

Asthma Among Schoolchildren in the Barwon Region of Victoria

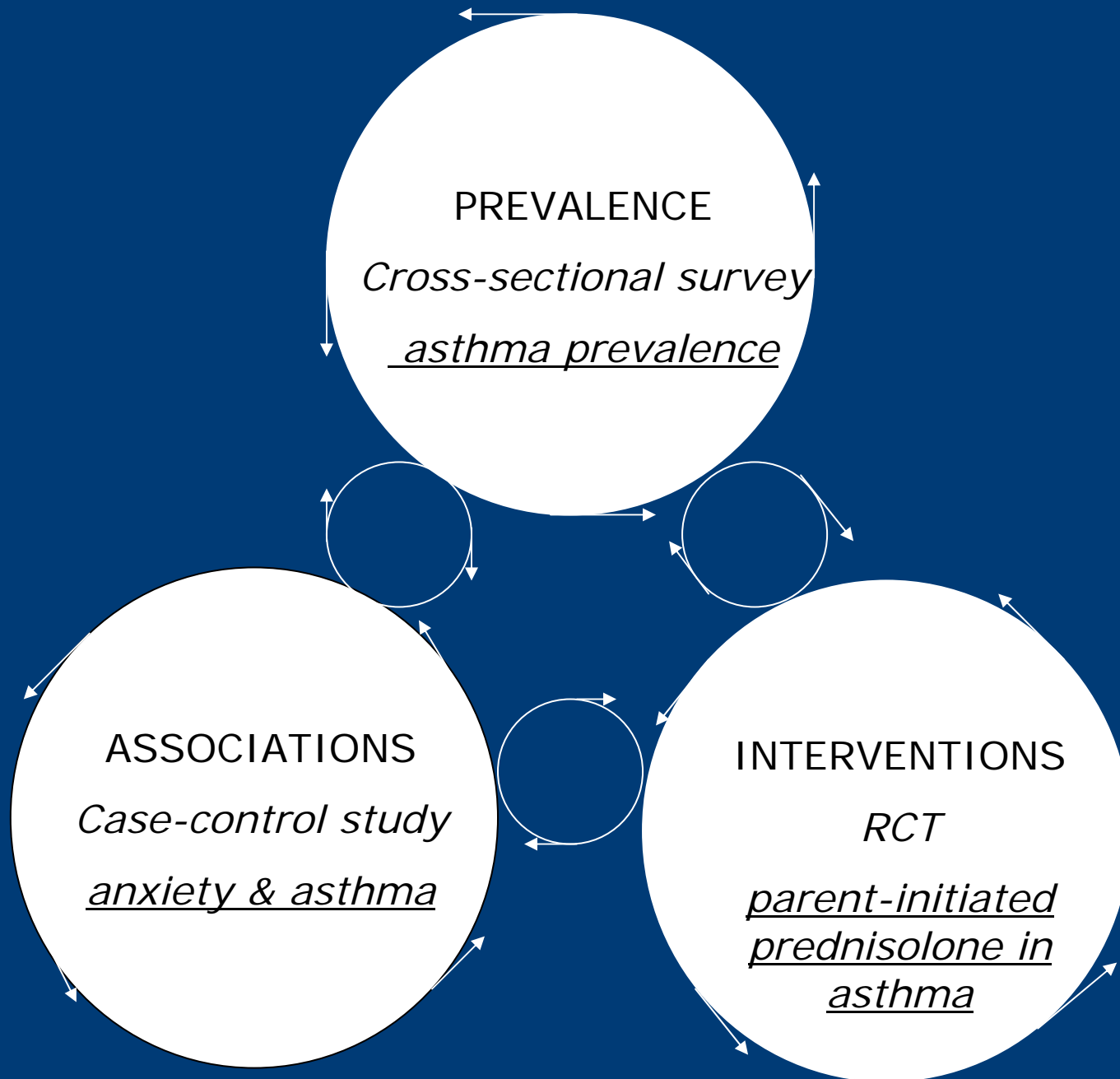
Dr Peter Vuillermin, Prof Mike South,
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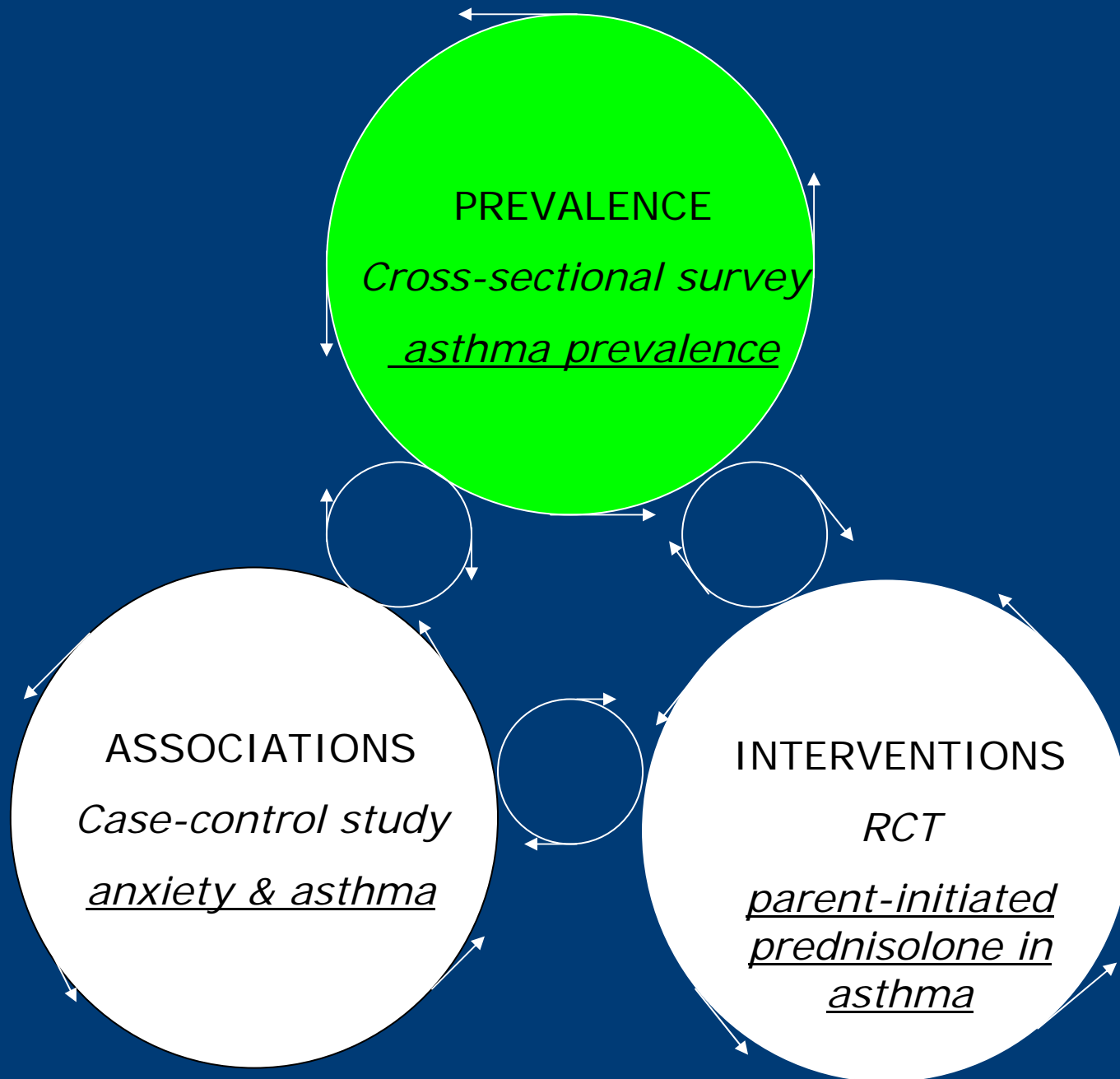


