

## Supplement

### Figure Legend:

Figure S 1: Data sources

Figure S 2

Directed Acyclic Graph depicting the exposure (asthma), the outcome (death 1-25 years of age) and the potential confounders: sex, prematurity, SGA, calendar year of birth, life-limiting condition, maternal age at delivery, smoking during pregnancy, birth country, and parental SES.

Figure S1:

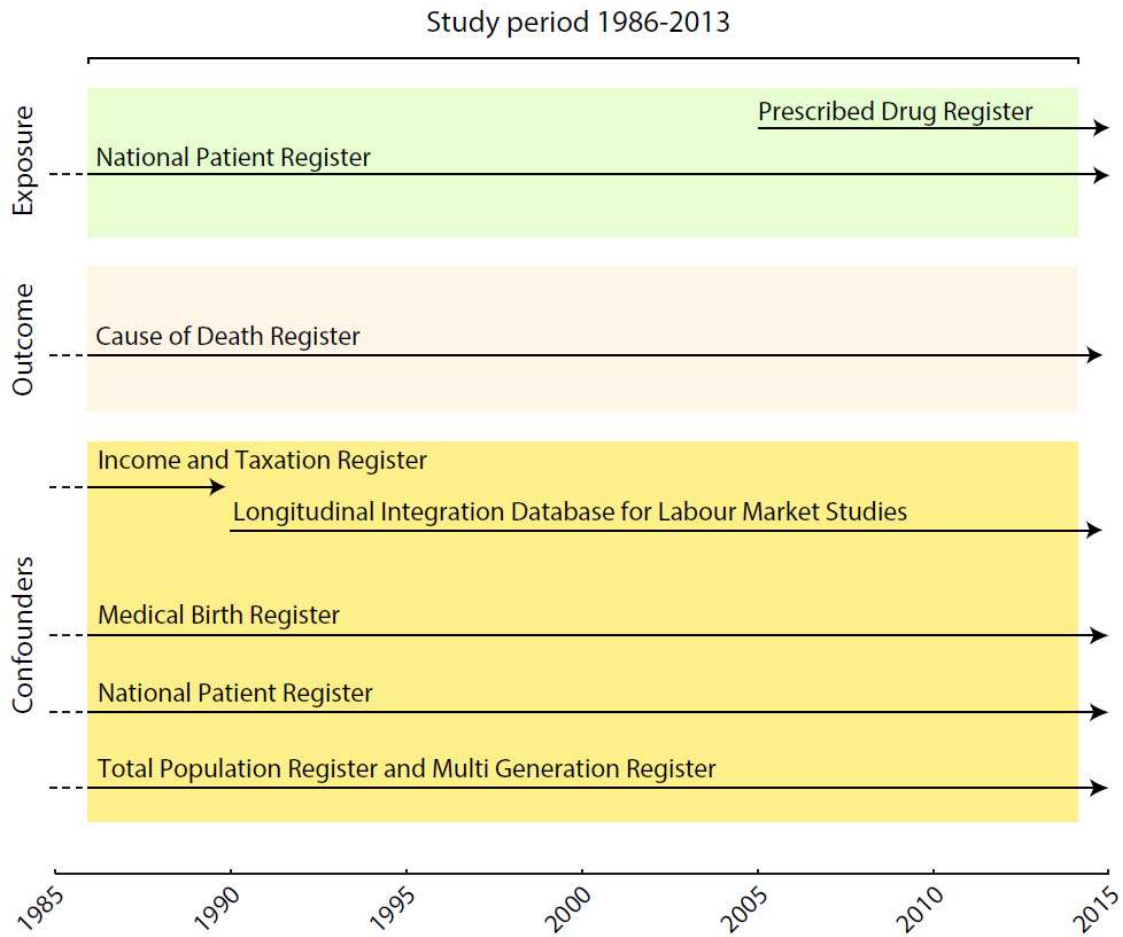
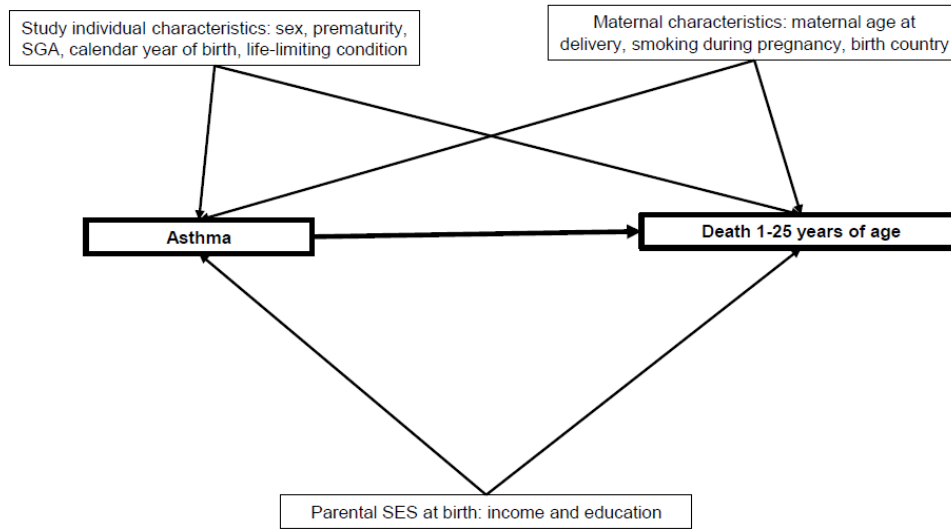


