

## Supplemental Digital Content 1: Extraction of a wheeze factor from the ECRHS (N=997)

A component analysis was carried out of binary responses to the European Community Respiratory Health Survey (ECRHS) (Burney et al, 1995), following the approach used by Sunyer et al [2000]. Using a slightly oblique rotation ( $\Delta = -0.1$ ) four factors were extracted\*\*, with factor loadings as in the table below. Only loading  $>0.2$  are shown.

	Percent of variance explained			
	Phlegm 22.9%	Cough 12.3%	Asthma 9.5%	Wheeze 8.9%
Wheezing or whistling in the last 12 months				0.896
Breathless when wheezing				0.447
Wheezing without a cold				0.871
Woken with chest tightness in last 12 months				0.355
Shortness of breath at rest				0.260
Shortness of breath after activity				0.402
Woken by shortness of breath				0.299
Woken by attack of coughing				0.226
Usually cough first thing in the morning		0.23		
Usually cough day or night in winter		1.01		
Cough on most days for as much as 3 months		0.759		
Usually bring up phlegm first thing?	0.529			
Bring up phlegm during day or night in winter	1.025			
Phlegm on most days for 3 months	0.804			
Ever had asthma			1.013	
Asthma confirmed by a doctor			1.008	
Attack of asthma in last 12 months			0.371	
Currently taking asthma medication			0.285	0.24
N=997*				

\*Three respondents did not complete all questions and were omitted.

\*\* Sunyer et al describe this approach as an exploratory factor analysis

Burney, P, Luczynska P, Chinn S, Jarvis D. The European Community Respiratory Health Survey. Eur. Respir. J. 1994; 7: 954-960

Sunyer J, Basagana X, Burney P, Anto J. International assessment of the internal consistency of respiratory symptoms. Am J Respi Crit Care Med. 2000; 162: 930-935