PREVALENCE

ASSOCIATIONS

INTERVENTIONS





OBJECTIVES

1. To investigate whether Melbourne data from Phase 3 of the ISAAC multicountry survey may be generalized to a broader cross-section of the Victorian children.
2. To investigate the relationship between socioeconomic status asthma management and in Australia.
3. To investigate age-related trends in the prevalence and pattern of asthma.

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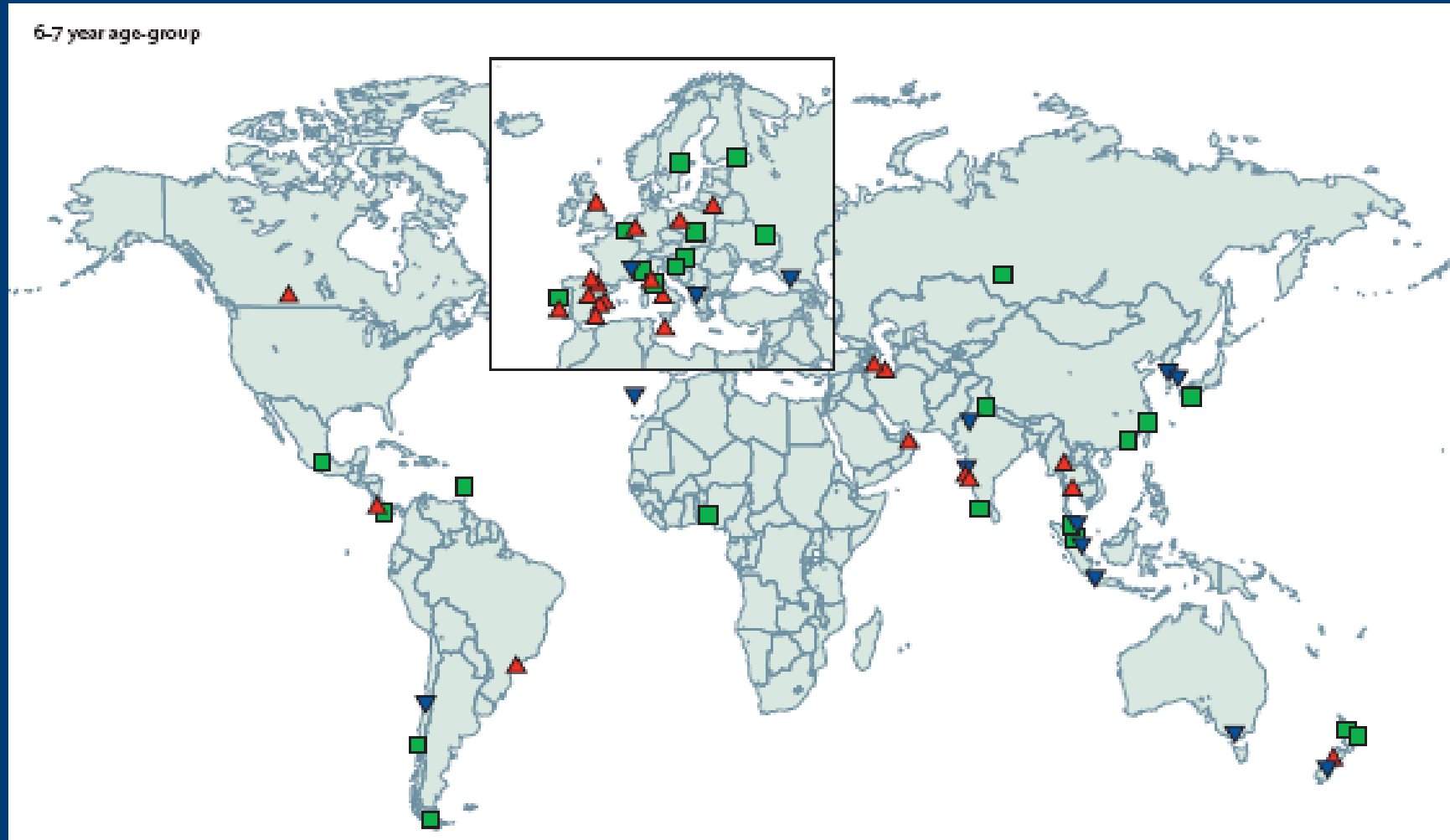
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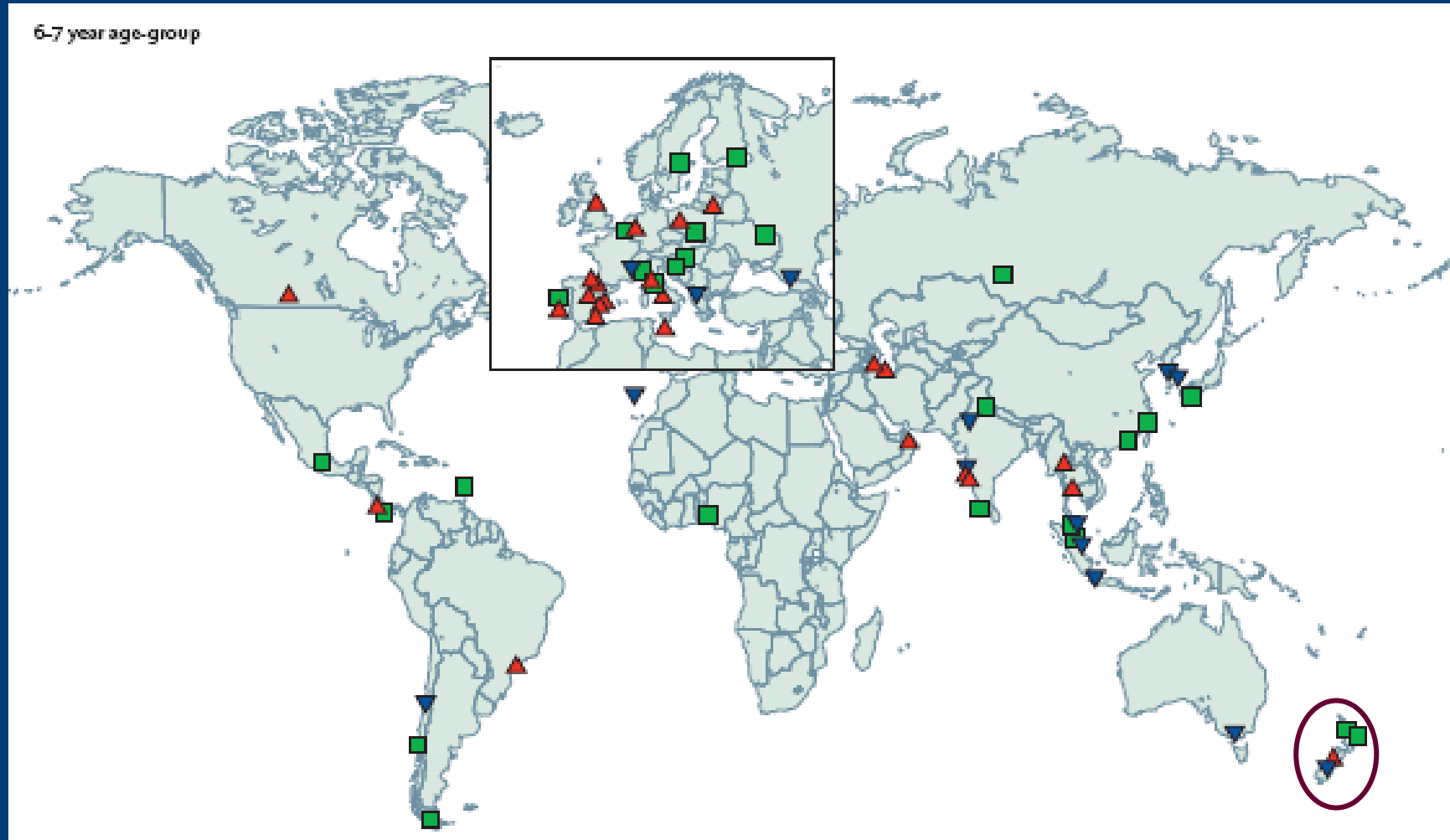
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BACKGROUND PREVALENCE



