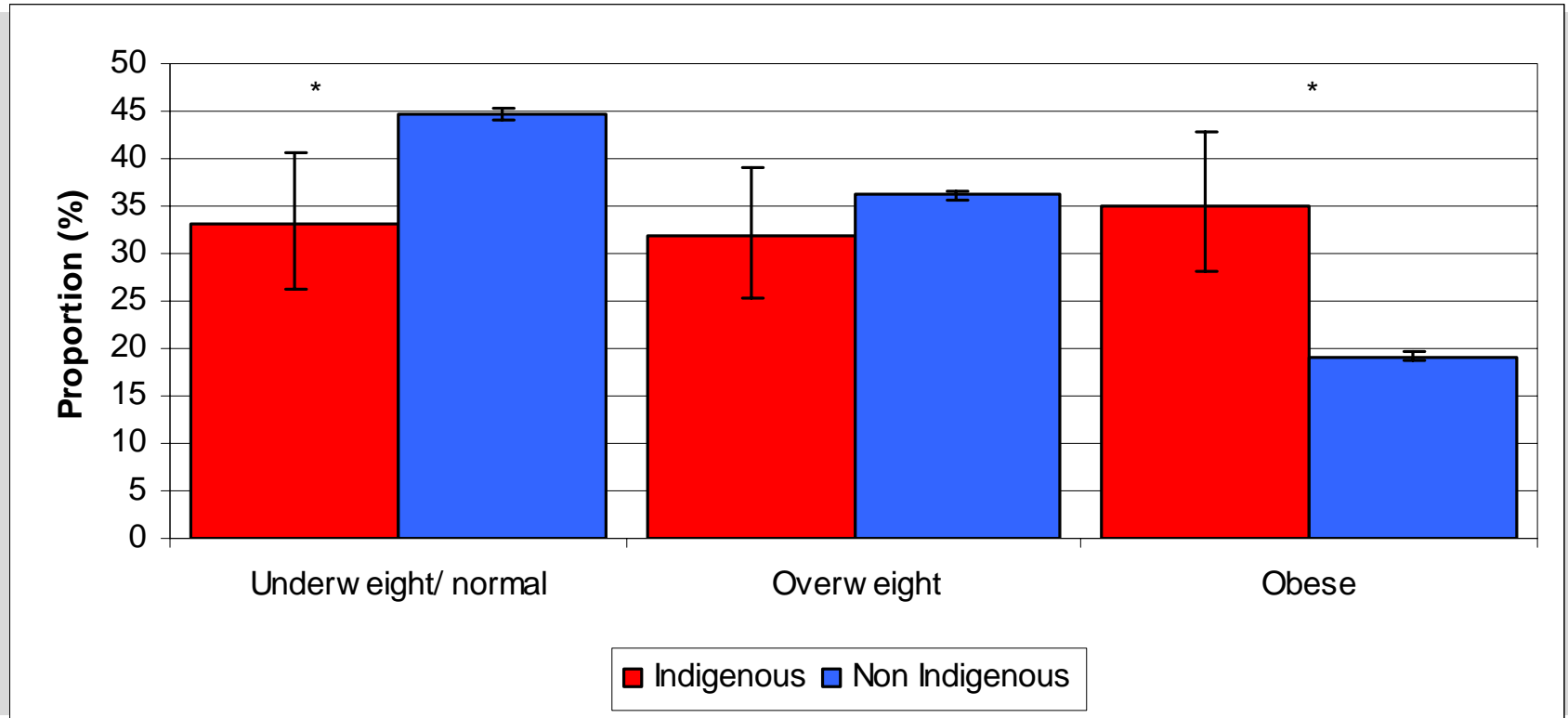


Aboriginal and Torres Strait Islanders report

- Census 2001 –
 - 1.1% of SA adults identify as Aboriginal & Torres Strait Islanders
- Surveillance system
 - 0.7% of sample identified as ATSI

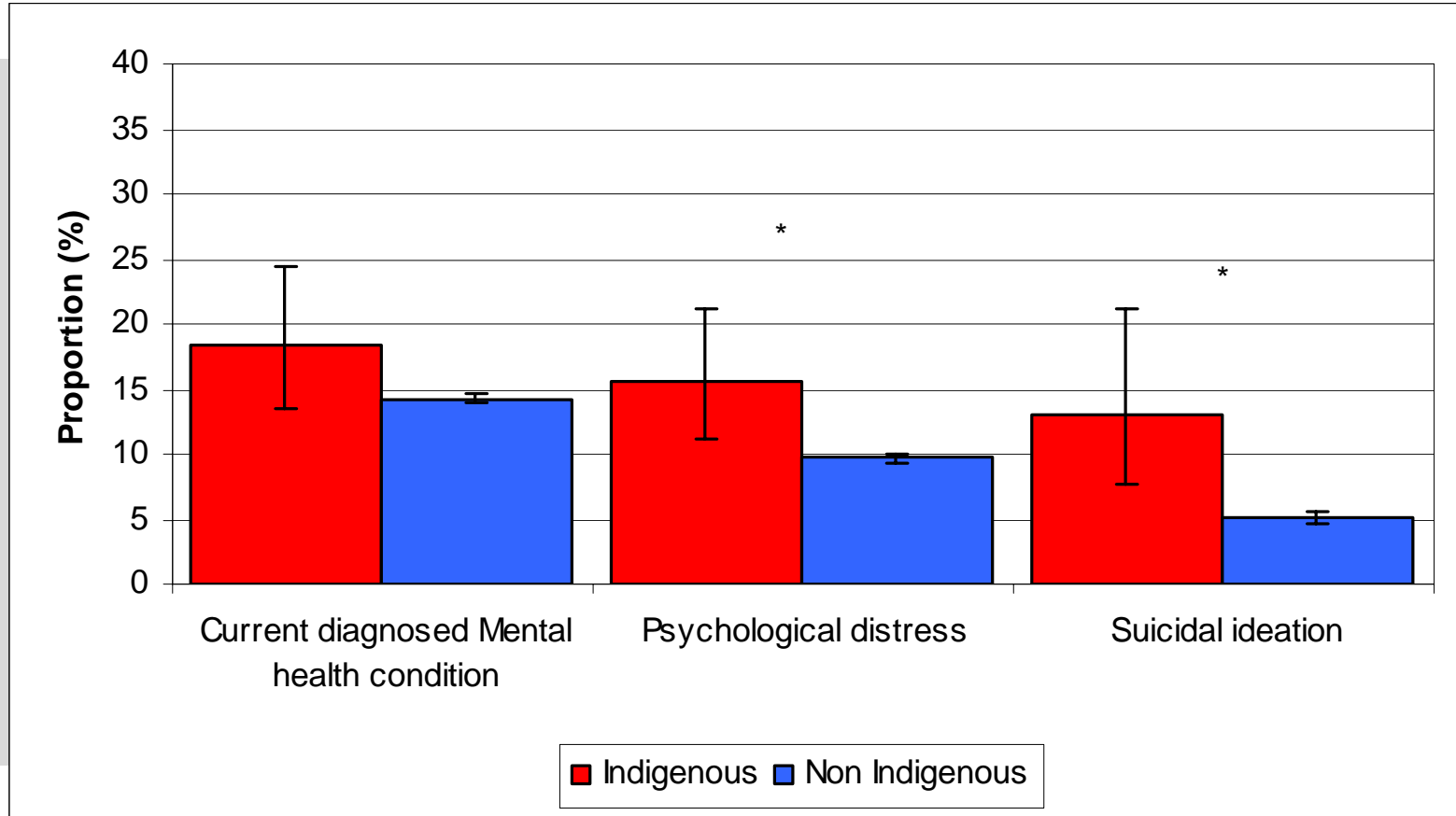


BMI by Aboriginal and Torres Strait Islander status



Source: SAMSS July 2002-Dec 2005, 18+ years

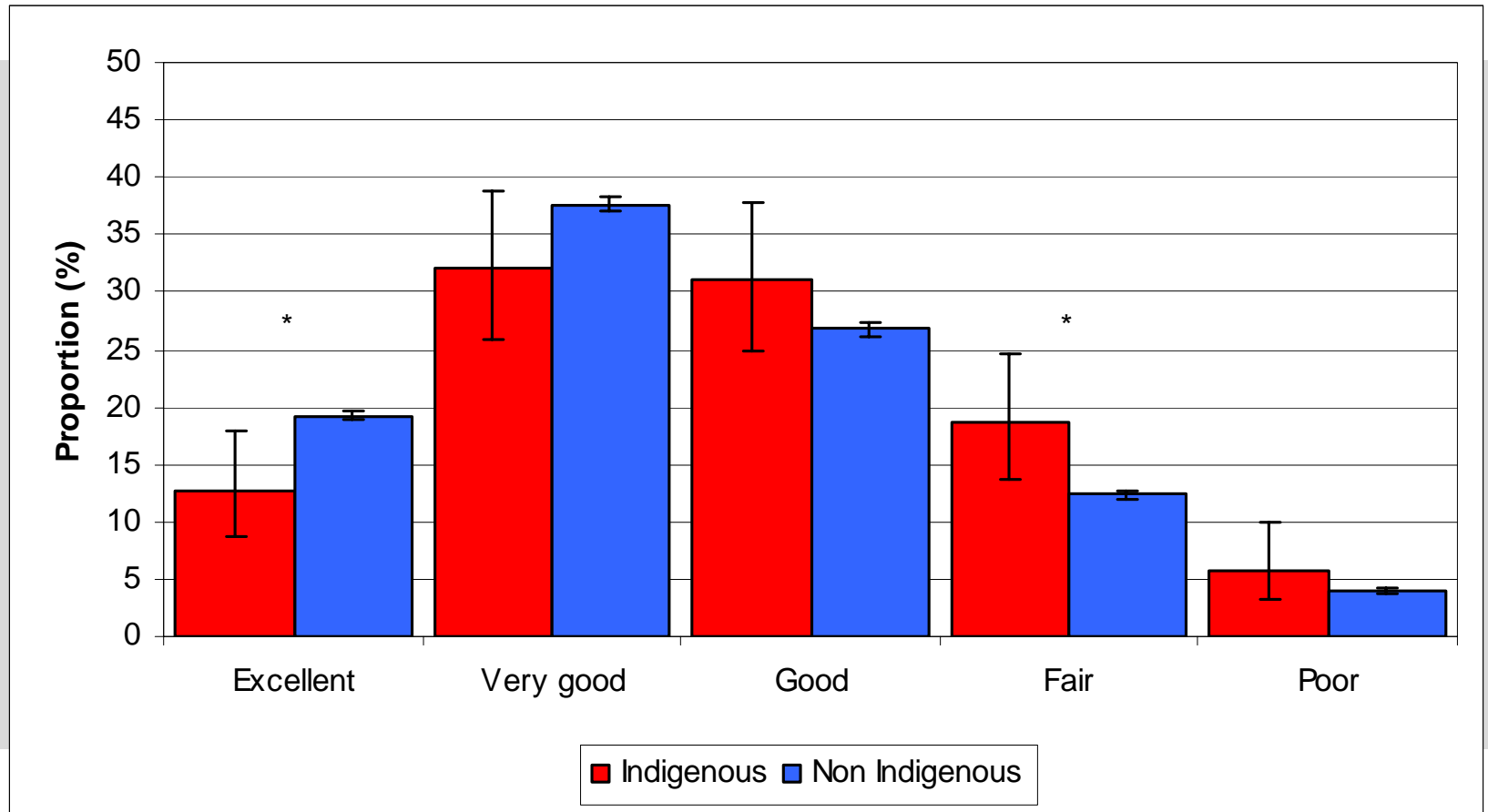
Mental health status by Aboriginal & Torres Strait Islander status



