Chronic disease and risk factor multiplicity: who should be targeted?

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Organisations involved

- SA Department of Human Services
  Population Research & Outcome Studies Unit
  (*formerly the Centre for Population Studies in Epidemiology*)
- The Queen Elizabeth Hospital
- Lyell McEwin Health Service
- The University of Adelaide
- University of South Australia

Prevalence

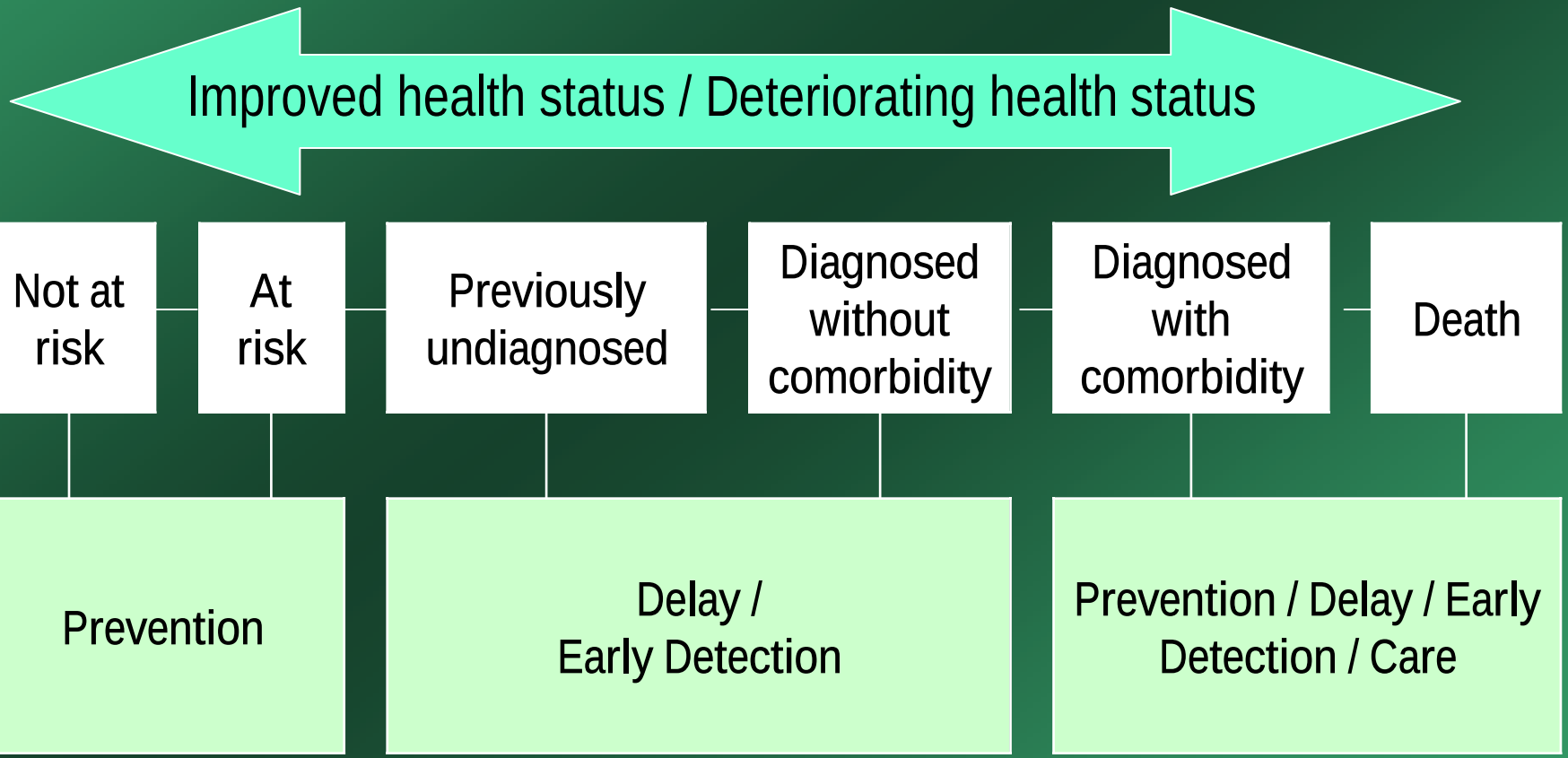
Health problems

- diabetes
- asthma
- chronic obstructive pulmonary disease (bronchitis and emphysema)