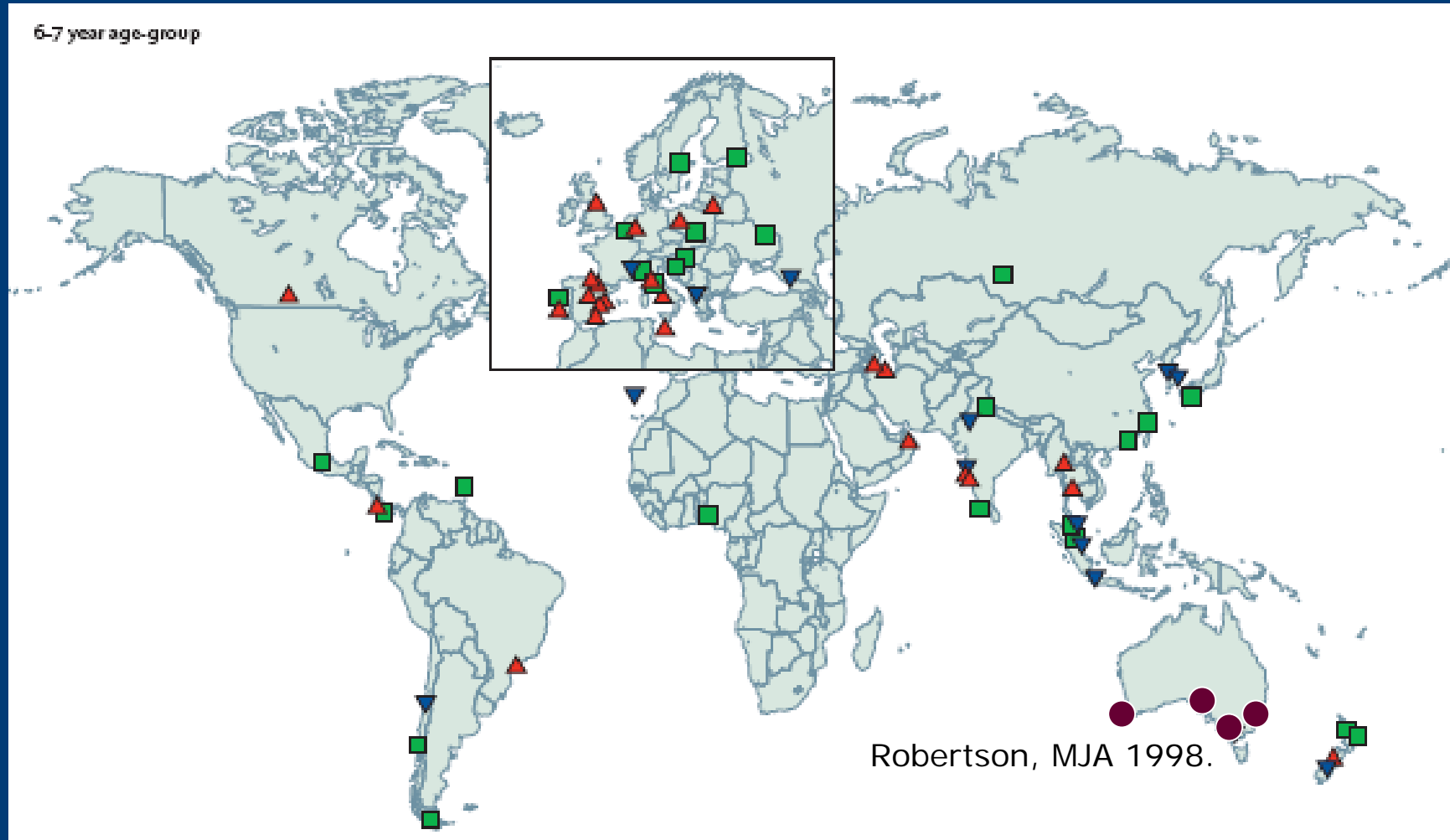
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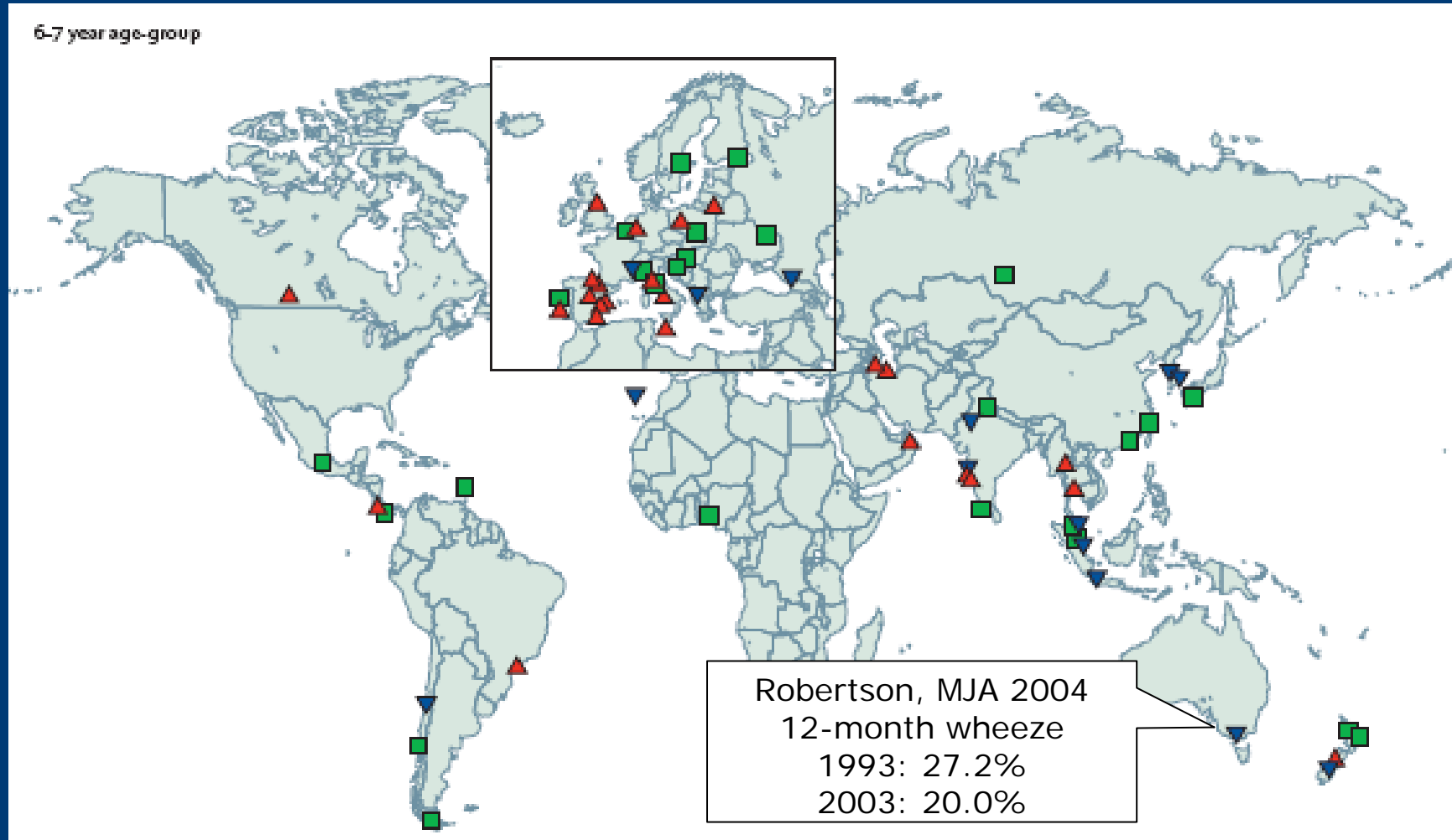