SAMSS July 2002-Dec 2005



Overall health status by Aboriginal and Torres Strait Islander status

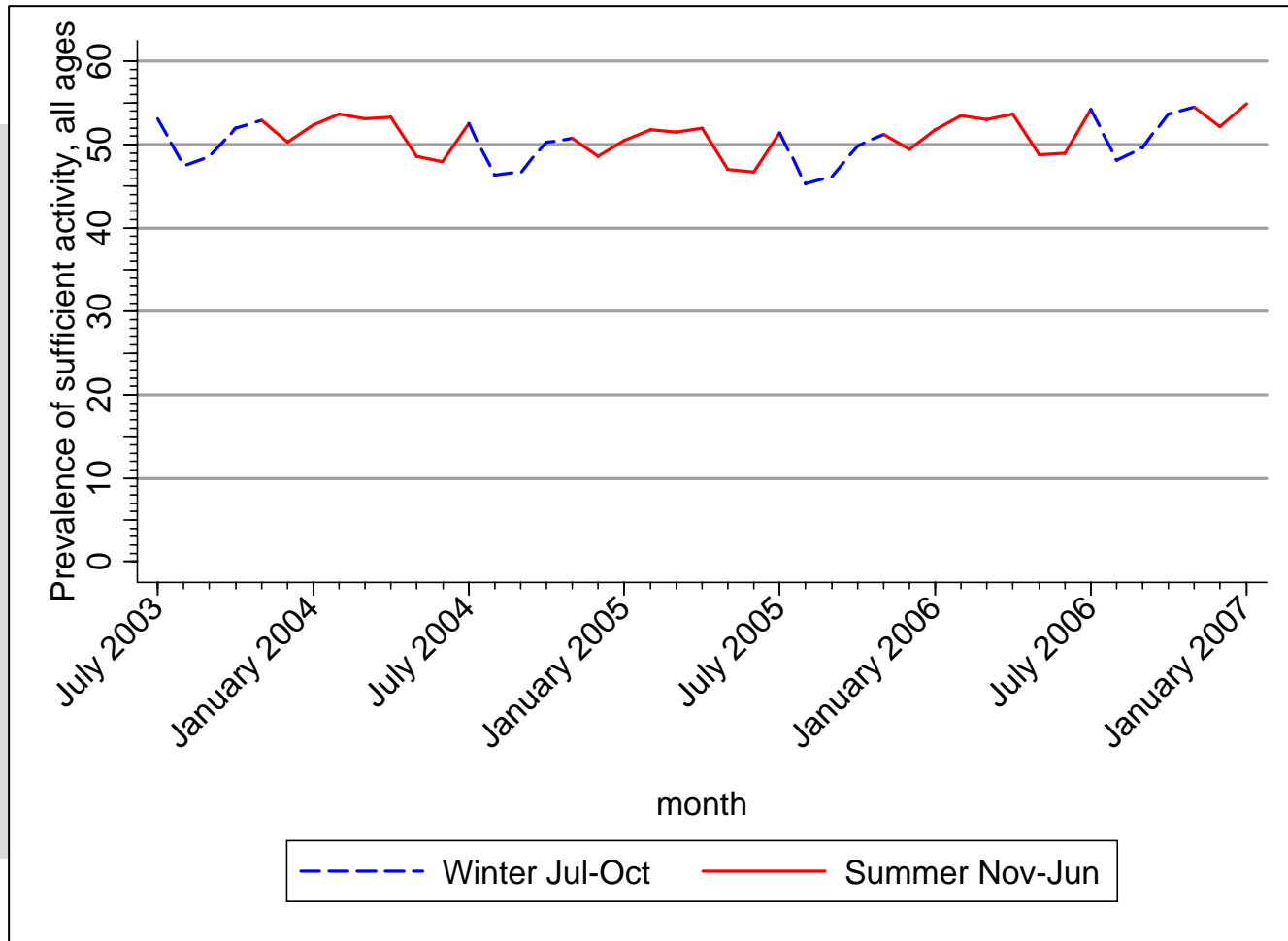


Source: SAMSS July 2002-Dec 2005



P – Physical Activity

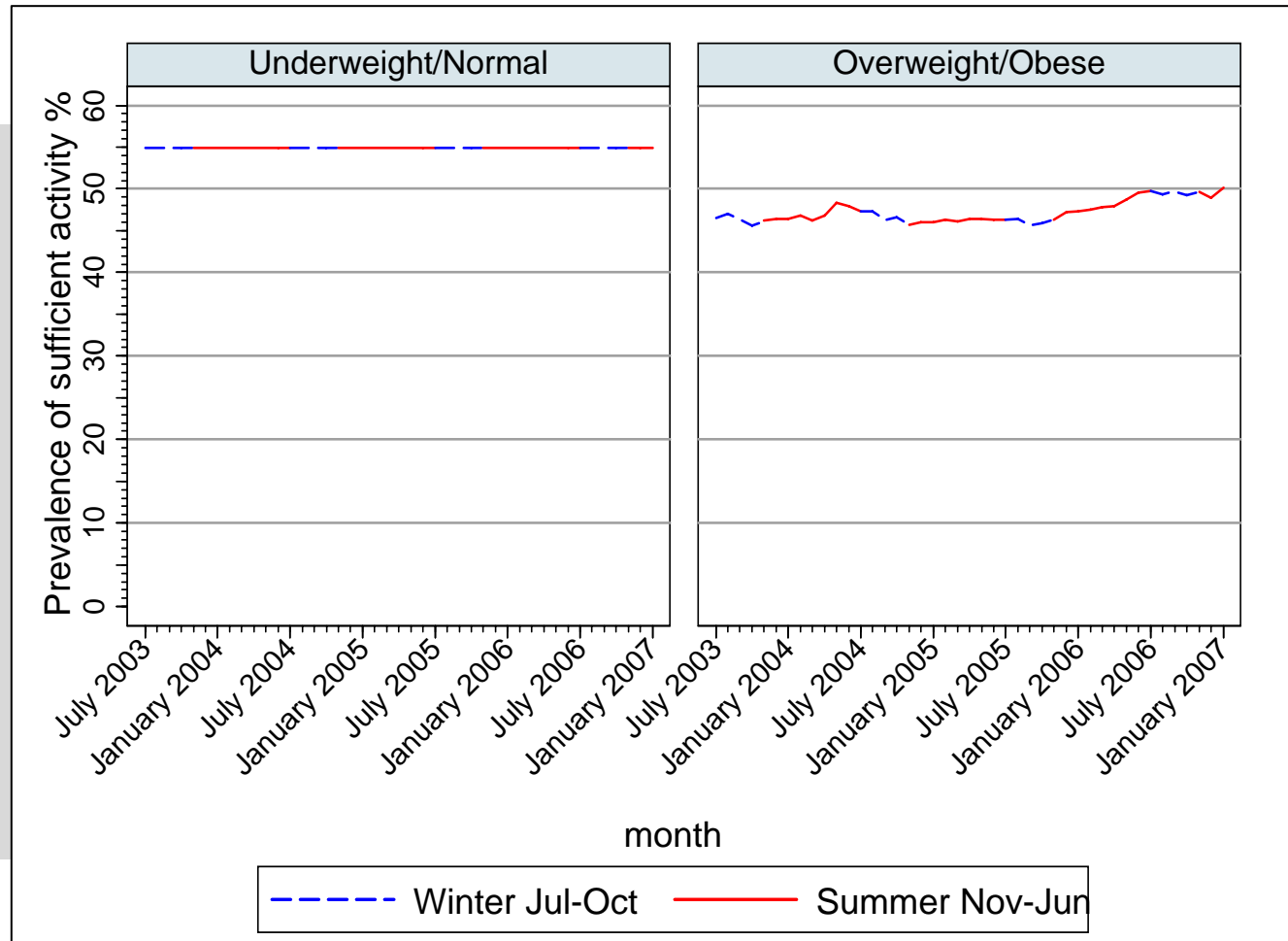
Proportion undertaking sufficient physical activity by season



Source: SAMSS 2002-2007



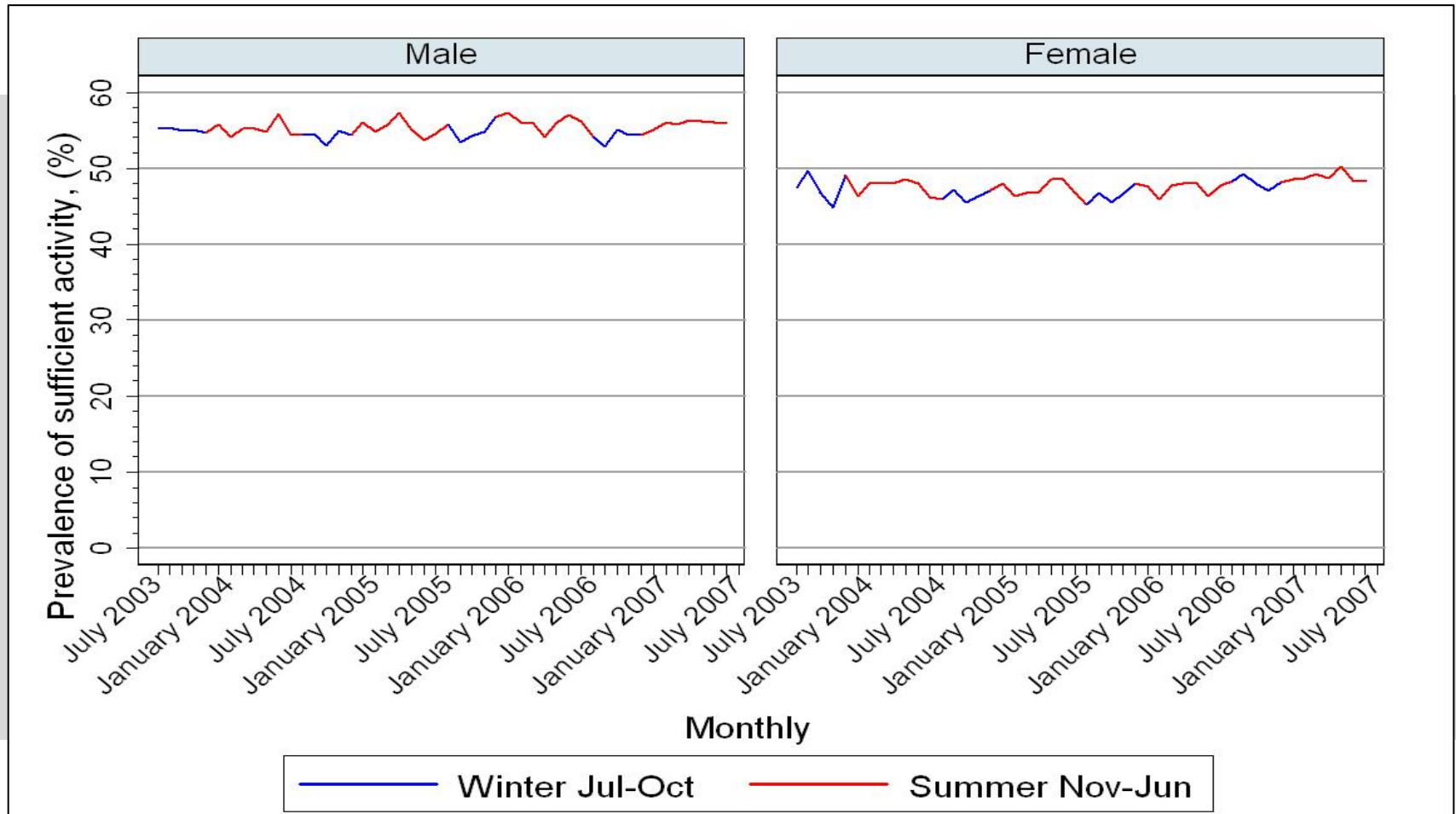
Proportion undertaking sufficient physical activity by BMI



