



**Plugging an important research gap:**

**Measured incidence of chronic disease from the  
North West Adelaide Health Study**

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*15<sup>th</sup> Annual Meeting of the Australian Epidemiological Association*

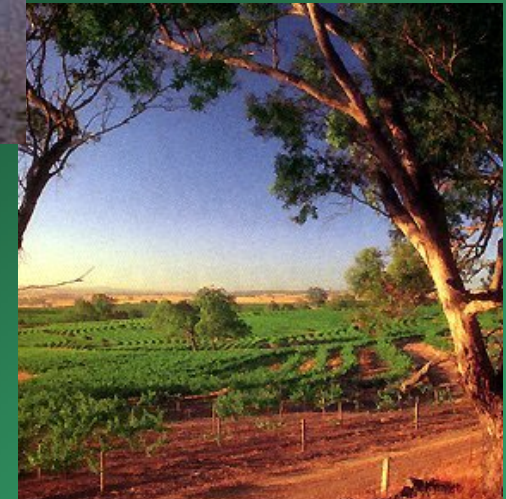
*Tuesday, 19th September 2006*

# The study ... in a nutshell

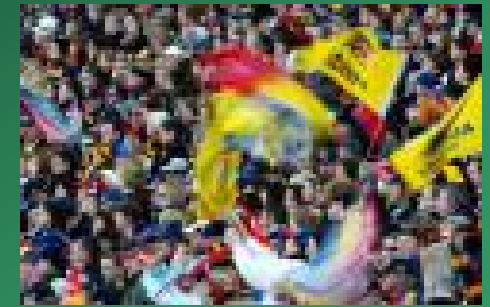
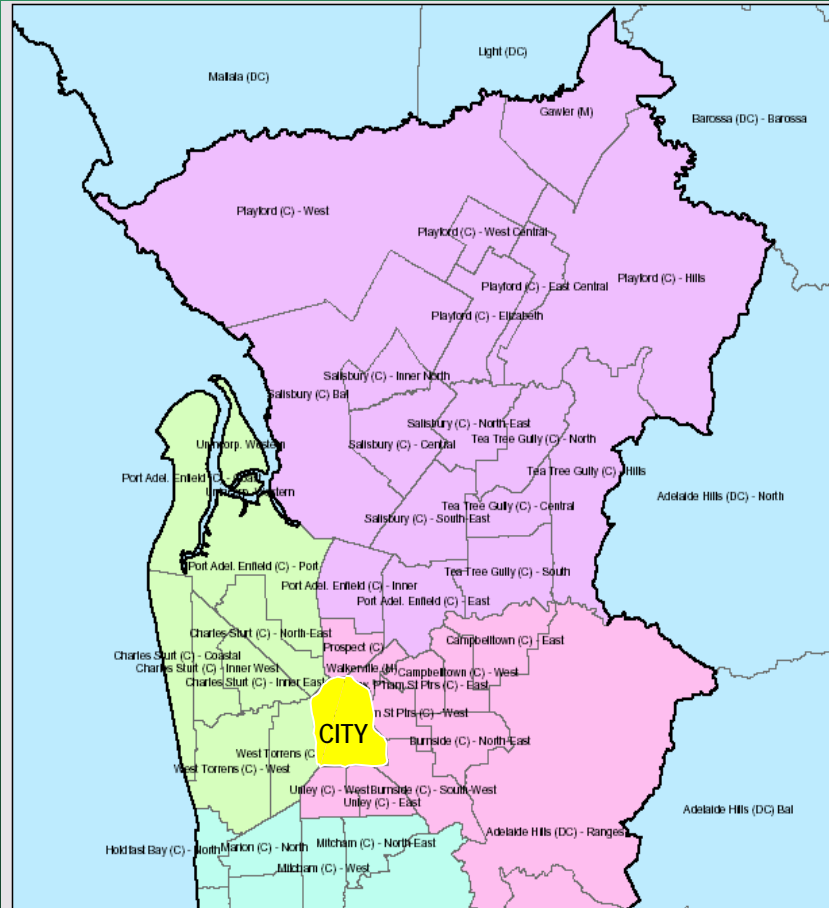