Risk factors

- smoking
- high alcohol intake
- family history of diabetes, stroke, heart disease
- insufficient physical inactivity
- overweight/obesity - using body mass index (BMI)
- high central adiposity -using waist and hip measurements
- high blood pressure
- high total blood cholesterol

Chronic disease continuum



Approaches to chronic disease

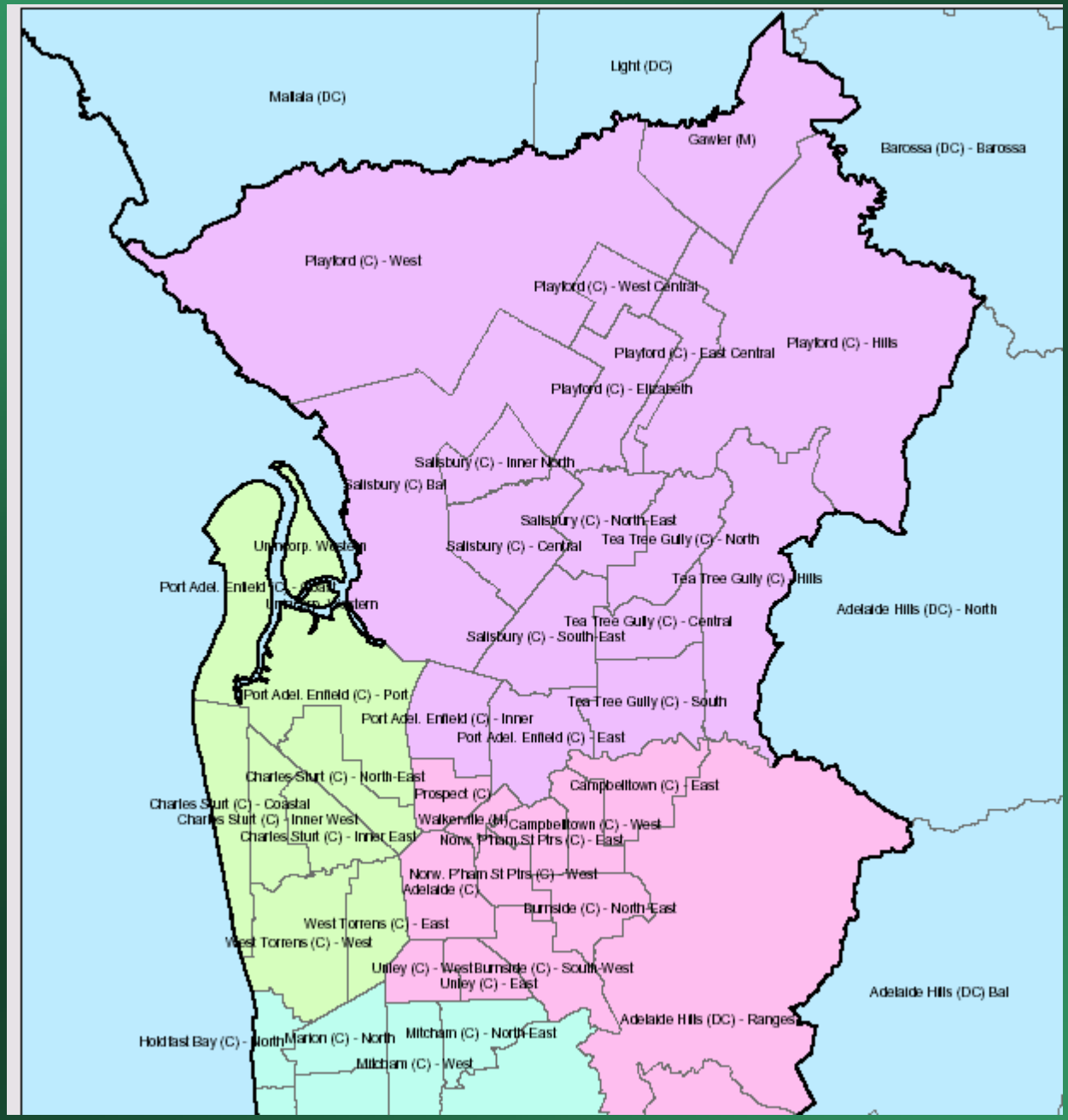
- Chronic disease - 70% of the total burden of illness in Aust… predicted to increase to 80% by 2020
- NPHP recommended move away from “silo” or “coat hook” approach … towards a cluster approach that:
  - closes advantage gap between populations
  - makes better use of the health $ - similarities between strategies that tackle unhealthy behaviours

  across the lifecourse
  - by recognising the cumulative effect of social and biological influences throughout life