Source: SAMSS 2002-2007



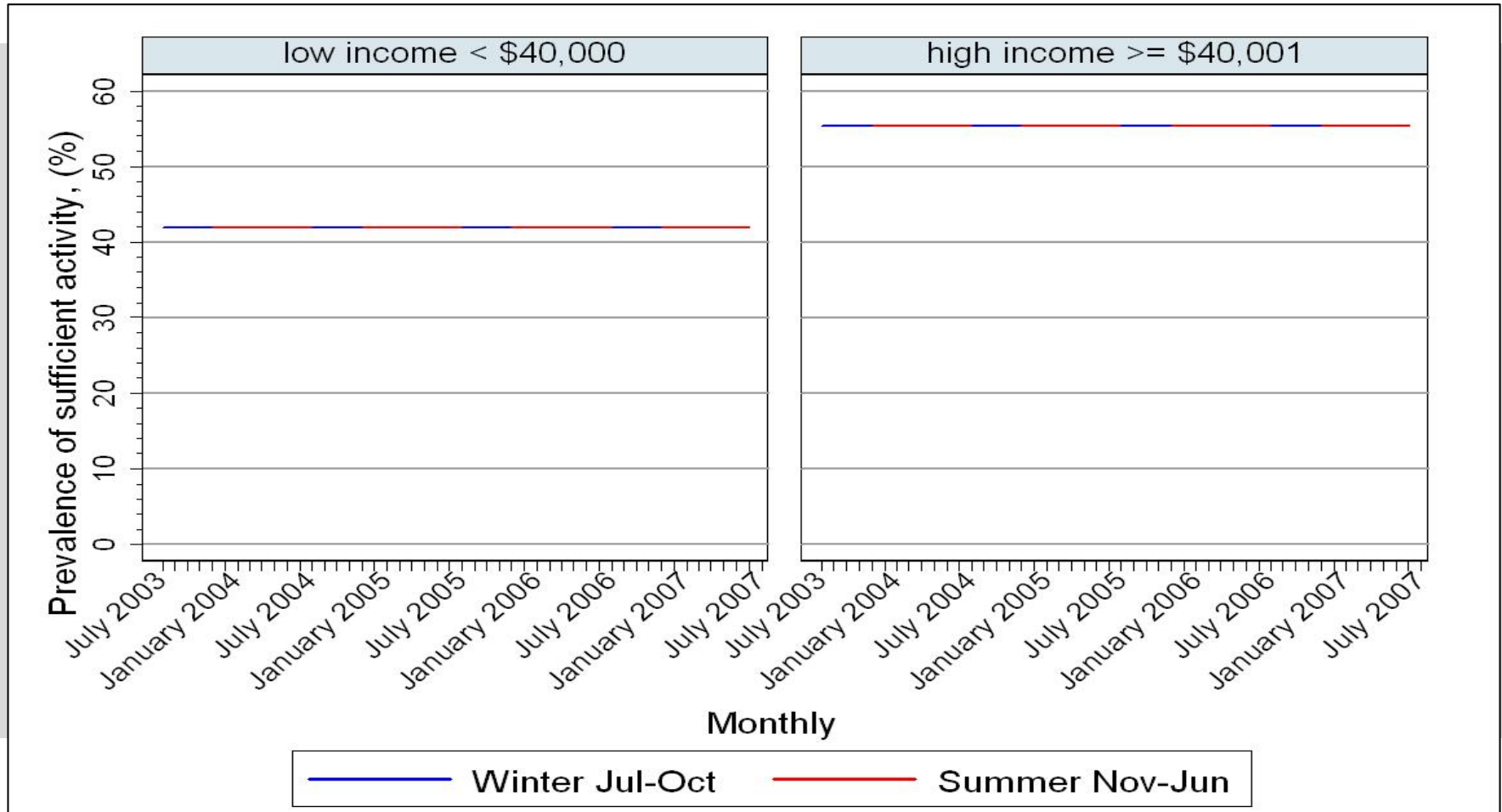
Proportion undertaking sufficient physical activity by gender



Data source: SAMSS, age 16 years and over



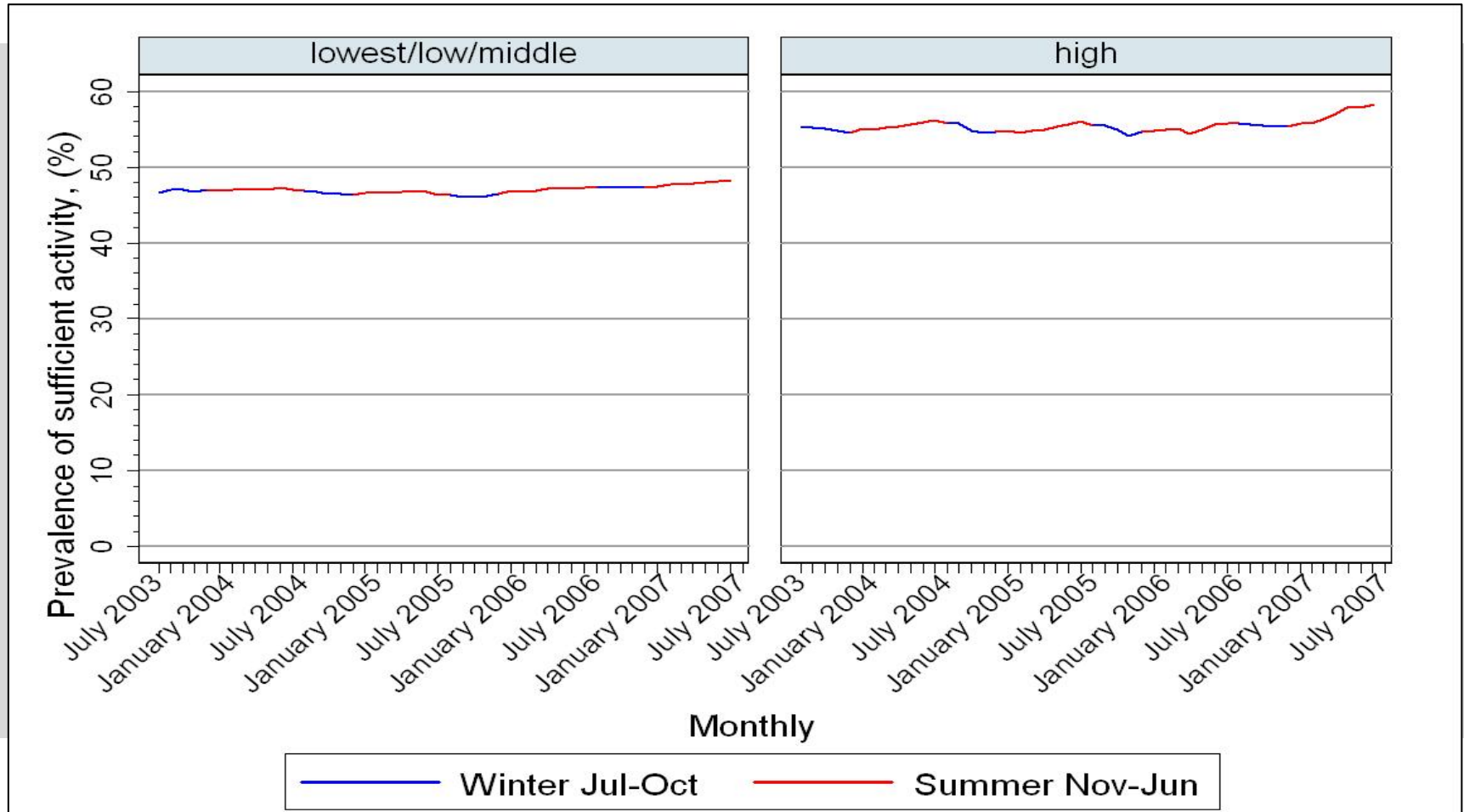
Proportion undertaking sufficient physical activity by income



Data source: SAMSS, age 16 years and over



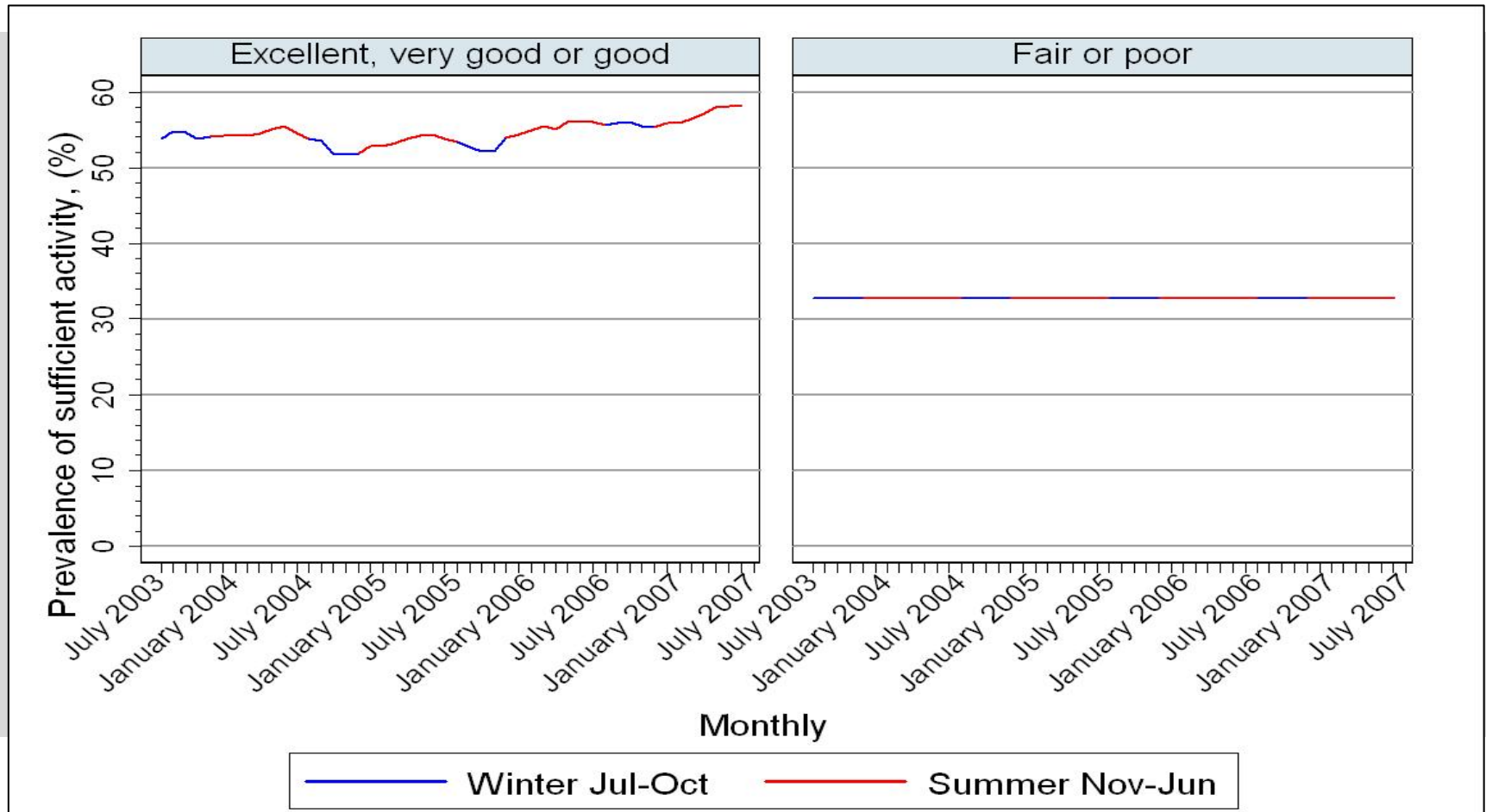
Proportion undertaking sufficient physical activity by SEIFA