- A representative population cohort study
- Original cohort of approximately 4000 adults aged 18 years and over
- Cohort participants recruited from the northern and western regions of Adelaide
- Data both self-reported and biomedically measured
- Study provides baseline and ongoing information about chronic disease and health-related risk factor status

# South Australia

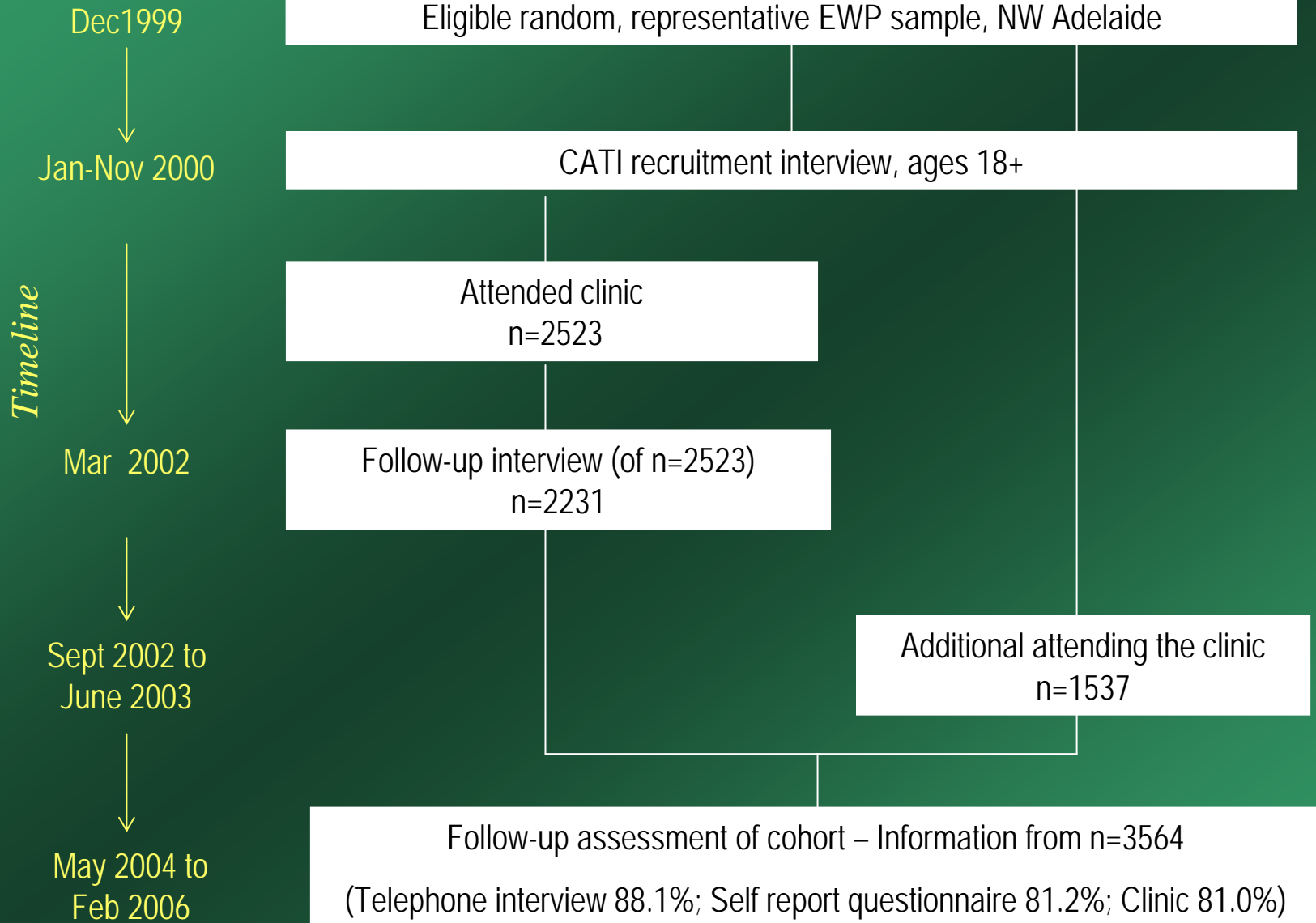


# Adelaide





# Phases of the study



STAGE 1

STAGE 2

# Methodology



- Interview – using CATI (Computer Assisted Telephone Interview)
- Self-administered questionnaire
- Clinic



