Supplementary Table 1. % Excess relative risks (95% credible intervals) by cause and exposure window for joint models containing black smoke and sulphur dioxide, adjusted for deprivation and urban/rural classification.

Exposure Window (years)[a]	All-cause BS	All-cause SO$_2$	Cardio-respiratory BS	Cardio-respiratory SO$_2$	Cardiovascular BS	Cardiovascular SO$_2$	Respiratory BS	Respiratory SO$_2$	Lung cancer BS	Lung cancer SO$_2$	Other BS	Other SO$_2$
0-4	0.1	4.5	0.1	5.3	0.4	2.9	-0.7	13.9	1.1	-0.4	-0.1	4.2
	(-0.3 ,0.5)	(3.8 ,5.2)	(-0.4 ,0.7)	(4.4 ,6.2)	(-0.2 ,1)	(1. 9 ,3. 9)	(-1.7 ,0.4)	(12 ,15.9)	(-0.4 ,2.6)	(-2.8 ,2.3)	(-0.9,0.5)	(3.1 ,5.5)
5-8	0.2	4.5	0.5	4.3	0.5	2.6	0.4	10.2	0.9	3.0	-0.4	5.2
	(-0.1 ,0.5)	(4 ,5)	(0.1 ,0. 9)	(3.6 ,5)	(0.1 ,0. 9)	(1. 9 ,3.4)	(-0.4 ,1.2)	(8.8 ,11.7)	(-0.2 ,2)	(1 ,4.9)	(-0.9,0.1)	(4.4 ,6.1)
9-12	0.7	2.6	1.1	2.3	1.2	1.0	0.7	6.7	1.7	1.7	-0.1	3.5
	(0.5 ,0.9)	(2.3 ,3.1)	(0. 9 ,1.3)	(1.8 ,2.8)	(1 ,1.5)	(0.5 ,1.6)	(0.2 ,1.2)	(5.7 ,7.8)	(1.1 ,2.4)	(0.4 ,3.1)	(-0.4 ,0.2)	(2.8 ,4.1)
13-16	0.7	1.6	1.0	1.4	1.2	0.6	0.4	4.3	1.1	0.8	0.0	2.1
	(0.6,0.8)	(1.3 ,1. 9)	(0. 9 ,1.2)	(1 ,1.8)	(1.1,1.4)	(0.1 ,1)	(0.1 ,0.7)	(3.5 ,5.1)	(0.7 ,1.5)	(-0.2 ,1.8)	(-0.2 ,0.2)	(1.6 ,2.6)
0-8	0.0	2.6	0.1	2.7	0.2	1.6	-0.2	6.7	0.5	1.0	-0.3	2.9
	(-0.2 ,0.2)	(2.3 ,2. 9)	(-0.1 ,0.4)	(2.3 ,3.1)	(0 ,0.5)	(1.1 ,2)	(-0.7 ,0.3)	(5. 9 ,7.6)	(-0.2 ,1.3)	(-0.1 ,2)	(-0.6 ,0)	(2.4 ,3.4)
0-12	0.2	1.5	0.3	1.4	0.4	0.7	0.1	3.9	0.7	0.6	-0.2	1.8
	(0.1,0.3)	(1.3 ,1.7)	(0.2 ,0.5)	(1.2 ,1.7)	(0.3 ,0.6)	(0.4 ,1)	(-0.2 ,0.3)	(3.4 ,4.4)	(0.3 ,1)	(0 ,1.3)	(-0.3 ,0)	(1.5 ,2.1)
0-16	0.2	0.9	0.4	0.8	0.4	0.3	0.1	2.4	0.5	0.4	-0.1	1.1
	(0.2 ,0.3)	(0.8,1)	(0.3 ,0.4)	(0.6,0. 9)	(0.4 ,0.5)	(0.2 ,0.5)	(-0.1 ,0.2)	(2 ,2.7)	(0.3 ,0.7)	(-0.1 ,0.8)	(-0.2 ,0)	(0.9 ,1.3)

BS black smoke   SO$_2$ sulphur dioxide   [a] See Figure 1.   Excess risks are per 10µg/m^3 BS and per 10ppb SO$_2$