Data source: SAMSS, age 16 years and over



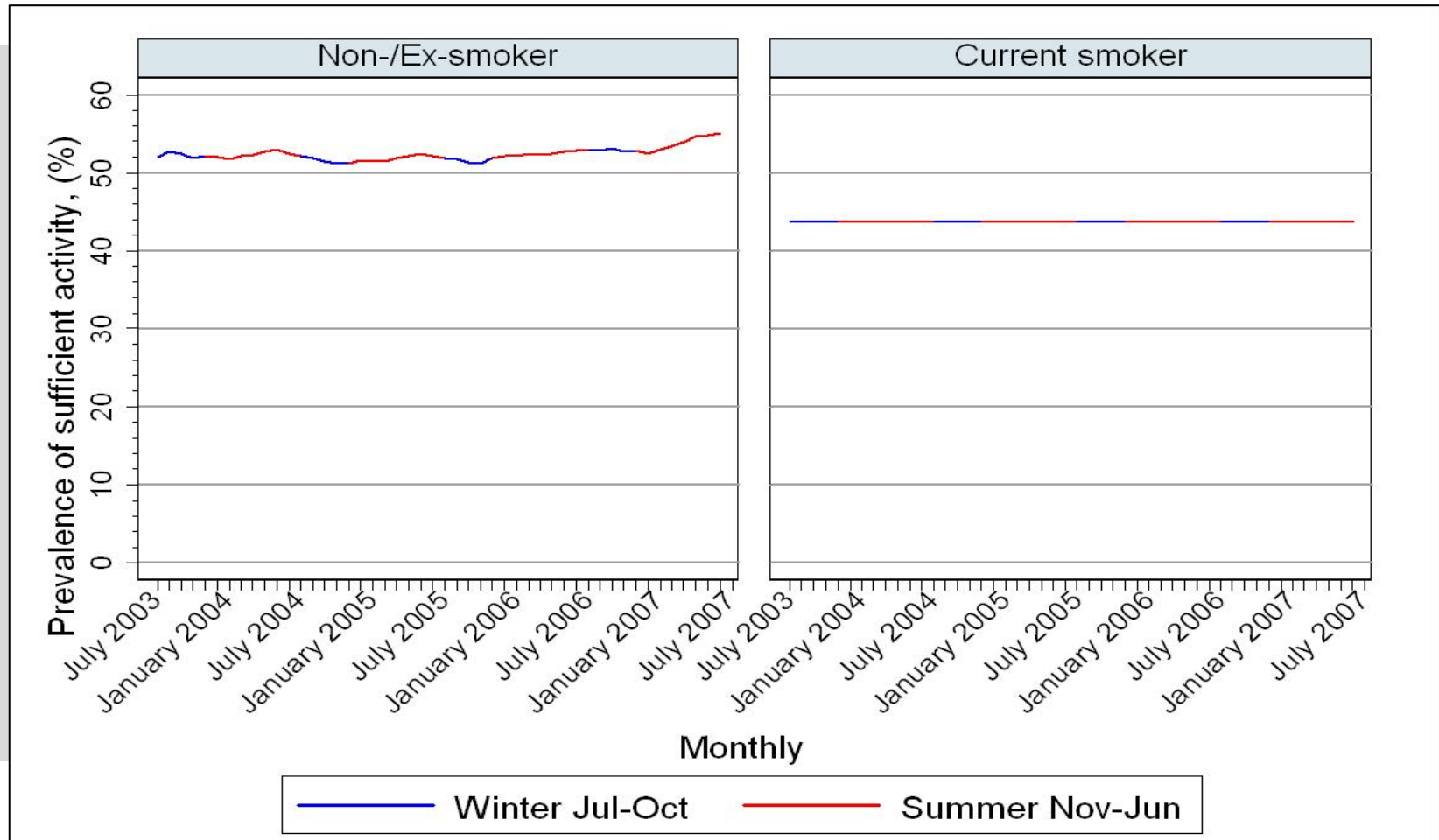
Proportion undertaking sufficient physical activity by overall health status



Data source: SAMSS, age 16 years and over



Proportion undertaking sufficient physical activity by smoking status

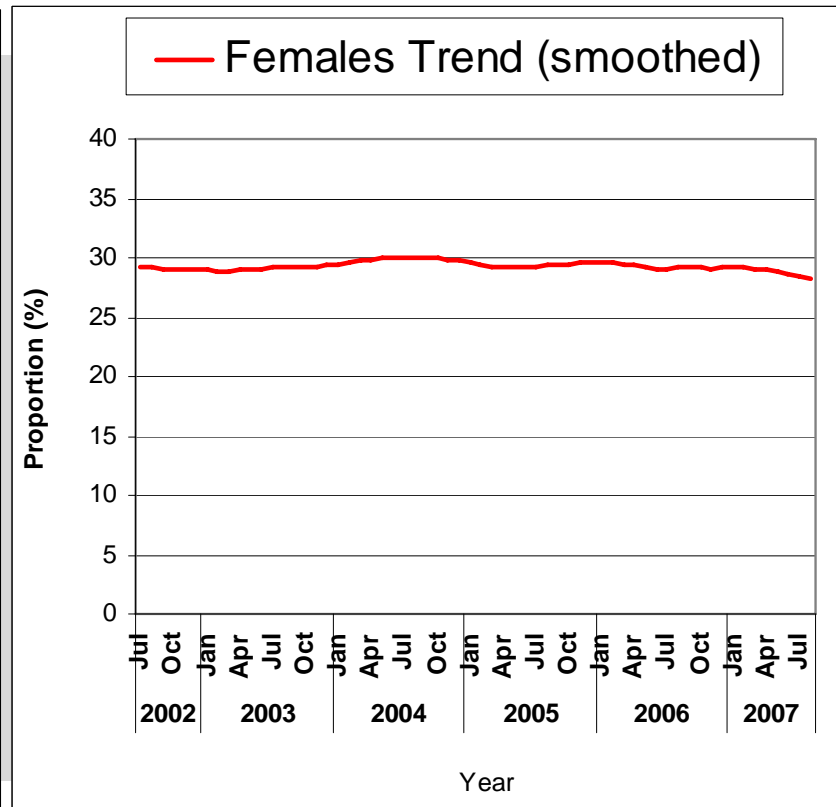
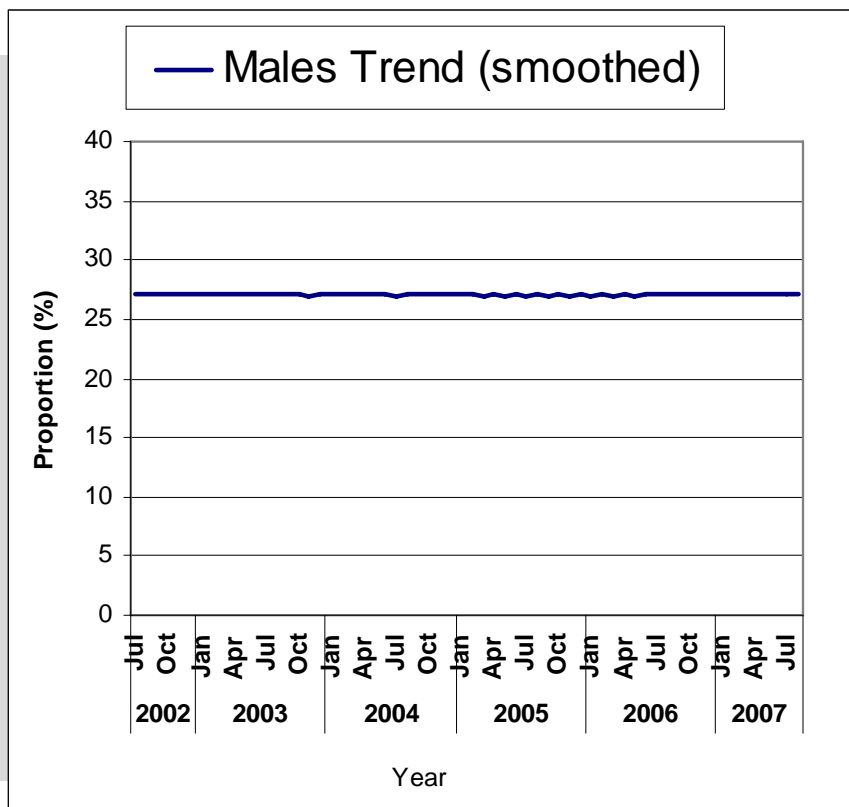


Data source: SAMSS, age 16 years and over

L – Lifestyle

Household money situation by gender

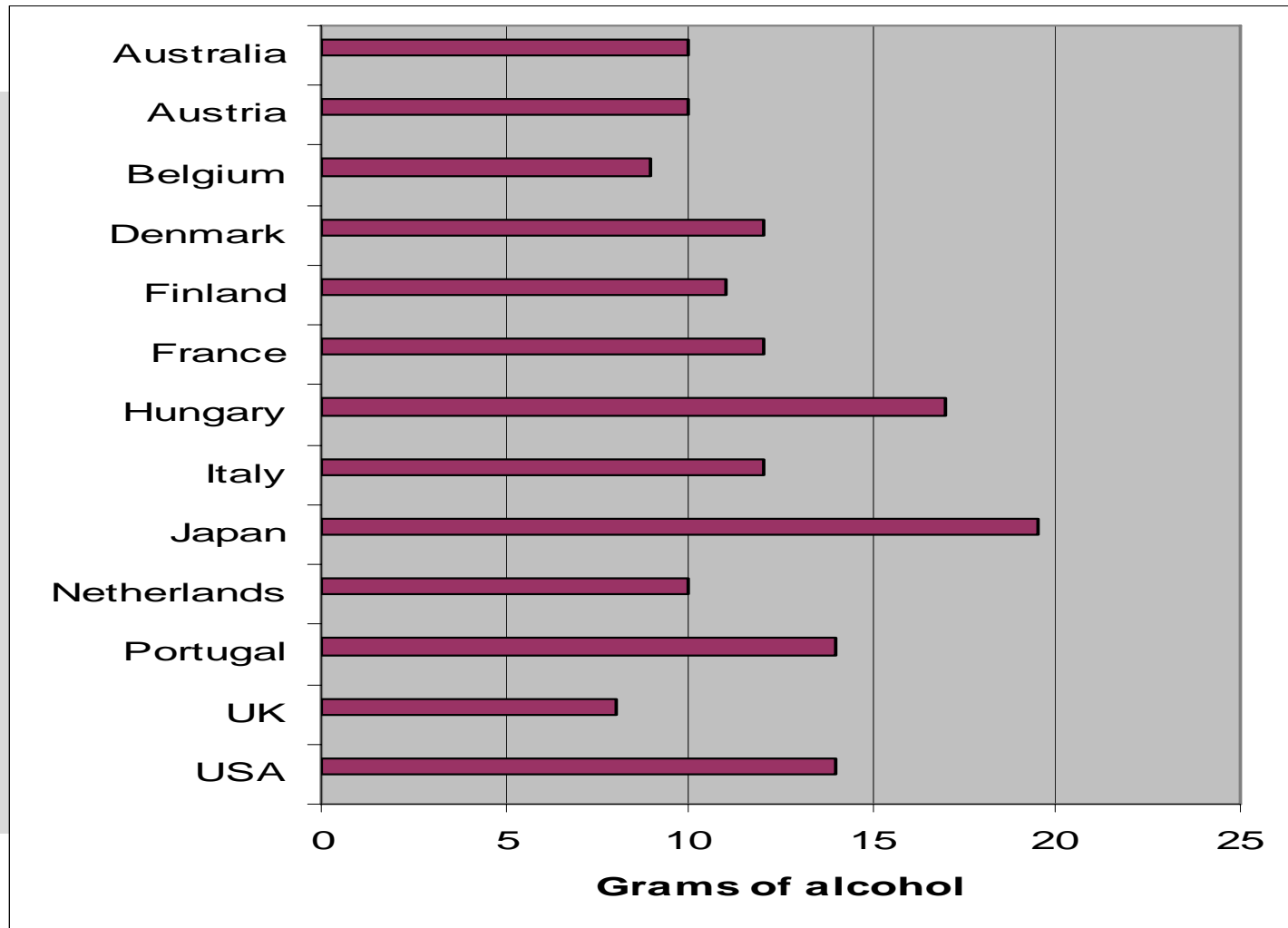
(spending more money than getting, just enough money to get through to next pay, money left over but just spend it)



