

Traffic pollution and incidence of asthma in adults

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- Grants from by EMFO and SCARP
- ECRHS 1990 + RHINE follow up 1999
- 6195 participants from Göteborg, Umeå, and Uppsala

Incident cases of asthma in study

Definition 1 (strict ~ “true incidence”)

- Positive answer to “ever asthma” *or* “doctors diagnosed asthma” 1999
- Negative answer to “using asthma medicine” 1990 *and* “asthma attack” 1990
- A reported year of asthma onset within the follow-up period

Definition 2 (broader ~ “new onset”)

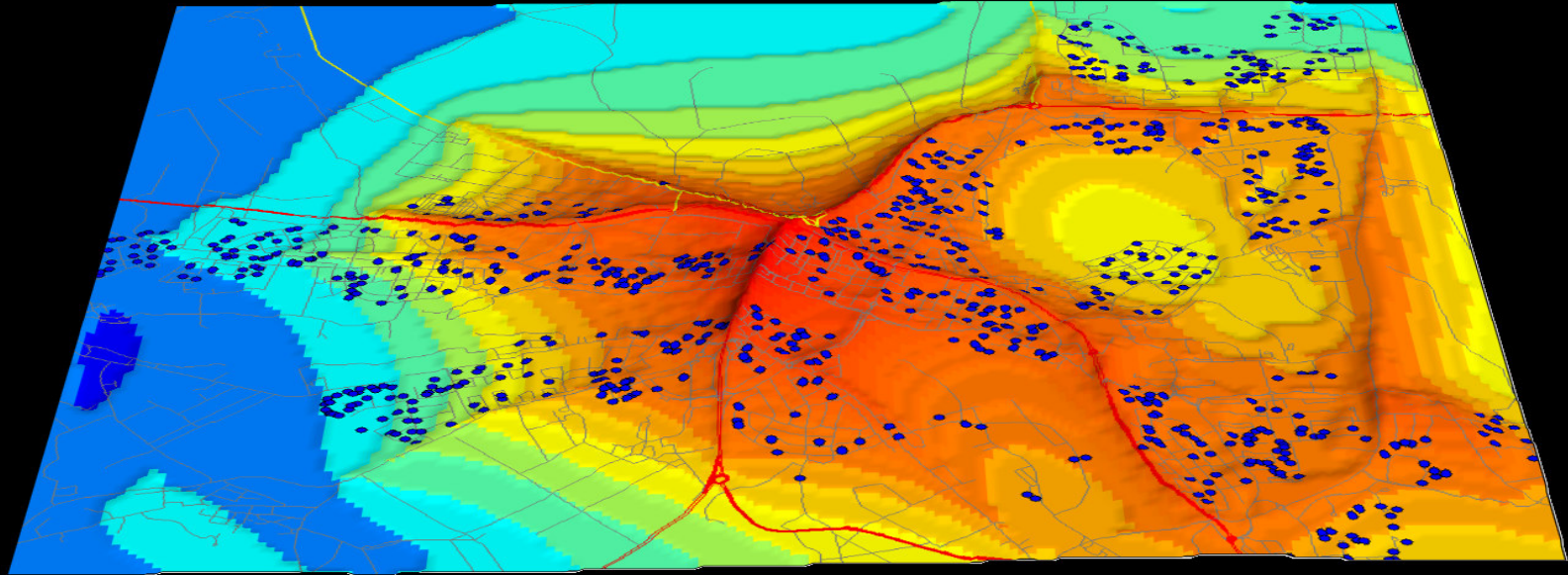
- Positive answer to “ever asthma” *or* “doctors diagnosed asthma” 1999
- Negative answer to “using asthma medicine” 1990 *and* “asthma attack” 1990

Study size

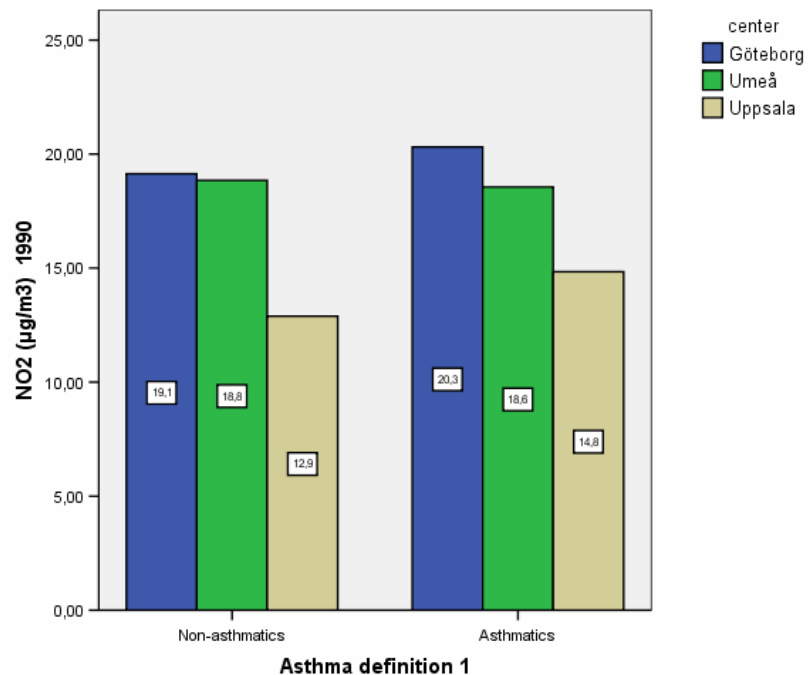
- In total 3872 participants were possible to geocode and ascribe a modeled six month (winter) mean level of NO₂ 1990
- These participants accumulated 30 906 person years of follow up
- Among the 3872 participants, 64 were found to be incident asthma cases by definition 1 (~ 2 per 1000 person years), and 220 “onsets” by definition 2.

Modelled level of NO ₂ 90				
		Incident asthma		Person years of follow up (those with a modelled level of NO ₂)
	n	Def 1	Def 2	Sum
All	3872	64	220	30 906
Göteborg	2087	29	108	16 662
Umeå	873	17	46	5 735
Uppsala	912	18	66	8 509

1990 NO₂ levels for participants in Umeå



Modeled levels of NO2 outside homes



NO2_vinter_90				
	Mean	Std	Min	Max
All	17.2	6.7	3.3	45.6
Göteborg	19.2	6.9	3.3	45.6
Umeå	18.8	5.9	7.9	38.0
Uppsala	12.9	4.9	3.3	27.3

SCARPs årsmöte nov 07

Preliminary results

- Strict definition ("true incidence")
OR = 1.030 per 1 $\mu\text{g}/\text{m}^3$
(95% CI = 0.988-1.073)
- Broader definition (at least "new onset")
OR = 1.024 per 1 $\mu\text{g}/\text{m}^3$
(95% CI = 1.001-1.048)