Methods & results - overall

- Random recruitment – using CATI (Computer Assisted Telephone Interview)
- Self-administered questionnaire
- Attendance at clinic
- n=2523, participation rate of 69.1%

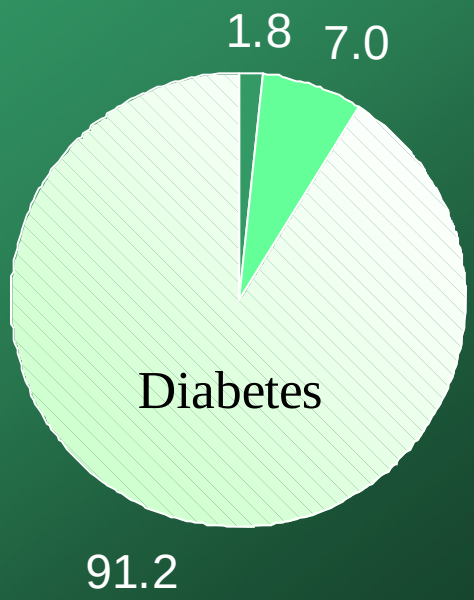
North West Adelaide Health Study

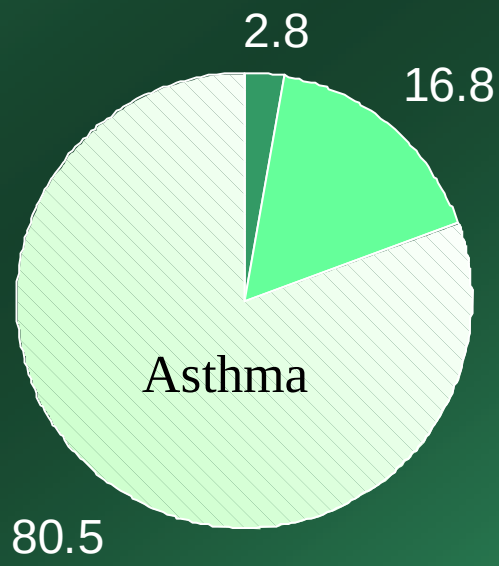


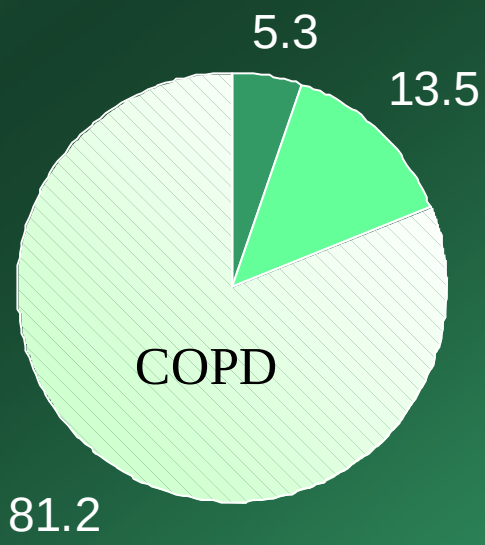
Risk factor cut-offs

High blood pressure	Systolic >=140mmHg, diastolic >=90mmHg
High cholesterol	Fasting blood sample, >5.5 mmol/L
Overweight/obesity	Body mass index (BMI) – overweight 25 to 30, obesity >30
High central adiposity	Waist/hip ratio – men >1.0, women >0.85
Smoking	Current smoker
High alcohol intake	Intermediate to very high alcohol risk – men aver 5+ drinks/day, or occas excess, women aver 4+ drinks/day, or 9-12 drinks in any 1 day, or occas excess
Insufficient physical activity	<150 minutes/week of walking, moderate or vigorous exercise
Family history of heart disease, diabetes, stroke	Condition present in first degree relative