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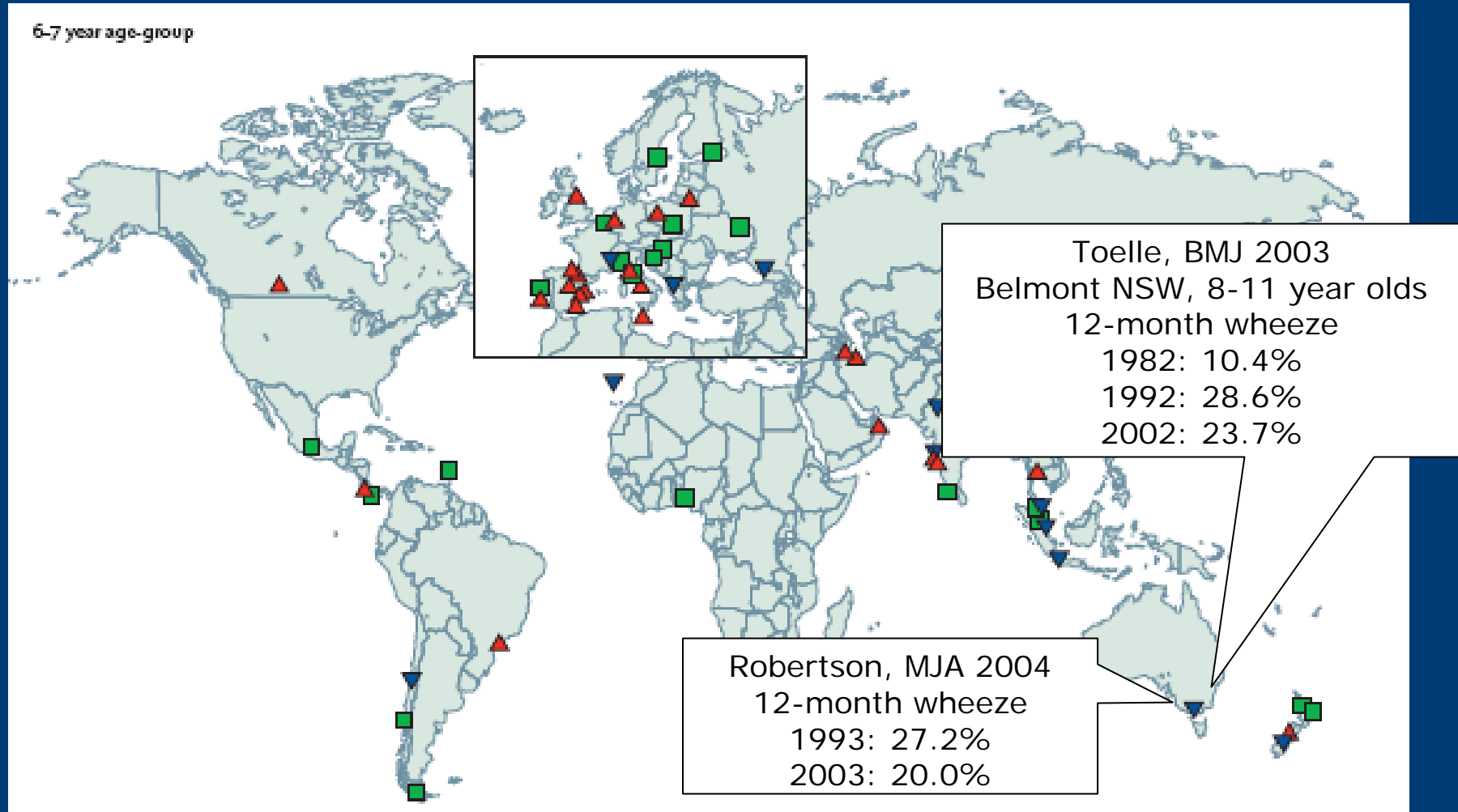
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