# Accurate measuring of participants ...



# Participation and response rates

	Stage 1* (recruitment/baseline)	Stage 2 (1 <sup>st</sup> follow up)
Participation rate	71.2	90.1
Response rate	49.4	81.0

\*Grant J et al (2006) *The North West Adelaide Health Study: detailed methods and baseline segmentation of a cohort for selected chronic diseases*, *Epid Perspectives & Innovations*, 3:4  
<http://www.epi-perspectives.com/content/3/1/4>



# Incidence & time frame

- One kind of incidence – cumulative
  - ◆ Number of new cases divided by population over time
  
- Time frame between Stage 1 and Stage 2
  - ◆ Median 4 years
  - ◆ Mean 3½ years

# Chronic disease continuum

Improved health status / Deteriorating health status

Not at  
risk

At  
risk

Previously  
undiagnosed

Diagnosed  
without  
comorbidity

Diagnosed  
with  
comorbidity

Death

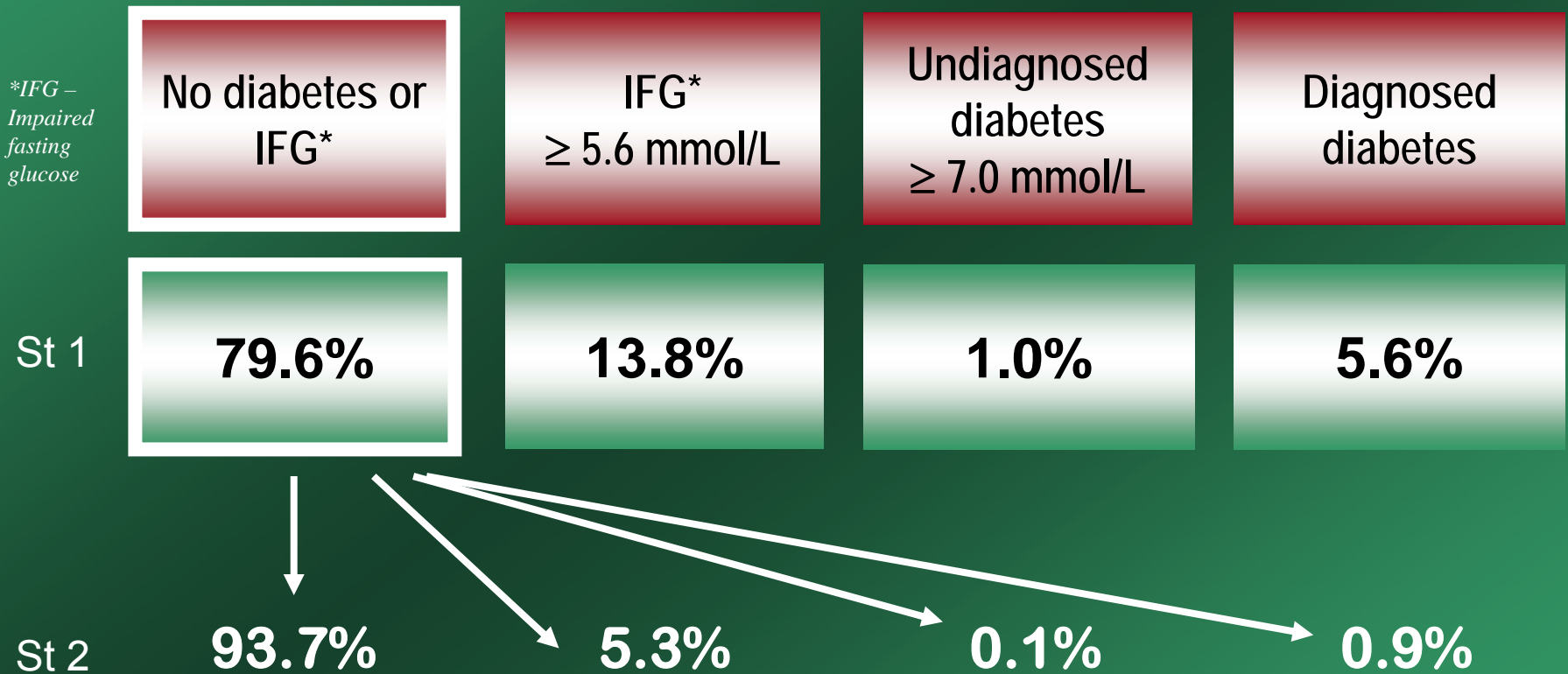
Prevention

Delay /  
Early Detection

Prevention / Delay / Early  
Detection / Care

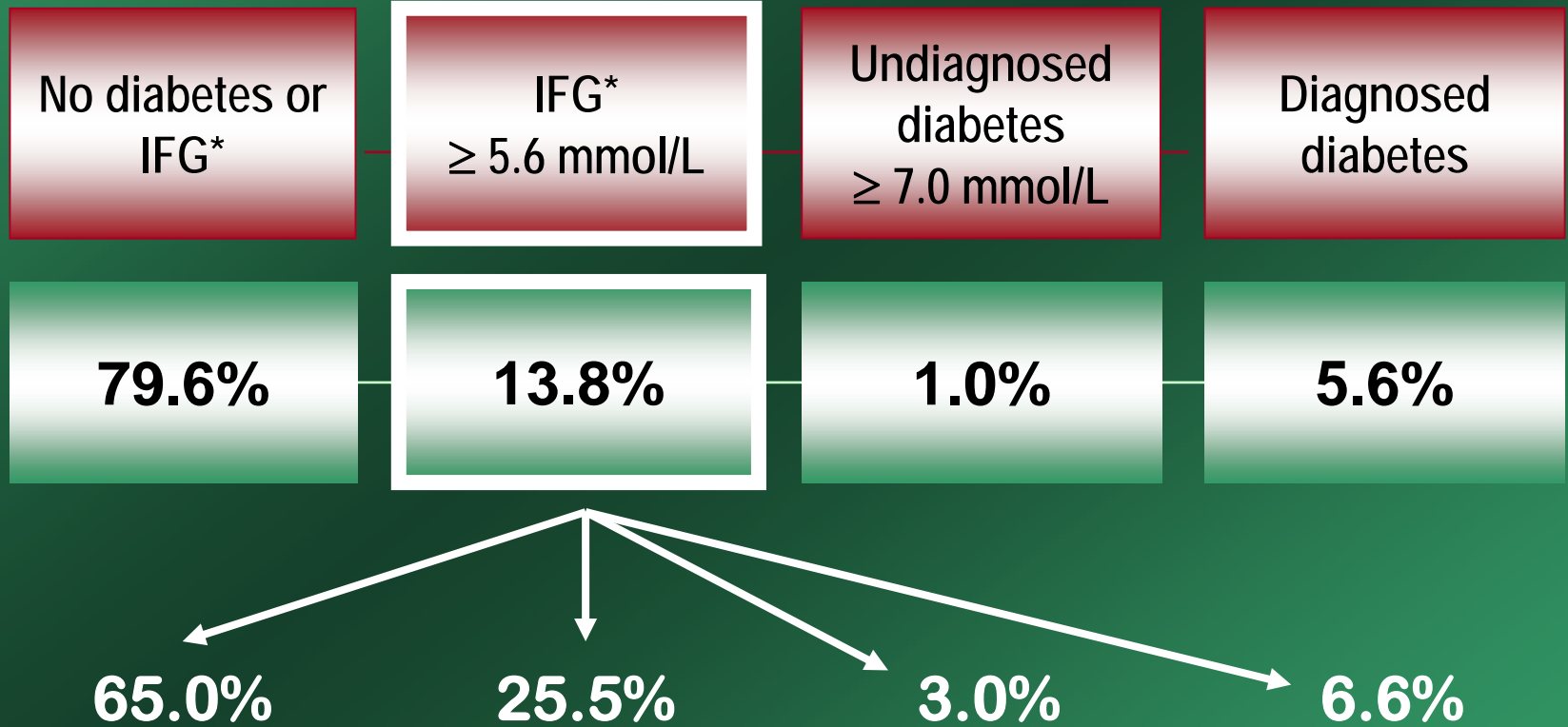
# Cumulative incidence of diabetes - 2.3%