Risk factor multiplicity

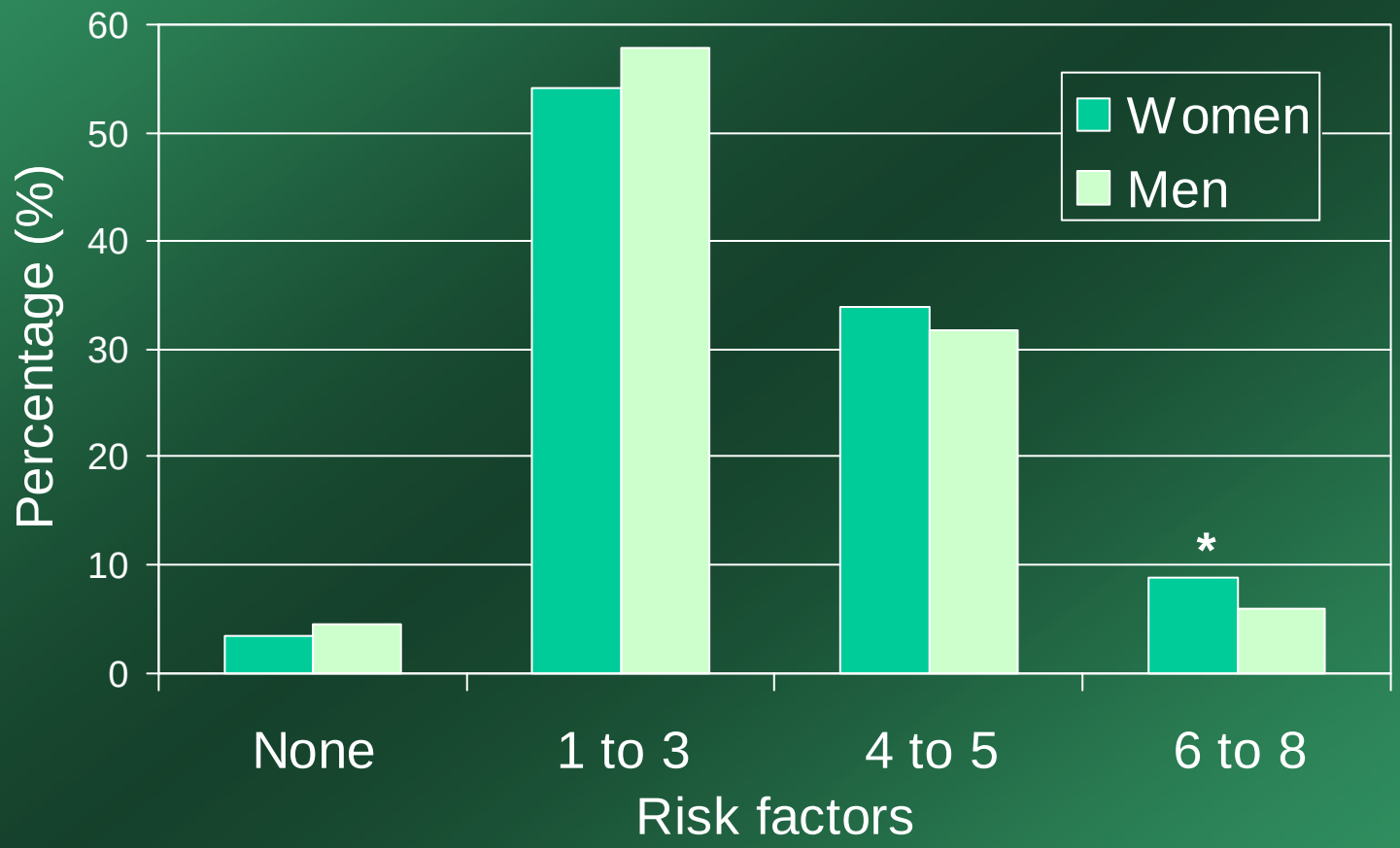