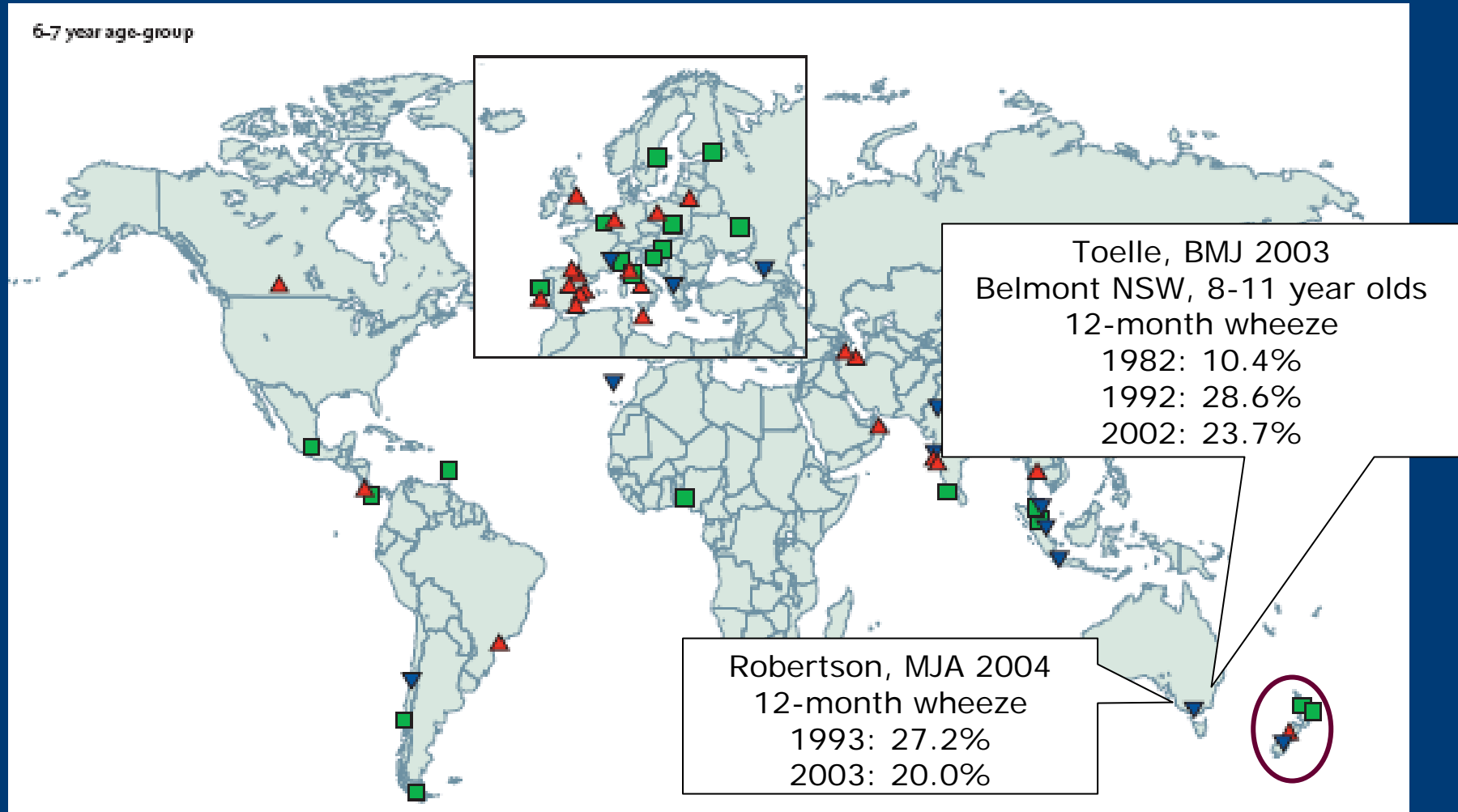
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BACKGROUND PREVALENCE