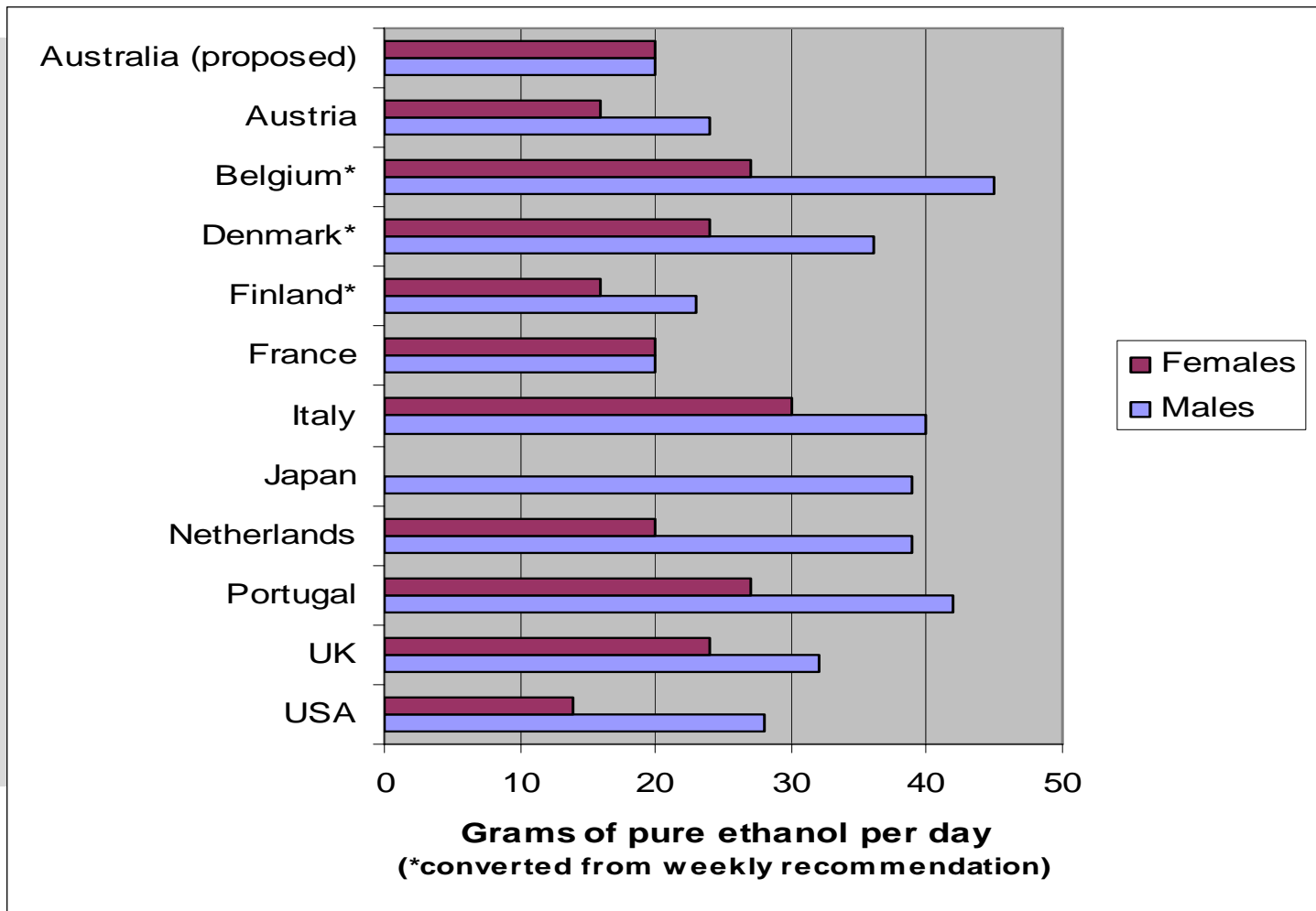
Data source: SAMSS, age 16 years and over

A - Alcohol

Standard drink definitions in different countries



Recommendations of safe level of alcohol consumption



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



Australian alcohol guidelines (Draft – Oct 2007)

- New guidelines (low risk drinking)
 - Males & Females
 - 2 standard drinks or less in any one day



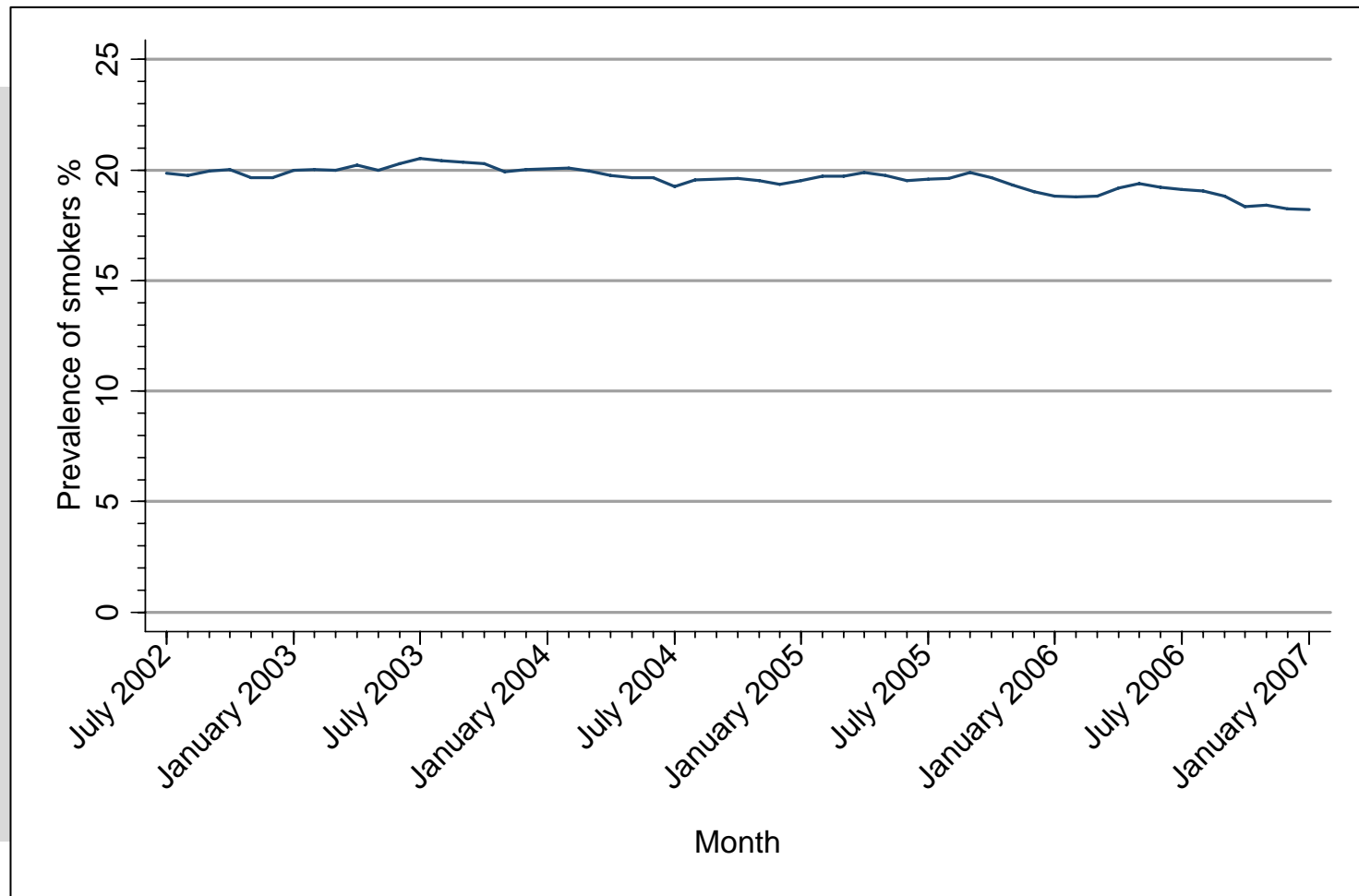
C - Cigarettes

Smoking interventions

- Tobacco control
 - \$A4 million per year (South Australia)
- Smoking cessation
 - Quit programs, media and social marketing
- Prevention
 - Focus: youth, ATSI, schools