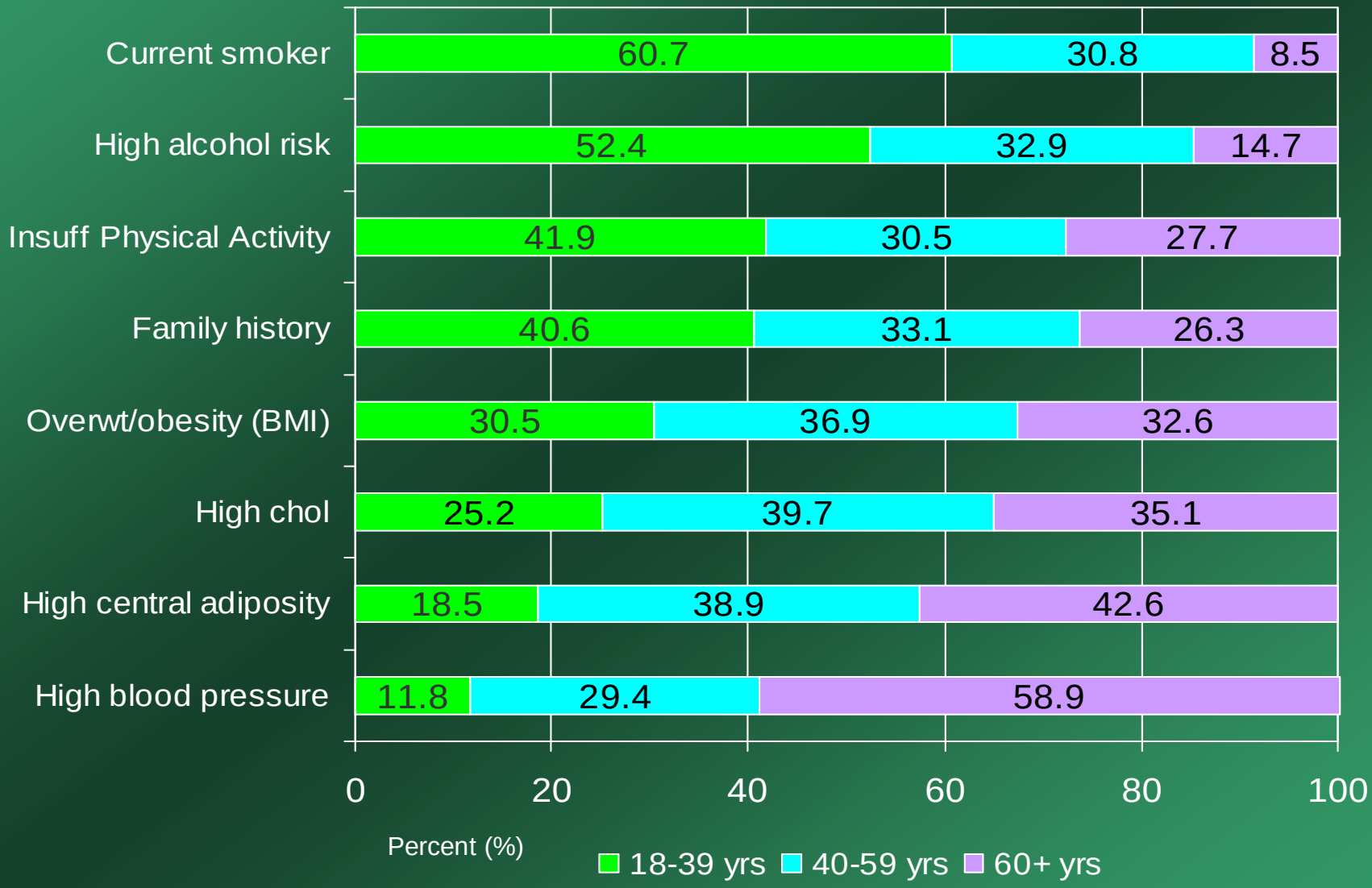
No risk factors
1 risk factor
2+ risk factors