HYPOTHESIS

That the estimated prevalence of asthma in the Barwon region would be similar to Phase 3 ISAAC estimates from Melbourne

BACKGROUND

SES & ASTHMA MANAGEMENT

Internationally, children with lower SES are:

- less likely to receive regular asthma reviews (Federico, 2003)
- more likely to attend an ED with asthma (Platts-Mills, 1997. Chen, 2001)

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AGE-RELATED TRENDS

There is an age-related shift from male to female
predominance in asthma symptoms (Dodge, 1980).

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When does the gender shift begin?

HYPOTHESIS

That the gender shift in asthma predominance does not begin
during the primary school years

METHODS

- ISAAC (Asher, 1995)

2. Has your child ever had wheezing or whistling in the chest in the past 12 months?

Yes

No

**IF YOU HAVE ANSWERED "NO"
PLEASE GO TO QUESTION 6**

- Correlates well with an assessment of asthma status by a paediatric respiratory physician (Jenkins, 1996)
 - PPV = 0.89
 - NPV = 0.94
- Only ~50% of children with parent-reported wheeze have demonstrable airway hyperresponsiveness (Mai, 2002)

METHODS



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Cross-matched with ABS data re Socio-Economic Index For Areas (SEIFA)

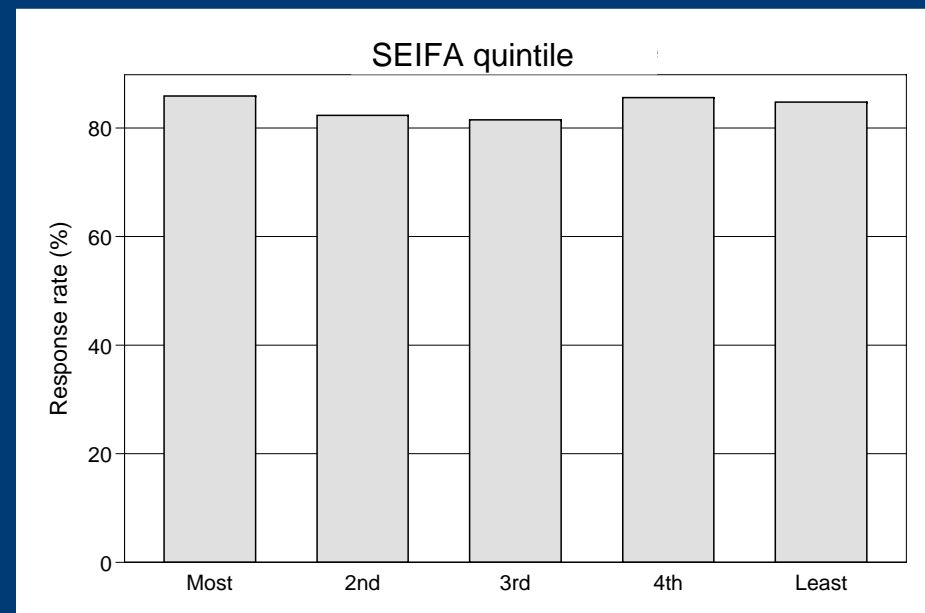
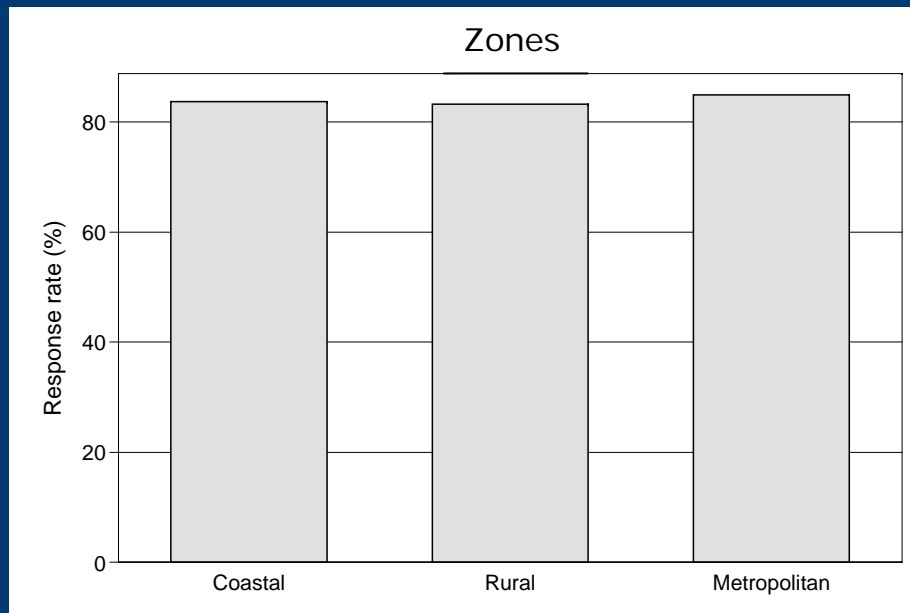
Adjusted CIs for clustering at the school level

Stepwise logistic regression to investigate the relationship between asthma-related outcomes and a range of exposures

RESULTS

Response rate

All 36 schools agreed to participate
9,258 students vs 7,813 respondents (84.4%)



RESULTS

Regional comparisons (6&7 year olds)

	Melbourne (n=2,968)	Barwon region (n=2,202)	Difference (95%CI)
12-month wheeze	20.0% (18.4 to 21.8)	20.2% (18.3 to 22.1)	+0.2% (-2.3 to 2.7)
Severe wheeze episode	3.1% (2.5 to 3.8)	3.4% (2.6 to 4.2)	+0.3% (-0.7 to 1.3)
Asthma ever	25.5% (18.6 to 23.3)	24.2% (22.6 to 25.9)	-1.3% (-4.2 to 1.6)
Emergency Dept. Attend.	2.3% (1.8 to 2.9)	2.3% (1.5 to 3.1)	0.0% (-1.0 to 1.0)
Hospital admission	1.1% (0.8 to 1.5)	1.2% (0.8 to 1.7)	+0.1% (-0.5 to 0.7)

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Regional comparisons
(4-13 year olds, n=7,813)