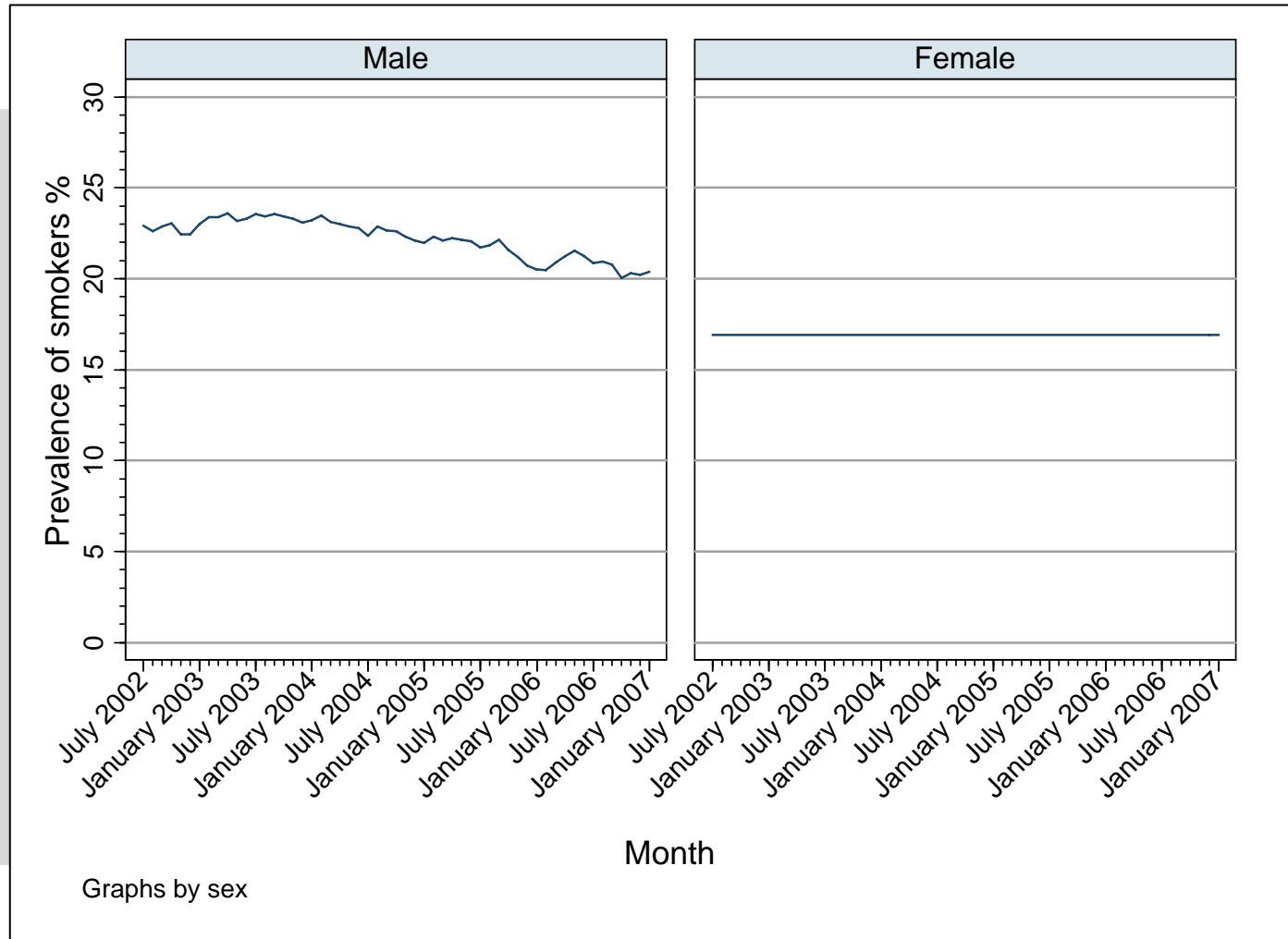
Proportion of adults smoking



Data source: SAMSS, age 16 years and over



Proportion of adult smokers by gender



Data source: SAMSS, age 16 years and over

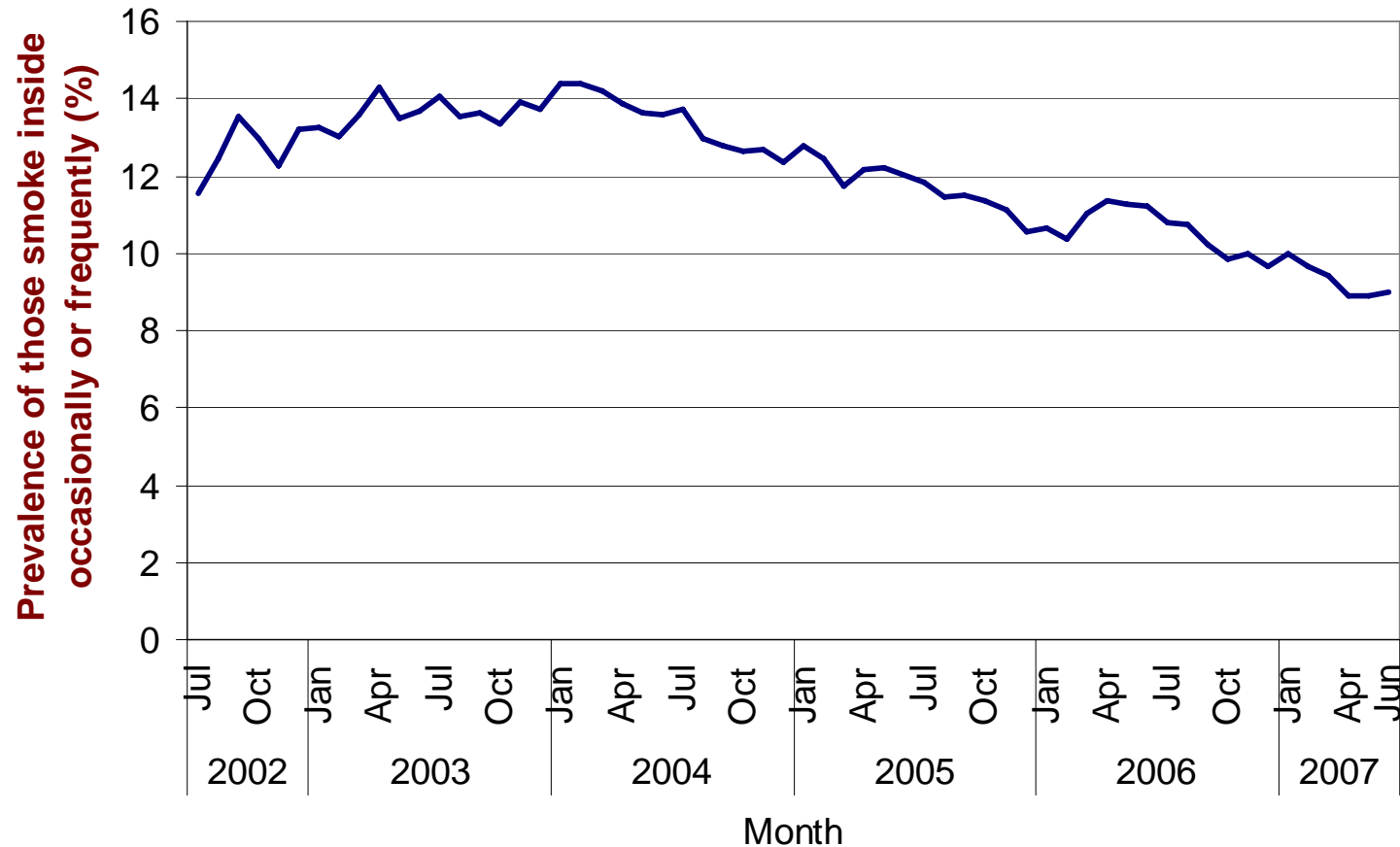


Smoking policy and legislation

- 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

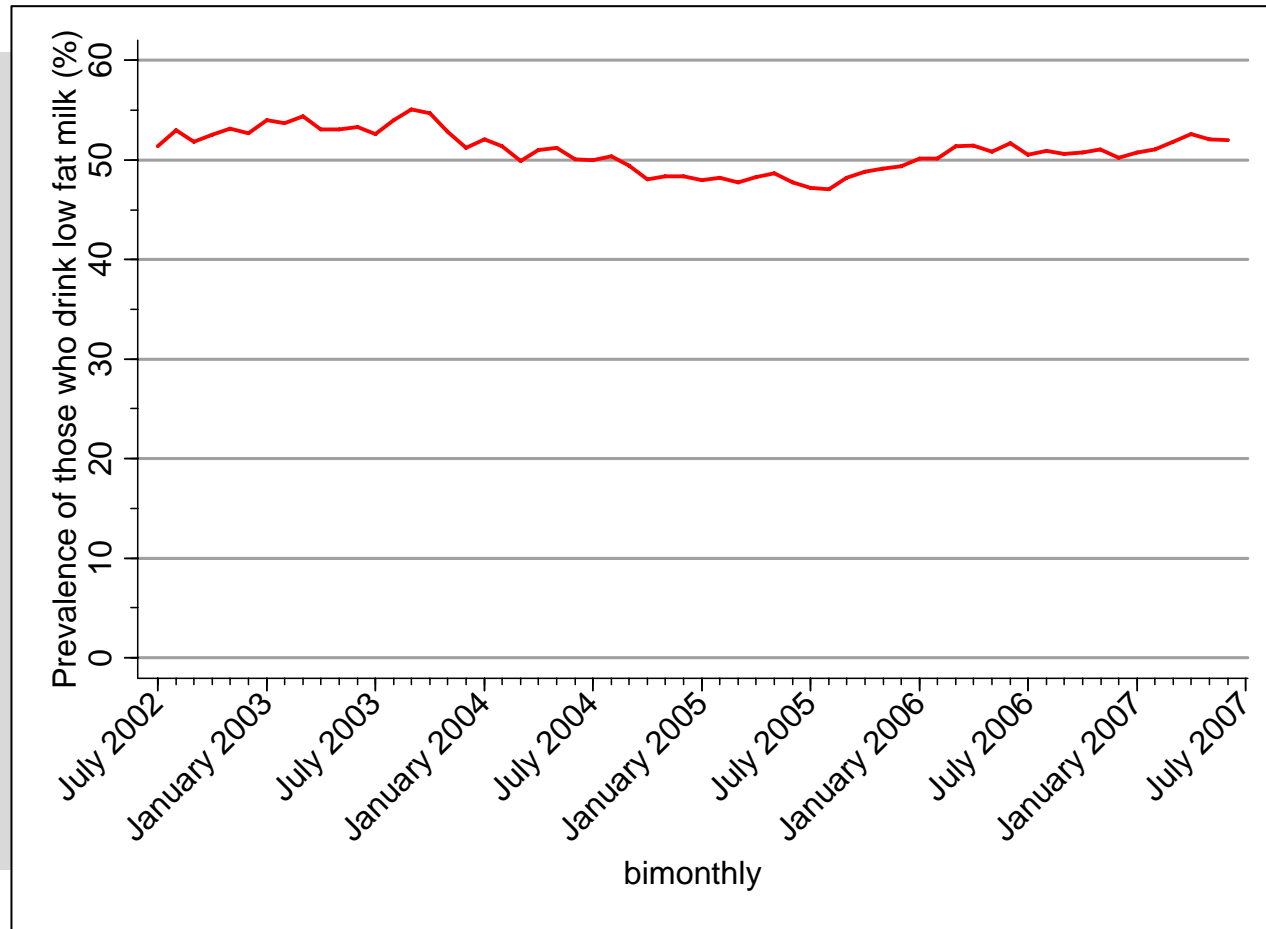


Data source: SAMSS, age 16 years and over



E - Eating

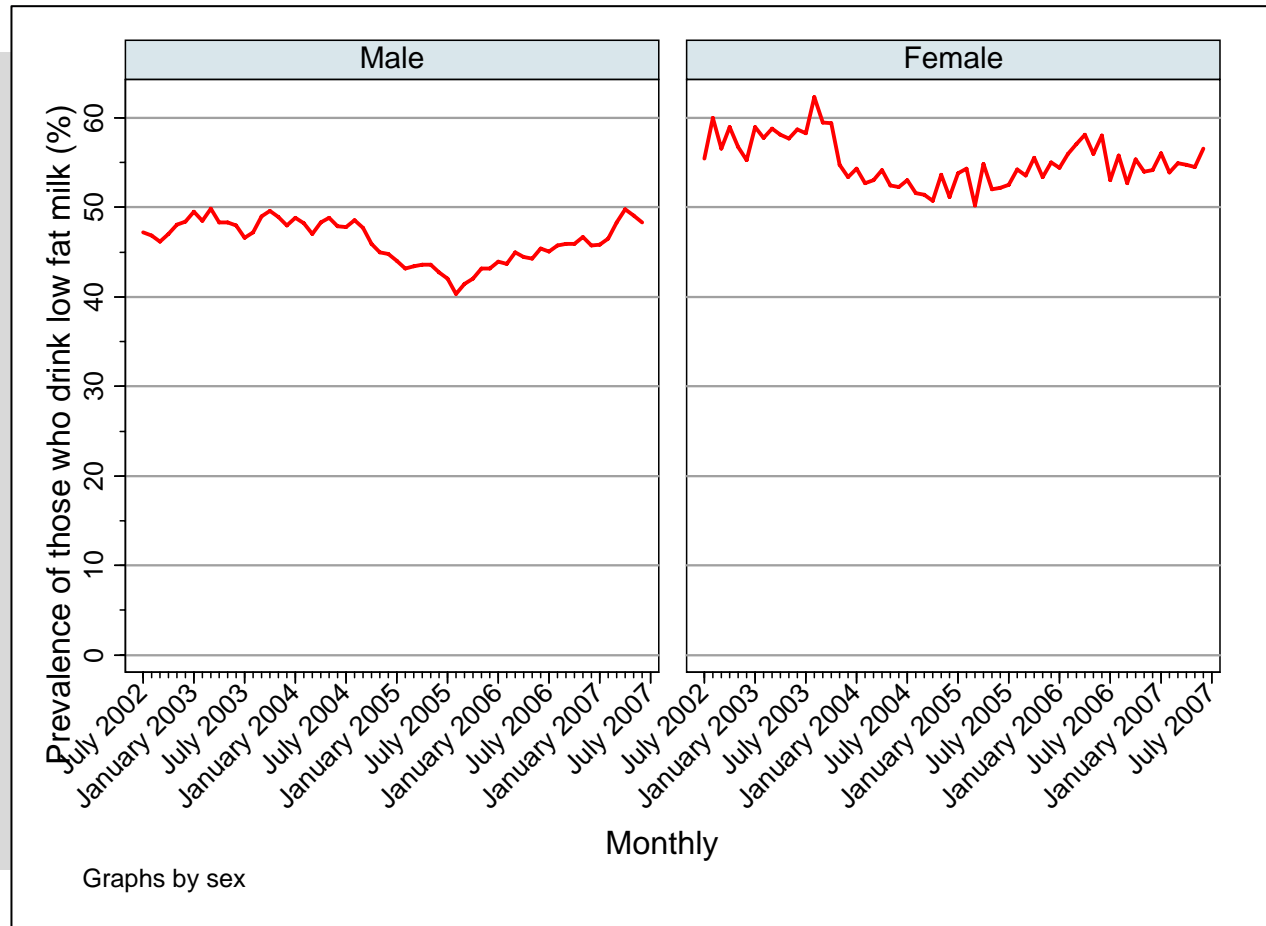
Proportion of those who drink low fat milk



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



The figure consists of two side-by-side line graphs. The y-axis for both is labeled 'Prevalence of those who drink low fat milk (%)' and ranges from 0 to 60 in increments of 10. The x-axis is labeled 'Monthly' and shows dates from July 2002 to July 2007, with major ticks every six months (July and January for each year).