Risk factor multiplicity

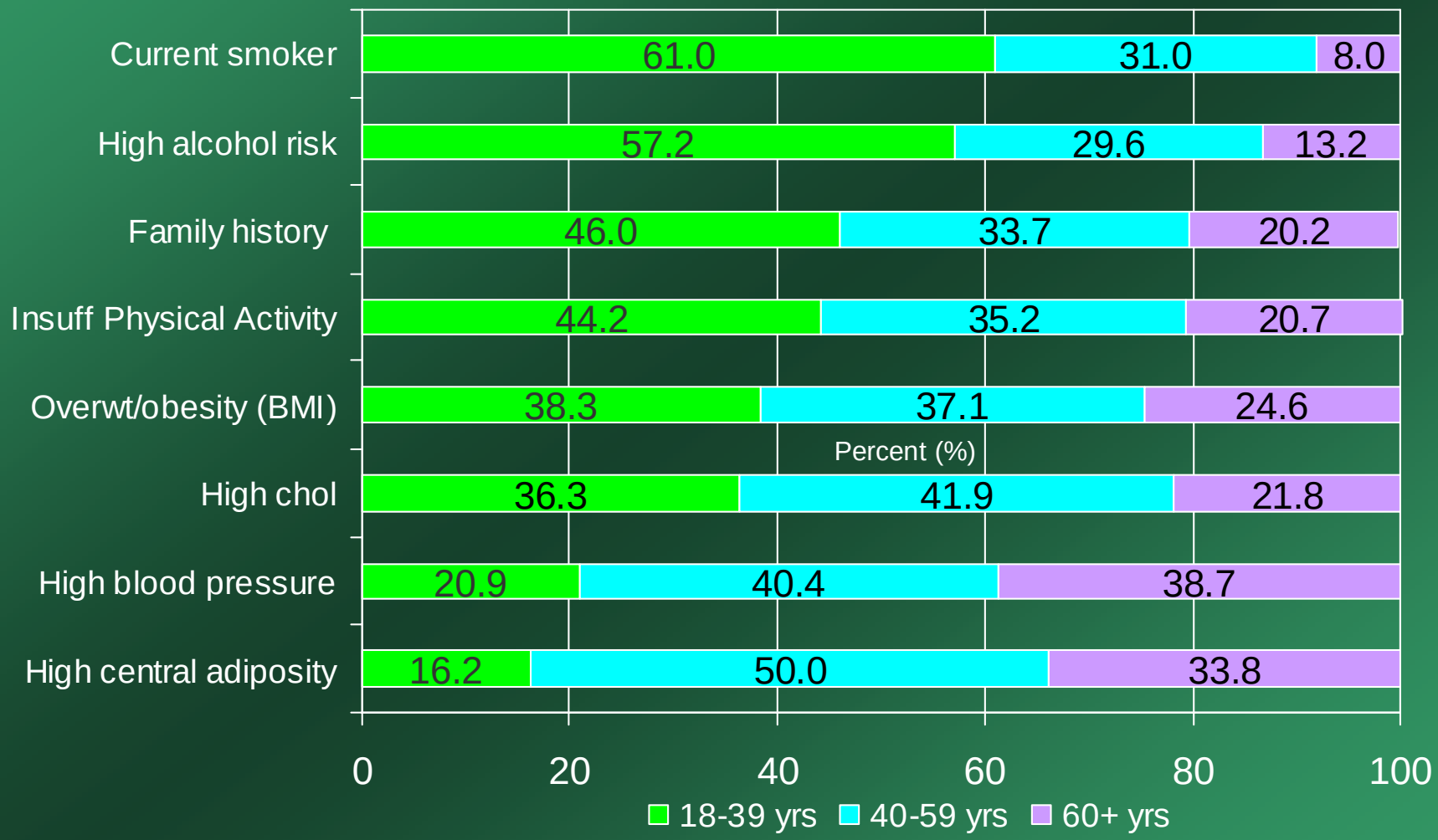


* $p<0.05$

WOMEN … across the lifecourse

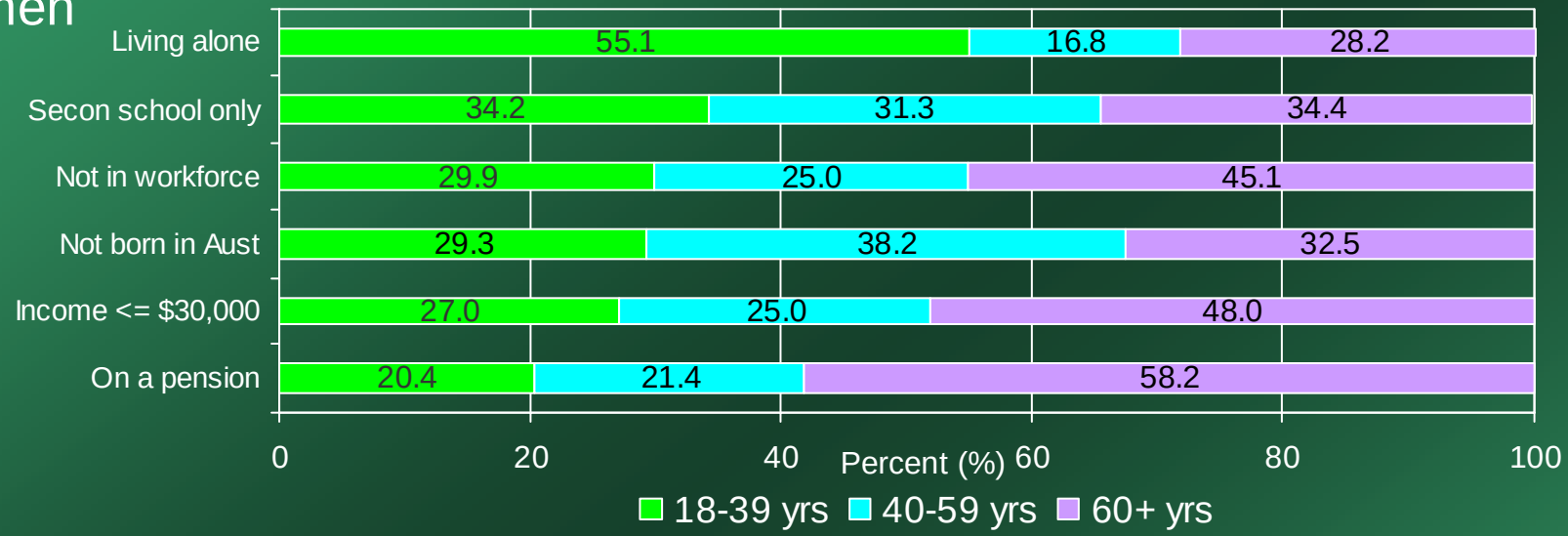