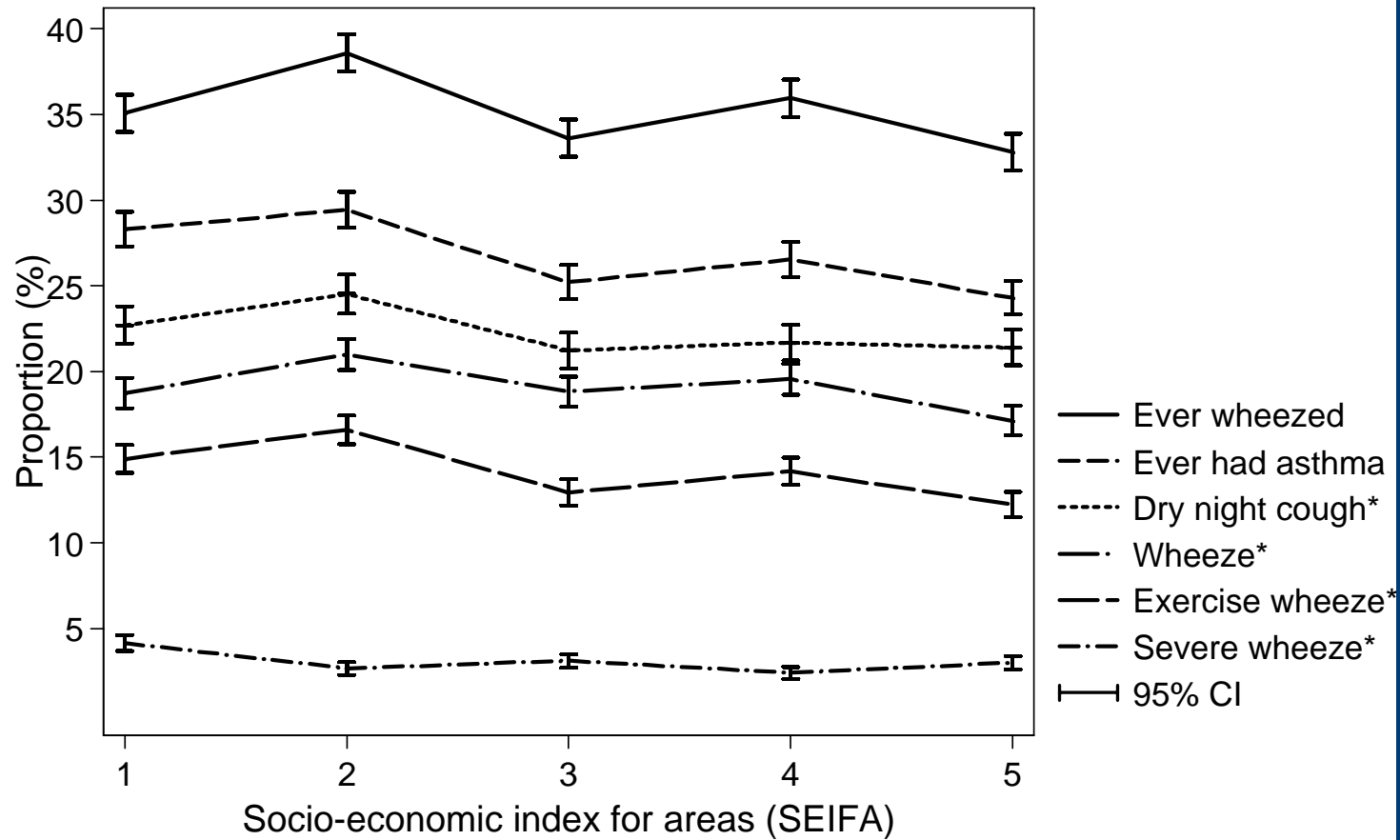
	Coastal (n=1,539)	Rural (n=1,387)	Metropolitan (n=4,887)
12-month wheeze	19.1% (12.9 to 25.5)	19.3% (17.5 to 21.2)	18.7% (17.4 to 20.1)
Severe wheeze episode	2.7% (2.2 to 3.3)	3.5% (2.6 to 4.5)	3.0% (2.5 to 3.6)
Asthma ever	25.5% (20.1 to 31.0)	26.2% (23.1 to 29.4)	27.1% (25.4 to 28.8)
Emergency Dept. Attend.	1.4% (0.2 to 2.6)	1.7% (0.9 to 2.5%)	1.6% (1.3 to 2.0)
Hospital admission	2.7% (0.0 to 2.0)	3.5% (0.2 to 1.8)	3.0% (0.4 to 1.3)

RESULTS

Socio-economic comparisons

Asthma symptoms

(4-13 year olds, n=7,813)



Note: SEIFA 1 represents the most disadvantaged quintile, and SEIFA 5 the least disadvantaged.