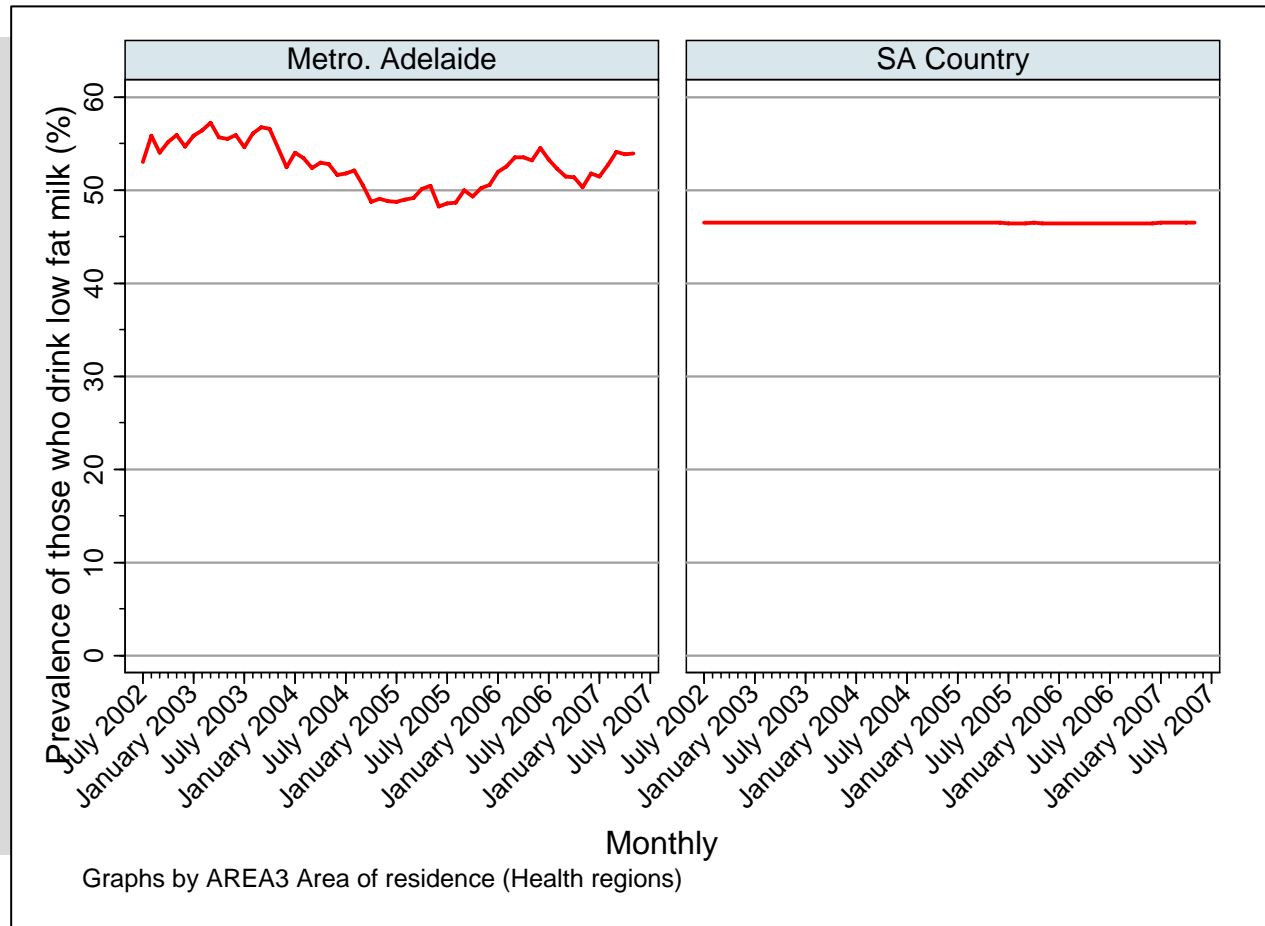
The left graph is titled 'under 50 year'. It shows a red line representing the prevalence of low-fat milk consumption. The prevalence starts around 49% in July 2002, fluctuates between 45% and 55% until early 2005, then drops to a low of about 44% in mid-2005, before rising back to around 50% by July 2007.

The right graph is titled '50 years +'. It shows a red line representing the prevalence of low-fat milk consumption. The prevalence starts around 55% in July 2002, fluctuates between 50% and 60% until early 2004, then drops to a low of about 50% in mid-2004, before rising back to around 55% by July 2007.

Graphs by two age groups

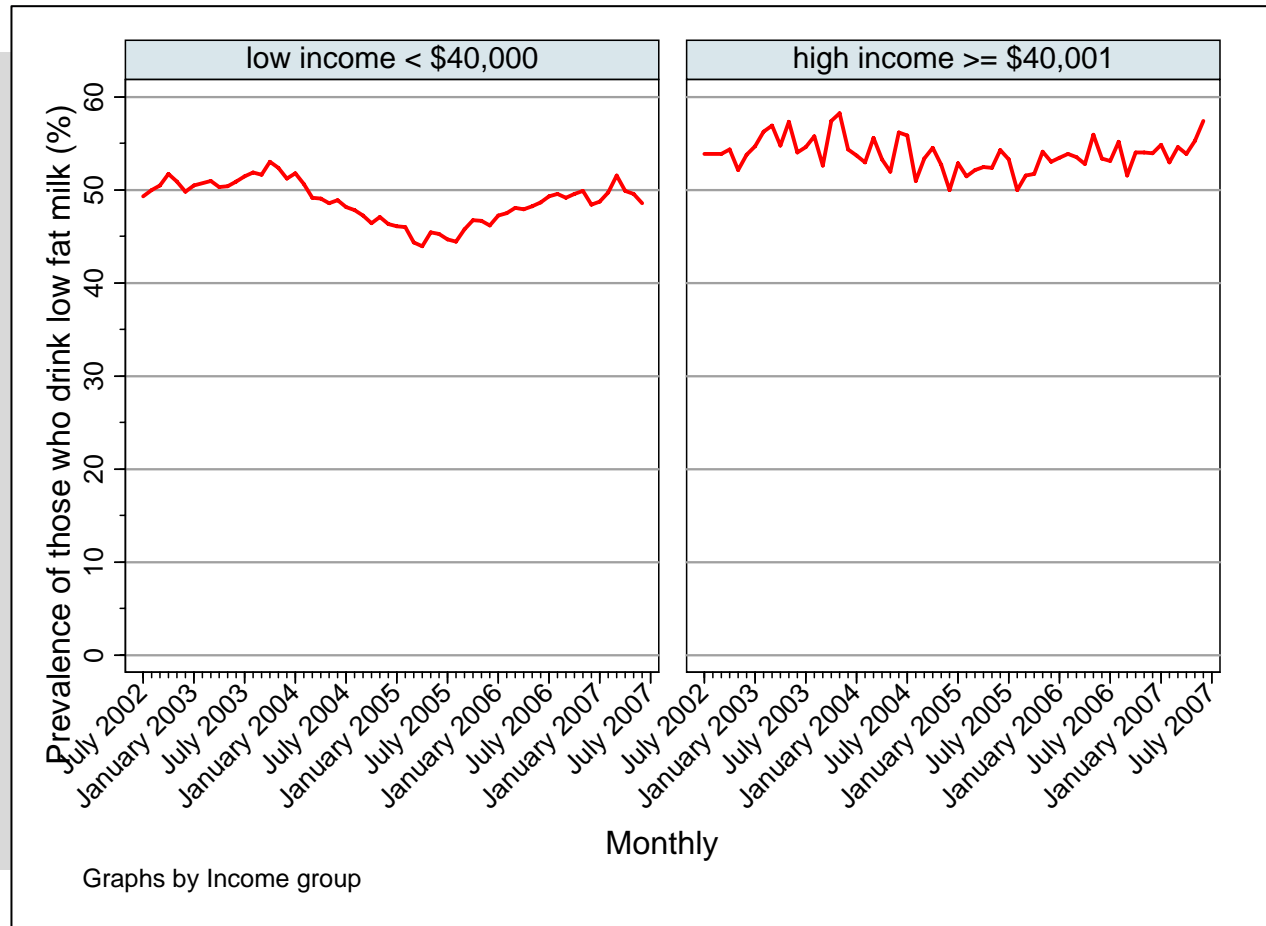


Proportion of those who drink low fat milk by metropolitan and country location



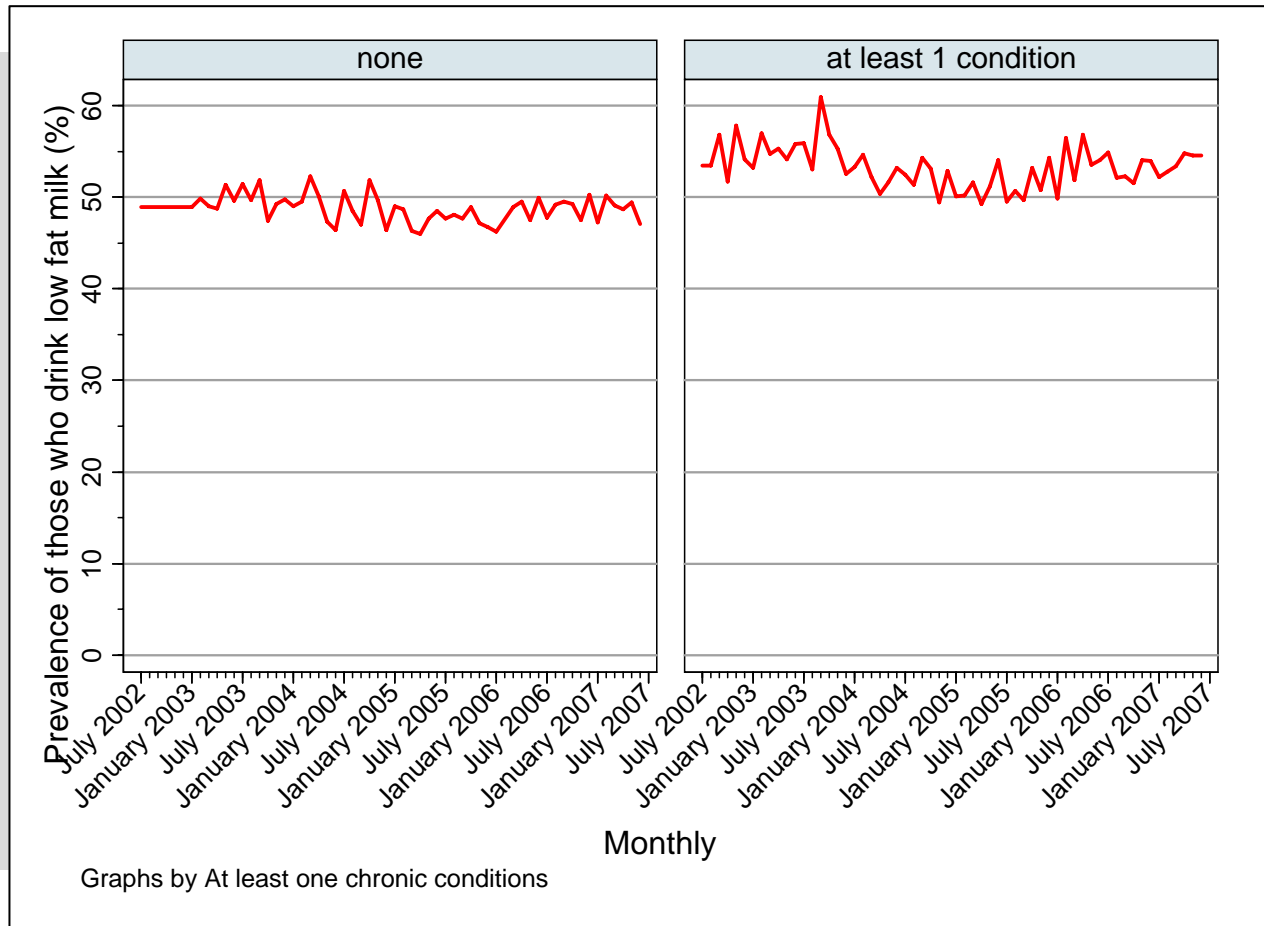
Data source: SAMSS, age 16 years and over