MEN … across the lifecourse

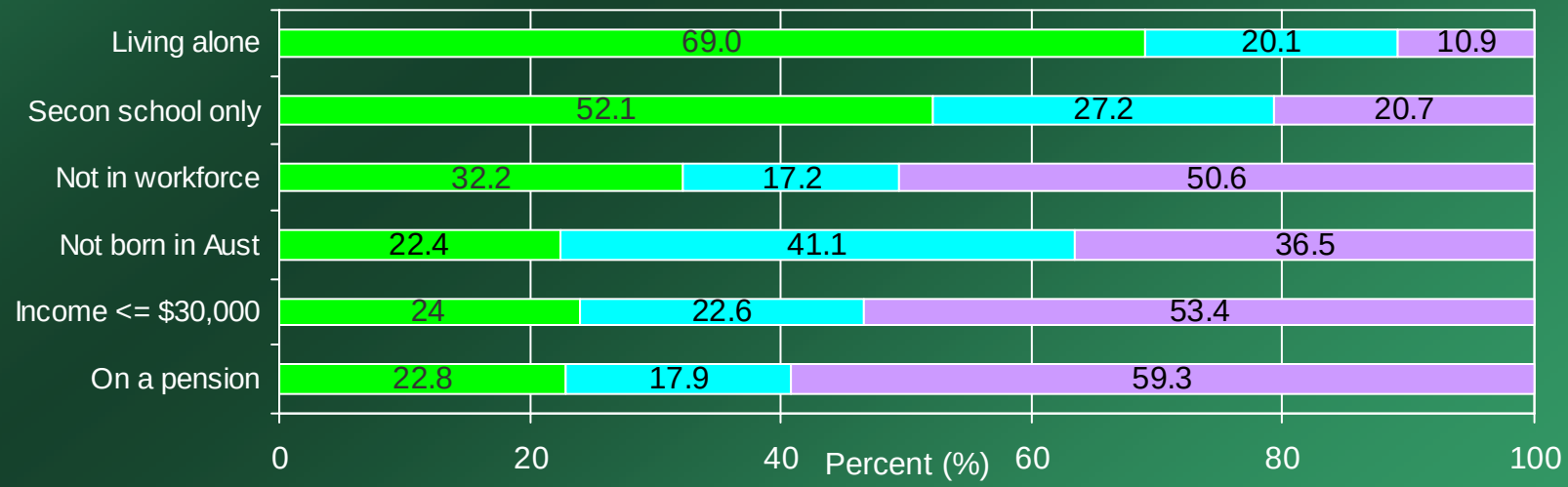


Those participants with a more disadvantaged socio-economic position… across the lifecourse