Figure S2:



**Table S1: ICD-10 codes used to identify Life-Limiting Conditions in children and young adults**

A	B	D	E	G	G	I	M
A17	B20-B24	D81	E31.0	G10	G40.4	I21	M31.3
A81.0		D82.1	E34.8	G11.1	G40.5	I27.0	M32.1
A81.1		D83		G11.3	G60	I42	M89.5
		D89.1		G12	G60.1	161	
				G20	G70.2		
				G23.0	G70.9		
				G23.8	G71.0		
				G31.8	G71.1		
				G31.9	G71.2		
				G35	G71.3		
P	Q	Q	Q	Q	Q	T	
P10.1	Q00.0	Q21.9	Q28.2	Q74.8	Q87.1	T86.0	
P11.2	Q01	Q22.0	Q32.1	Q75.0	Q87.8	T86.2	
P21.0	Q03.1	Q22.1	Q33.6	Q77.2	Q91-Q95		
P28.5	Q03.9	Q22.4	Q34	Q77.3			
P29.0	Q04.0	Q22.5	Q39.6	Q77.4			
P29.3	Q04.4	Q22.6	Q41.0	Q78.0			
P35.0	Q04.6	Q23.0	Q43.7	Q78.5			
P35.8	Q04.9	Q23.2	Q44.2	Q79.2			
P37.1	Q07.0	Q23.4	Q44.5	Q79.3			
P52.5	Q20.0	Q23.9	Q44.7	Q80.4			
P52.9	Q20.3	Q25.4	Q60.1	Q81			
P83.2	Q20.4	Q25.6	Q60.6	Q82.1			
P91.2	Q20.6	Q26.2	Q61.9	Q85.8			
P91.6	Q20.8	Q26.4	Q64.2	Q86.0			
P96.0	Q21.3	Q26.8	Q74.3	Q87.0			

Table S2: Causes of death comparing those with and without asthma

	All	No Asthma	Asthma
N (%)	6592	6044	548
<b>Cause of death</b>			
<b>Injury Poisoning</b>	2780 (42.2)	2637 (43.6)	143 (26.1)
<b>Neoplasm</b>	1113 (16.9)	1049 (17.4)	64 (11.7)
<b>Congenital</b>	543 (8.2)	469 (7.8)	74 (13.5)
<b>Neurological</b>	516 (7.8)	420 (7.0)	96 (17.5)
<b>Endocrine</b>	393 (6.0)	360 (6.0)	33 (6.0)
<b>Cardiac</b>	303 (4.6)	273 (4.5)	30 (5.5)
<b>Respiratory*</b>	135 (2.1)	111 (1.8)	24 (4.4)
<b>Other **</b>	809 (12.3)	724 (12.0)	84 (15.3)

\*Includes 10 deaths from asthma \*\*Other: deaths from infections, haematological, psychiatric, gastrointestinal, pregnancy, dermatological and musculoskeletal causes based on ICD code

**Table S3: Adjusted hazard ratios with 95% confidence intervals comparing the all-cause mortality in the asthma group to the no asthma group estimated from Cox proportional hazards models, with p-values for test of interaction with asthma exposure.**

	HR (95% CI)	p-value
<b>Life limiting condition</b>		0.002
Yes	1.87 (1.57-2.22)	
No	1.33 (1.18-1.50)	
<b>Parental Income</b>		0.55
Lowest	1.42 (1.17-1.73)	
Lower Middle	1.60 (1.30-1.95)	
Middle	1.38 (1.11- 1.72)	
Upper Middle	1.31(1.04-1.66)	
Highest	1.65 (1.32-2.05)	
<b>Parental Education</b>		0.83
Compulsory school	1.40 ( 1.04-1.90)	
High School	1.45 ( 1.27-1.64)	
College or Further Education	1.53 ( 1.29-1.81)	

HR=hazard ratio. Cox proportional hazard regression model adjusted for sex, prematurity, SGA, life-limiting condition, birth year, maternal age at birth, maternal smoking during pregnancy, maternal country of birth, parental disposable income and highest parental education at birth, in an interaction model with life-limiting condition or parental SES.