Proportion of those who drink low fat milk by income



Data source: SAMSS, age 16 years and over

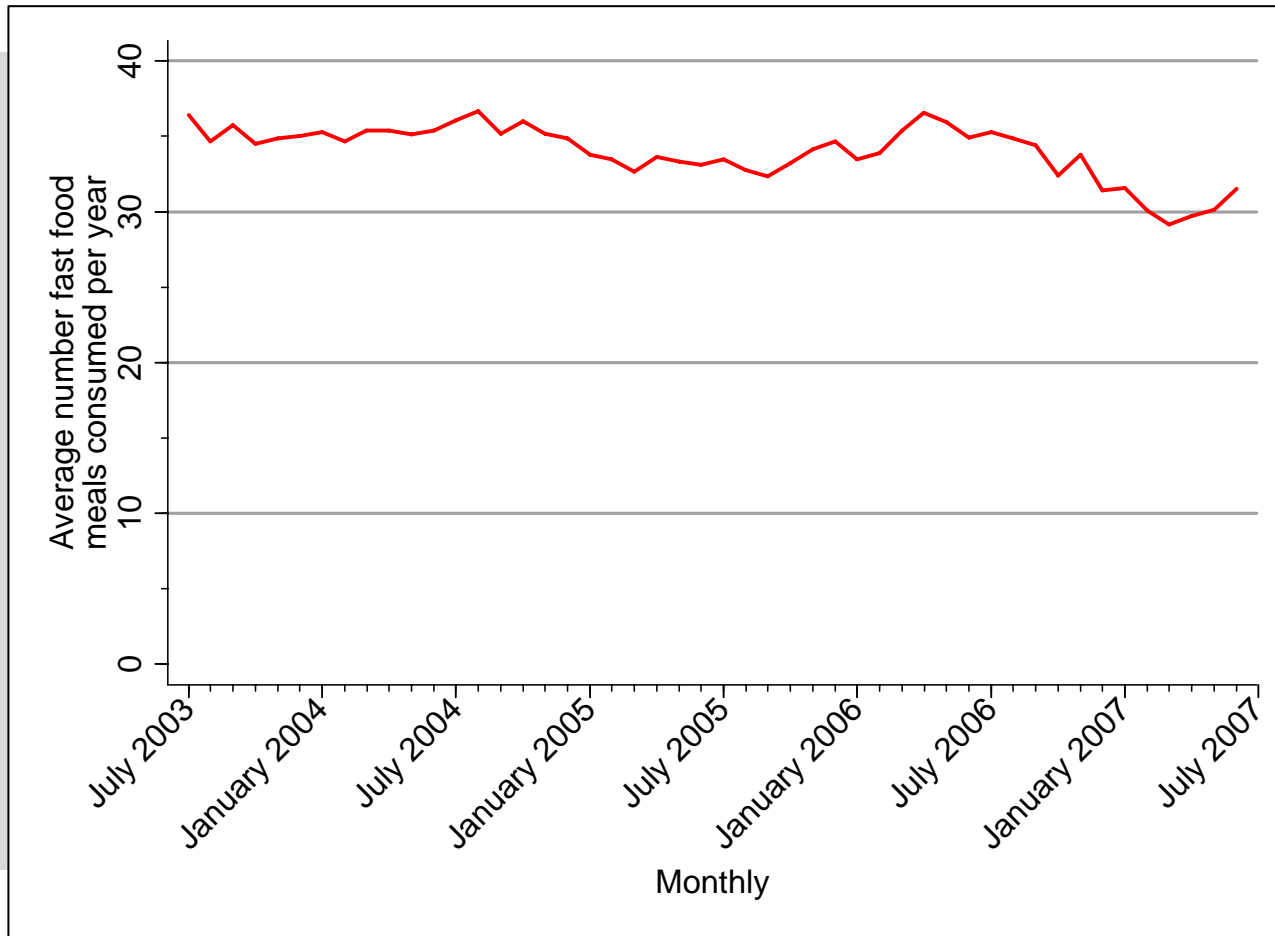
Proportion of those who drink low fat milk by chronic condition



Data source: SAMSS, age 16 years and over



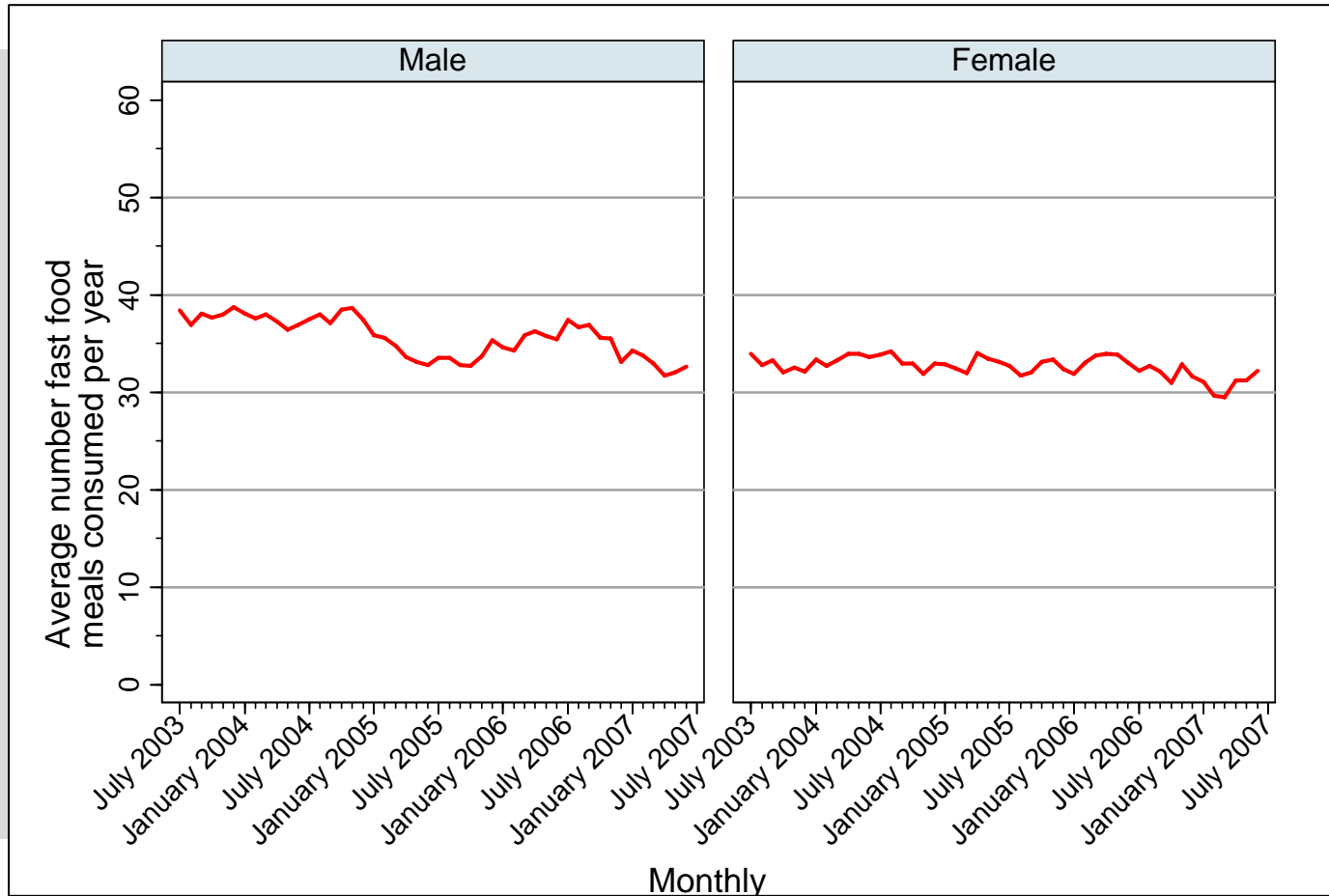
Average serves of fast food consumed per year



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



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

— GPT people understand that it is

Why we're headed for an early grave

TORY SHEPHERD
HEALTH REPORTER

MORE than half of adult South Australians have at least one risk factor that can lead to an early death, a disturbing new health report shows.

The report, by the SA Divisions of General Practice (SADG) and the Department of Health, shows almost out of 10 people aged 16 and over

BAD SIGNS

- ALMOST two in 10 South Australians have high blood pressure.
- ABOUT two in 10 have high cholesterol.
- ABOUT 36 per cent are overweight and about 20 per cent are obese.
- ALMOST 20 per cent smoke.

Insights into prevalence of arthritis in SA

A study of South Australians suffering from arthritis is being finalised by the South Australian Department of Health.

The research, an Epidemiological Prevalence Among Adults, has been Population Research Unit of the Department of Health.

Self-reporting data was collected in 2003 to 2006 in

disease and risk factor surveillance system, SAMSS.

SAMSS interviews approximately 400 South Australians over the age of 16

epidemiology of arthritis in this country.

"Once released, it will be made available to the public."

Cancer risks ignored

LOUISE TRECOSI
MEDICAL REPORTER

SOUTH Australians are increasing the risk of cancer by ignoring health warnings such as maintaining a healthy body weight and limiting alcohol, a survey shows.

Also alarming health authorities is that only one in two South Australians are protecting themselves when exposed to the sun, according to a Cancer Council South Australia survey.

Experts say cancer prevention messages "are not getting through" despite the disease being the state's leading cause of death.

One in three people will be diagnosed with cancer at some time during their life.

The face-to-face survey, involving 3000 South Australians aged 15 or older, found almost 90 per cent do not do enough exercise and more than half are obese or overweight - factors that dramatically increase a person's risk of developing cancer.

Only half of all South Australians wear a hat when exposed to the sun's rays and 20 per cent exceed the Cancer Council's recommendation for average alcohol consumption to minimise cancer risk.

Women are limited to one drink and men to two drinks a day.

One in two exceed recommendations for average alcohol consumption on any one day.

Cancer Council SA chief executive Associate Professor Brenda Wilson said the findings, from the latest South Australian Health Omnibus Survey, proved cancer prevention messages were being ignored.

The research shows that South Australians believe that pesticides and the environment carry a larger risk of developing cancer than key lifestyle factors, such as exercise and healthy eating, which can be more easily controlled and modified, she said.

We can cut the risk in half

said. "We now know that if we change the way we live, we can cut the risk of developing cancer in half."

Cancer Council SA has developed a LiveSmart booklet to empower South Australians with information about how to best reduce their risk.

Today Cancer Council SA is hosting the Walk for Real Hope, a stroll starting in Victoria Square at 10am and ending in Elder Park.

World Cancer Day is on Sunday.



Staying healthy 'a way of life'

MATT White says it is important to take care

When in Robe, shed kilos just like the locals

MATT WILLIAMS
REGIONAL EDITOR

AN obsession with a reality TV show has resulted in a group of people in a South

people became involved in the free program. Robe's population is about 1800. "The whole town really embraced the concept and the results were fantastic."

A regular exercise routine and healthy eating were the main points-drivers for participants wanting to lose weight in the Robe region.

WEIGHTY ISSUES

| REGION | OVERWEIGHT | OBESE |
|---------------------------|------------|-------|
| Central Northern Adelaide | 35.6% | 17.6% |
| Southern Adelaide | 35.6% | 17.1% |
| Hills Mallee | 37.1% | 19.3% |
| Wakefield | 39.2% | 18.2% |
| Mid North | 41.8% | 19.8% |
| Burnside | 39.8% | 24.7% |
| South-East | 36.5% | 25% |
| Eye | 41.2% | 20.2% |
| Northern and Far Western | 35.7% | 29.4% |

SOURCE: SA Monitoring Surveillance System, July 2002 to June 2005. Participants aged over 16.

20pc of four-year-olds overweight

NICK HENDERSON

GROWING obesity rates will be discussed at a summit of new fig.

strategies for combating childhood obesity. He released a survey yesterday showing 90 per cent of people questioned be-

"This survey clearly indicates that South Australian parents are deeply concerned about the impact of junk food advertising on ill said.

push-up food; children's but nment act.

Socio-economic indicators in SA study

A South Australian study has revealed that women with lower socio-economic status are more likely to suffer from arthritis.

It has also shown a high prevalence of arthritis among South Australians who have settled here from Greece, Italy, Eastern Europe, the United Kingdom, Ireland and Germany.

The research, entitled An Epidemiological Analysis of Arthritis Prevalence Amongst South Australian Adults, was conducted by the Population Research and Outcomes Unit of the Department of Health.

The Arthritis Foundation of South Australia has released the findings of the study to demonstrate the need to target

Arthritis Foundation Chief Executive Officer, Gillian Leach, said the information, gathered from personal interviews, was a valuable contribution to the epidemiology of arthritis in this country.

"It will be made available to the medical profession and, through Arthritis Australia, to other interested parties to help present health promotion and intervention programs specifically targeting susceptible communities," Ms Leach said.

The Department of Health study, conducted by researchers Tiffany Gill and Anne Taylor, revealed 24.3 per cent of South Australians over the age of 18 suffer from arthritis, a chronic and incurable disease. This is compared

- respondents with arthritis were more likely to also have limited abilities due to other conditions, including diabetes, asthma and other respiratory illnesses, cardiovascular disease and osteoporosis;
- they were more likely to have high blood pressure or cholesterol, be classified as overweight or obese, or be regarded as sedentary;
- people with self-reported arthritis were significantly more likely to have a mental health condition, psychological stress or have had thoughts of suicide.

The report also showed that respondents with arthritis were more likely to have time off work or normal duties than people without arthritis.



Government of South Australia
Department of Health

Effectiveness

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

Evaluation



Evaluation

- Center for Disease Control (CDC)¹
 - Level of usefulness
 - Simplicity
 - Flexibility
 - Data quality
 - Acceptability
 - Representativeness
 - Timeliness
 - Stability

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

Contact Details

Population Research & Outcome Studies (PROS)

South Australian Department of Health

PROS Website:

<http://www.health.sa.gov.au/PROS/>