## Progression along continuum - diabetes from Stage 1 to Stage 2

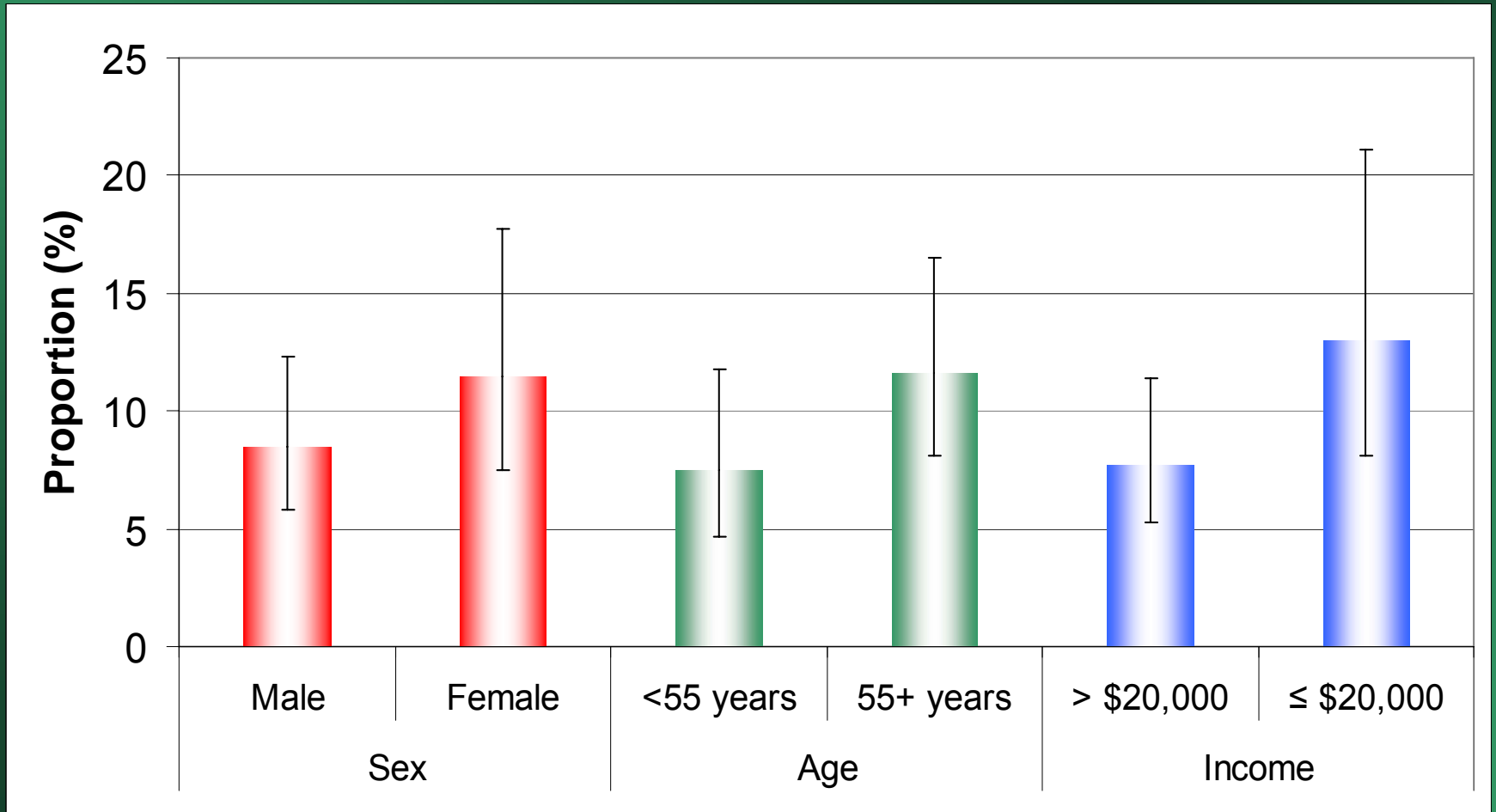


# Progression along