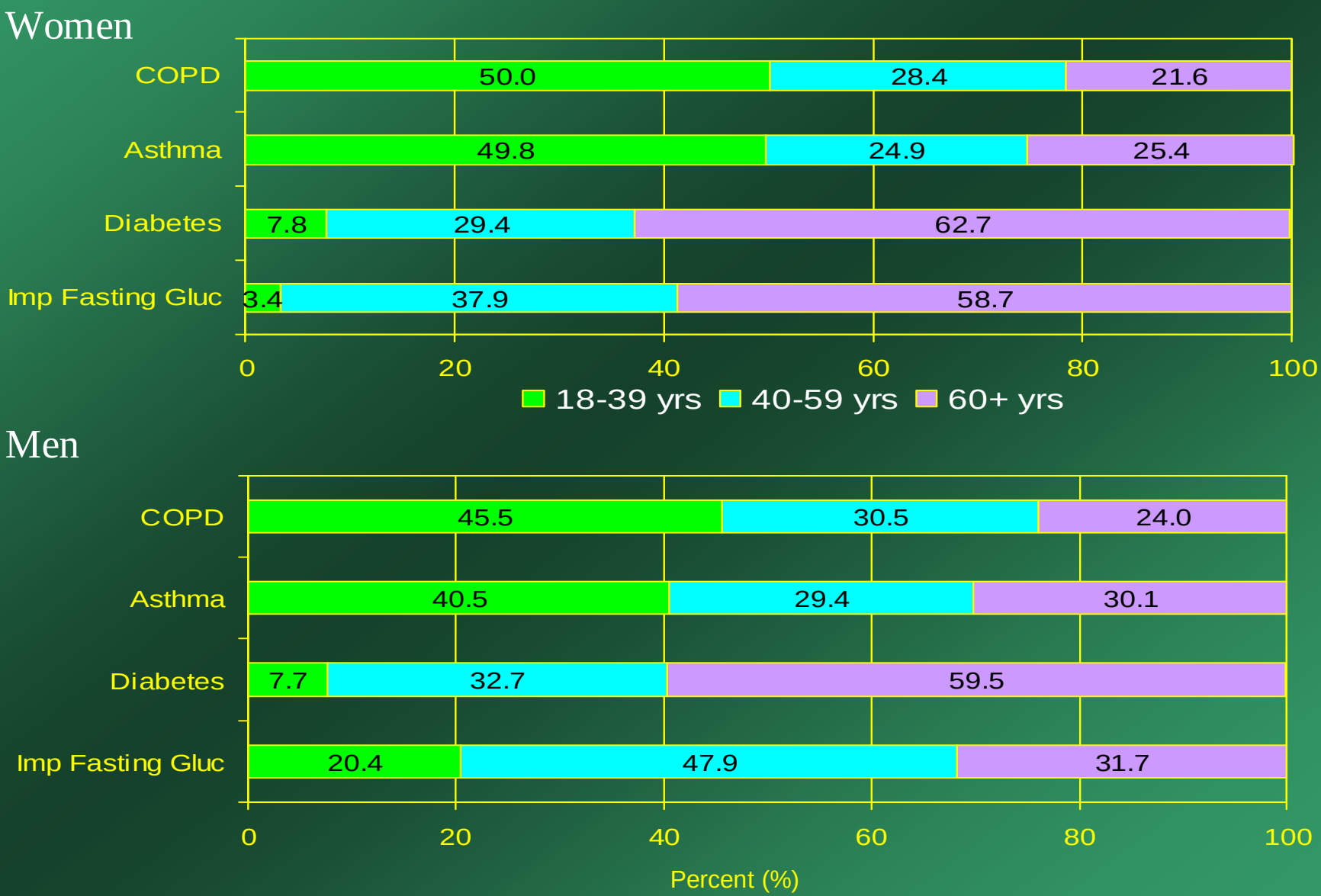
Women



Men



Chronic disease by lifecourse stage



Top **3** for women and men looking at each lifecourse stage

Young years (18-39)

- Smoking – both sexes
- High alcohol intake – both sexes
- Insufficient physical activity – women
- Family history of heart disease/diabetes/ stroke – men

Living alone – both sexes, secondary school highest educ level – both but men much higher proportion, not in workforce – both sexes

Top **3** for women and men looking at each lifecourse stage

Middle years (40-59)

- High cholesterol – both sexes
- High central adiposity – both sexes
- Overweight/obesity - women
- High blood pressure – men

Not born in Aust, secondary school highest educ level, household income <= $30,000

Top **3** for women and men looking at each lifecourse stage

Older years (60+)

- High blood pressure – both sexes
- High central adiposity – both sexes
- High cholesterol - women
- Overweight/obesity – men

On a DSS pension – both sexes, household income <= $30,000 – both sexes, not in workforce – both sexes

Take home message

"Genes load the gun. Lifestyle pulls the trigger."

Dr Elliot Joslin

Contact details

- North West Adelaide Health Study website

  http://www.nwadelaidehealthstudy.org

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

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