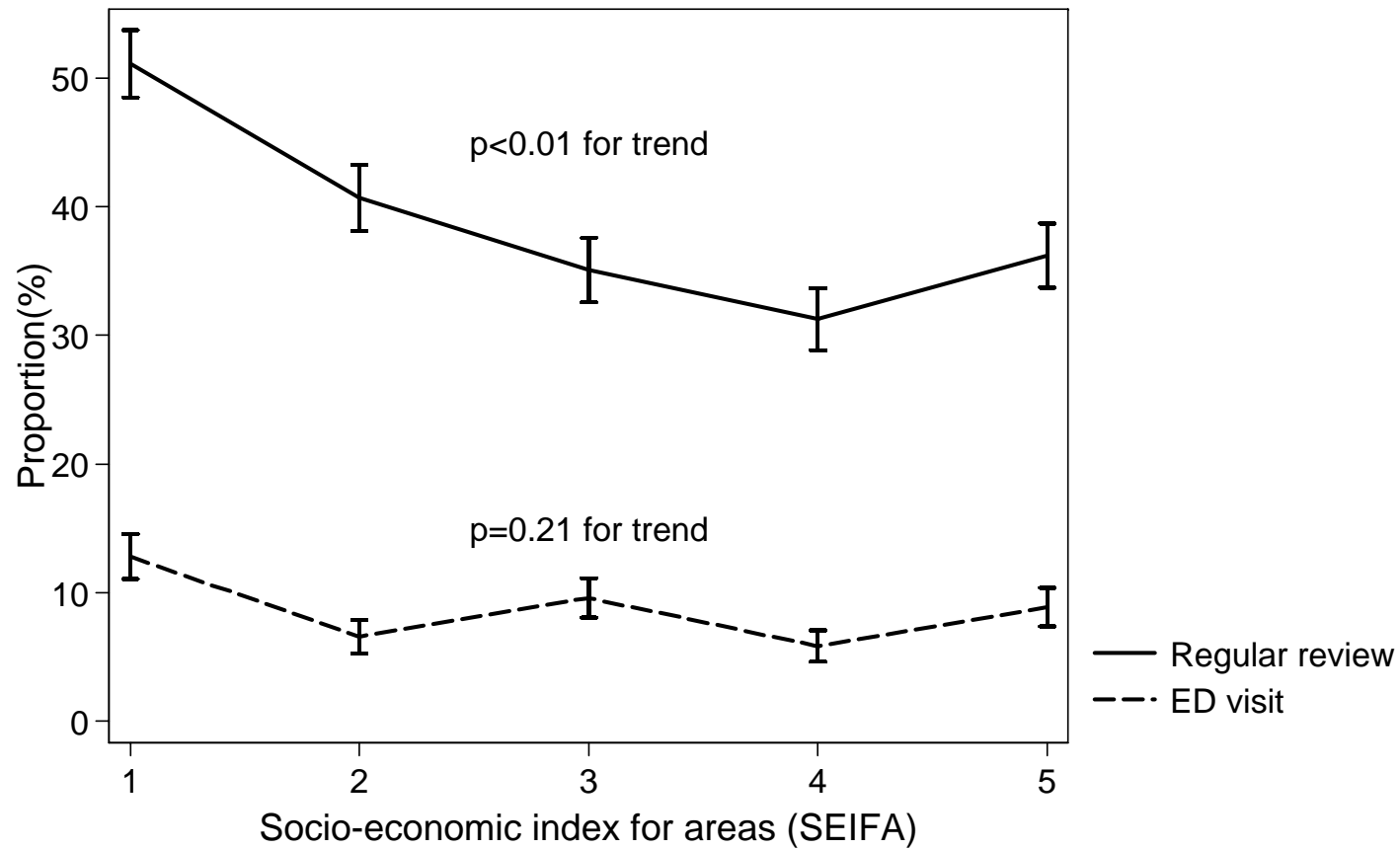
* =during the last 12 months

RESULTS

Socio-economic comparisons

Health care utilization

(4-13 year olds, n=7,813)

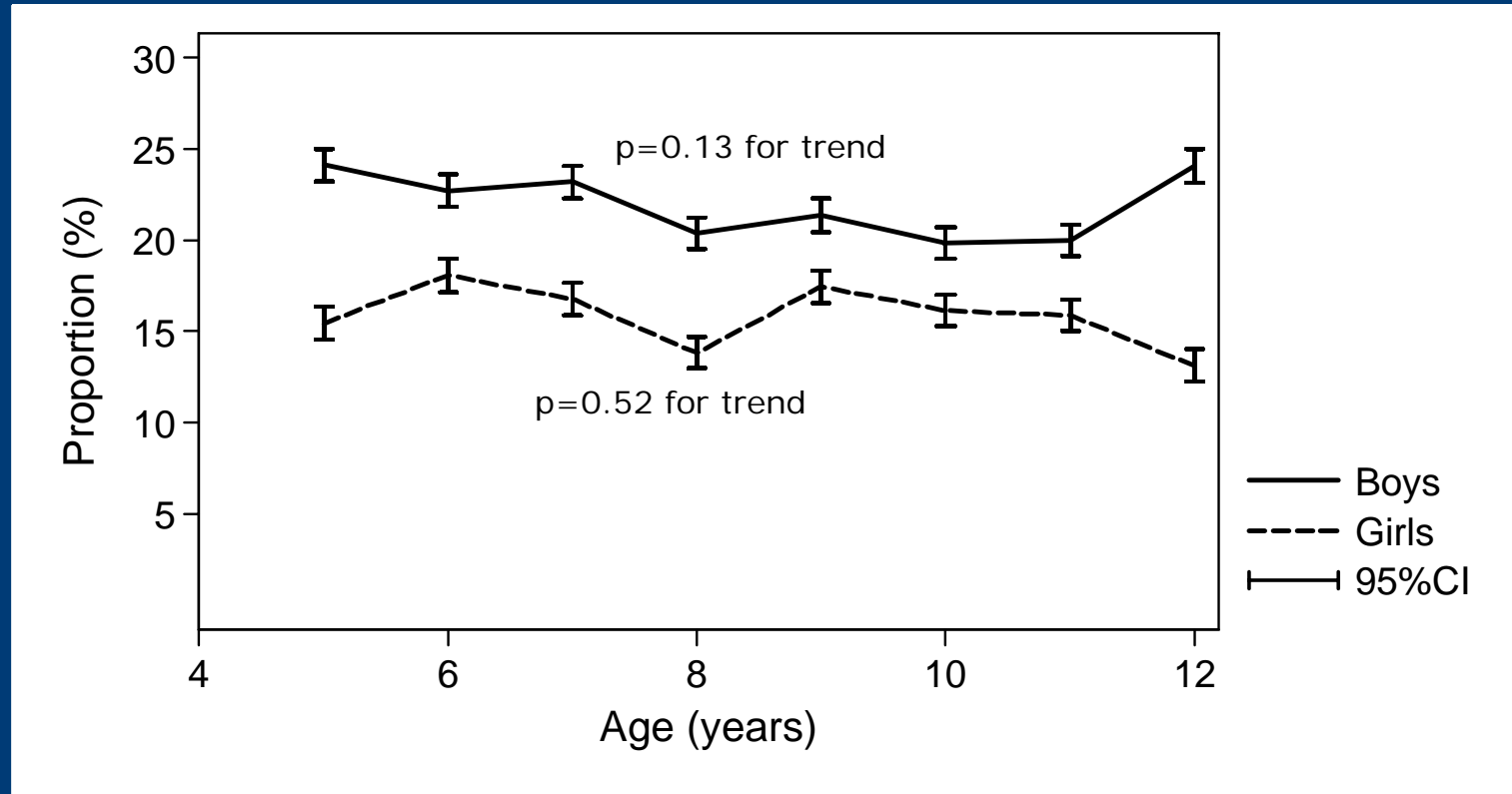


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RESULTS

Age-related changes

12-month wheeze (n=7,800)



LIMITATIONS

- The sole use of parent-reported symptoms to define asthma
- Is the Barwon region sufficiently diverse?
- Area-based classification of socioeconomic status
- The use of cross-sectional data to investigate age-related effects

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1. The estimated prevalence of asthma in the Barwon region is similar to Phase 3 ISAAC estimates from Melbourne.
2. Children with lower SES have good access to interim asthma management and are no more likely to attend an ED with asthma.
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IMPLICATIONS

1. It is reasonable to continue to focus asthma monitoring on sentinel sites
2. Existing policies which facilitate access to interim asthma management appear to be effective and should not be diluted.
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ACKNOWLEDGEMENTS

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