continuum - diabetes from Stage 1 to Stage 2

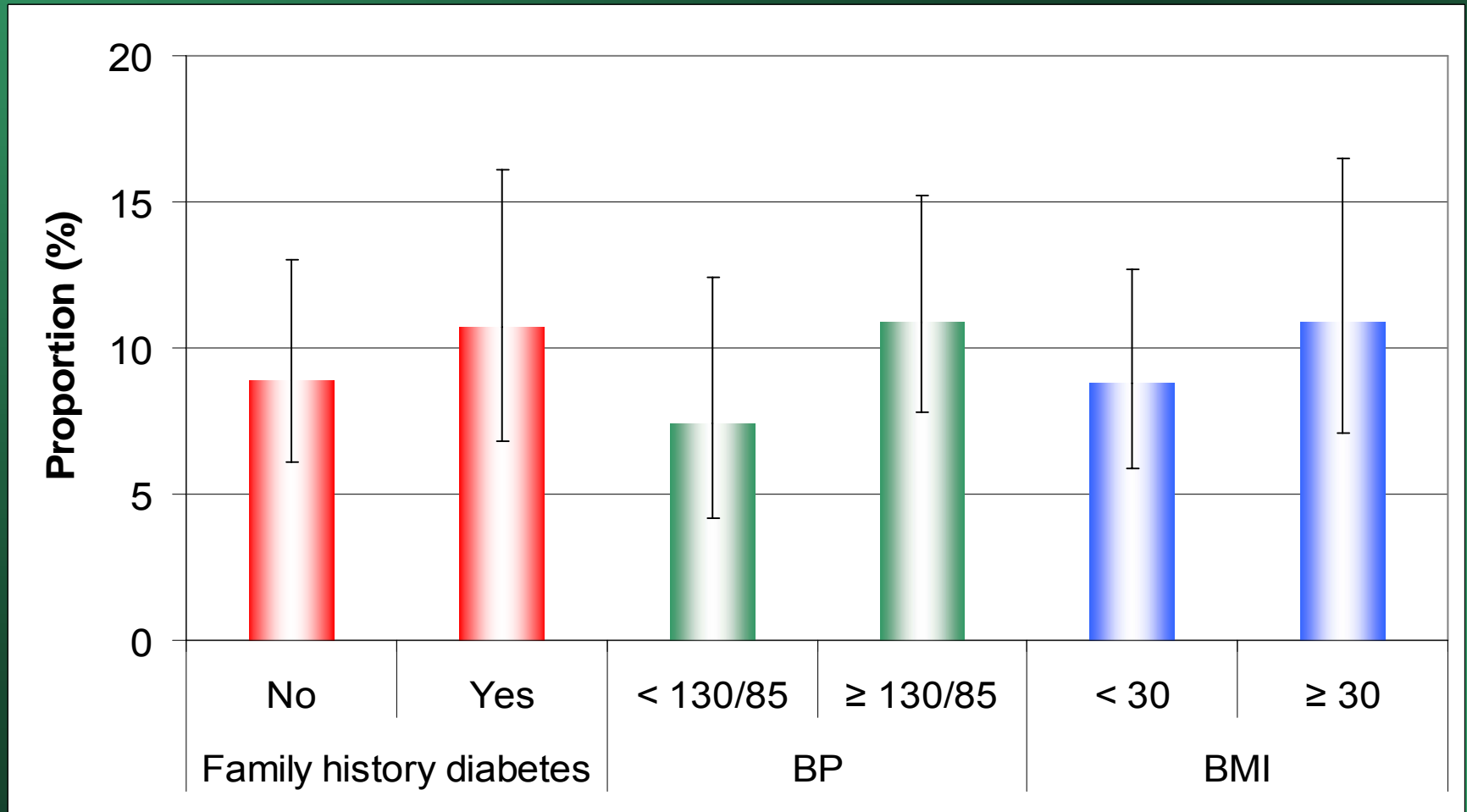
\*IFG –  
Impaired  
fasting  
glucose



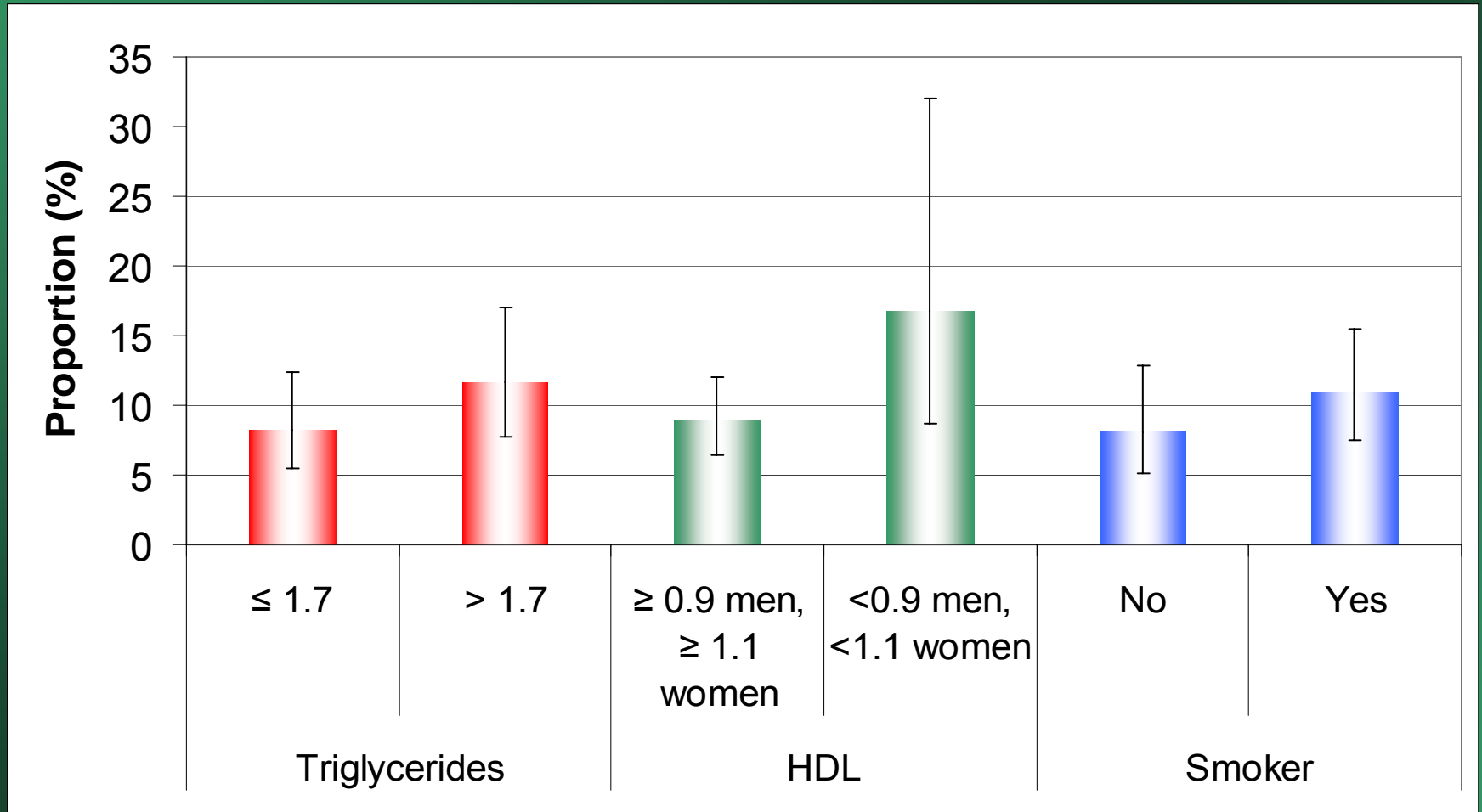
# Characteristics of those participants who progressed from IFG to diabetes (Stage 1 to Stage 2)



# Characteristics of those participants who progressed from IFG to diabetes (Stage 1 to Stage 2)



# Characteristics of those participants who progressed from IFG to diabetes (Stage 1 to Stage 2)



## Respiratory conditions - Stage 1 to Stage 2

**ASTHMA: Incidence of 17.1 cases per 1000 population**



**COPD: Incidence of 5.2 cases per 1000 population**





# Risk factors

# Central adiposity – defined by waist circumference

Incidence of 30.8 cases per 1000 population

Normal waist  
circum

10.3%

High waist  
circum  
≥ 95cm Men;  
≥ 80cm Women

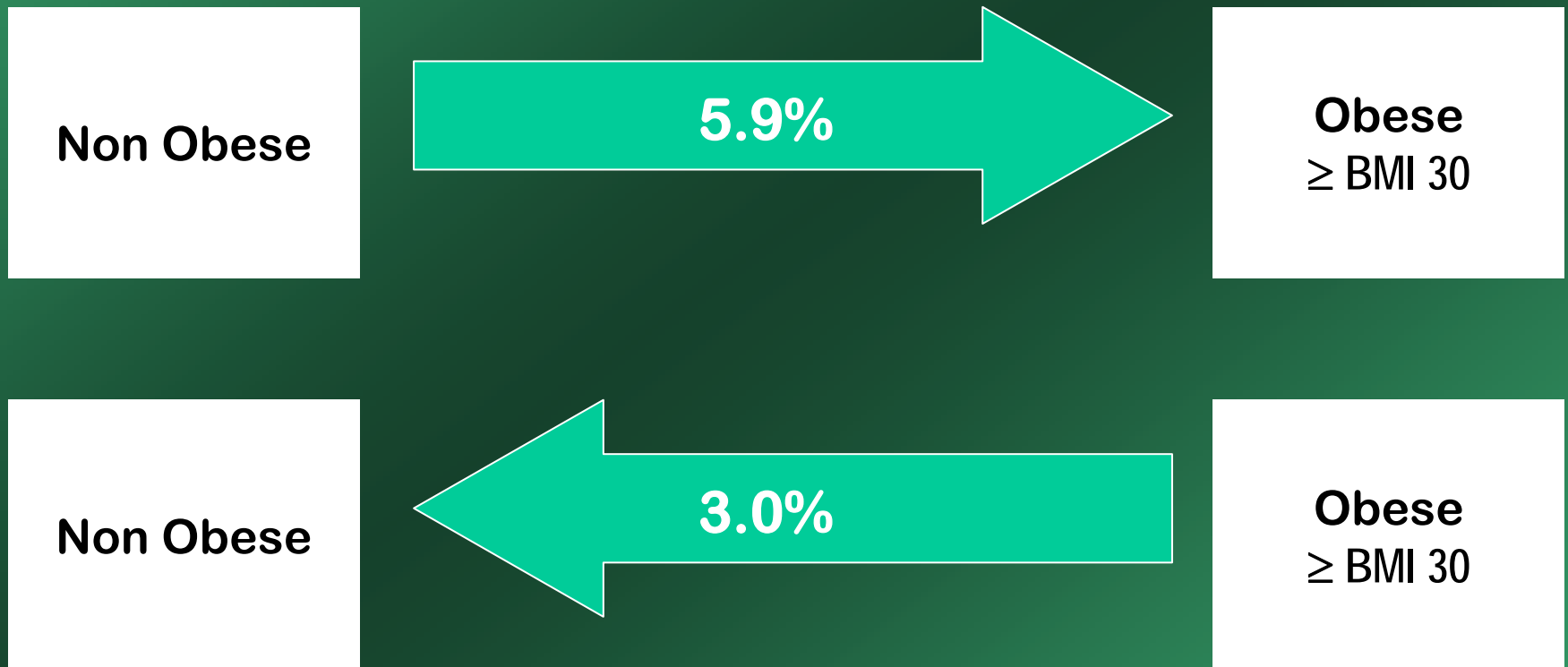
Normal waist  
circum

3.9%

High waist  
circum  
≥ 95cm Men;  
≥ 80cm Women

# Obesity – defined by Body Mass Index (BMI)

Incidence of 18.3 cases per 1000 population



# Conclusion

- Longitudinal studies provide valuable measure of incidence
- Biomedical measurement of participants enhances self-reported measures
- More people developing chronic conditions and unhealthy risk factors – a major public health concern ...

... but there are some encouraging results



## Contact details

- North West Adelaide Health Study website

<http://www.nwadelaidhealthstudy.org>

- Population Research & Outcome Studies Unit  
(SA Department of Health)

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