eTable 1 Availability of daily average particle metric data 1 January 2000 through 31 December 2005

Site	Site designation	Start date	End date	Days	n	% [a]
Carbon						
North Kensington	Urban background	06/09/2001	31/12/2005	1578	618	39
Particle number concentrations						
North Kensington	Urban background	12/04/2001	31/12/2005	1725	1194	69
Bloomsbury	Urban centre	10/04/2002	31/05/2004	1148	428	37
Anions						
North Kensington	Urban background	15/11/2001	18/12/2005	1495	1160 [b]	78
BS						
Enfield 14	Urban background	01/01/2000	13/12/2005	2175	1807	83
Greenwich 9	Urban background	12/01/2000	31/12/2005	2181	2110	97
Ilford 6	Urban background	01/01/2000	28/09/2005	2098	1943	93
London City 16	Urban background	05/01/2000	31/12/2005	2188	2013	92
Woolwich 9	Urban background	05/01/2000	31/12/2005	2188	1964	90
Gravimetric PM_{10}						
North Kensington	Urban background	28/09/2000	31/12/2005	1921	1532	80
TEOM PM_{10}						
Bexley	Suburban	01/01/2000	27/12/2005	2188	2005	95
Brent	Urban Background	01/01/2000	31/12/2005	2192	2067	94
Bloomsbury	Urban Centre	01/01/2000	31/12/2005	2192	1744	80
Hillingdon	Suburban	01/01/2000	31/12/2005	2192	2101	96
North Kensington	Urban Background	01/01/2000	31/12/2005	2192	2127	97
Eltham	Urban Background	01/01/2000	31/12/2005	2192	2024	92
Gravimetric $PM_{2.5}$						
North Kensington	Urban background	07/09/2000	31/12/2005	1942	1713	88
TEOM $PM_{2.5}$						
Bexley	Suburban	01/01/2000	31/12/2005	2192	1809	83
Bloomsbury	Urban Centre	01/01/2000	31/12/2005	2192	2065	94
Source Apportionment						
PM_{10} /$PM_{2.5}$/$PM_{10-2.5}$	-	01/01/2000	31/12/2005	2192	2192	100
FDMS						
North Kensington	Urban background	23/10/2003	31/12/2005	801	613	77

Notes:

[a] Days with available 24-hour averages (n) as a percentage of days data collected (Days)

[b] Chloride-1163, Nitrate-1160, Sulphate-1165

Legend to eTables 2-6

All measurements are from North Kensington unless otherwise stated (interquartile range)

PNC – particle number concentrations (10,166 /cm^3)
NO_3^- – nitrate (3.36)
Cl^- – chloride (1.755)
SO_4^{2-} – sulphate (2.37)
BS –Black Smoke -London wide - (3.446)
$GRPM_{10}$ – gravimetric PM_{10} (14.0)
$NKPM_{10}$ – TEOM PM_{10} (11.7)
PM_{10} – TEOM PM_{10} - London wide (11.2)
$GRPM_{2.5}$ – gravimetric $PM_{2.5}$ (11.0)
$PM_{2.5}$ – TEOM $PM_{2.5}$ - London wide (7.1)
$GRPM_{10-2.5}$ – gravimetric coarse fraction (5.0)
PPM_{10} – modelled primary PM_{10} (3.35)
$NPPM_{10}$ - modelled non-primary PM_{10} (7.2)
$NPPM_{2.5}$ - modelled non-primary $PM_{2.5}$ (5.1)
$NPPM_{10-2.5}$ – modelled non-primary $PM_{10-2.5}$ (3.6)

IQR – inter-quartile range
% - percentage change in mean number of health events per IQR increase in particle metric
$^{95\%}$ CI - 95% confidence interval

eTable 2 Results from regression analyses, mortality

a) All causes

Particle	Lag 0 %	95% CI	Lag 1 %	95% CI	Lag 2 %	95% CI	Lag 3 %	95% CI	Lag 4 %	95% CI	Lag 5 %	95% CI	Lag 6 %	95% CI
PNC	-0.55	(-1.47, 0.38)	1.41	(0.48, 2.35)	0.55	(-0.37, 1.47)	0.31	(-0.58, 1.21)	0.06	(-0.82, 0.95)	-0.64	(-1.50, 0.23)	-0.09	(-0.94, 0.77)
NO_3^-	-0.04	(-0.53, 0.46)	0.03	(-0.47, 0.53)	-0.09	(-0.58, 0.40)	-0.21	(-0.70, 0.28)	0.32	(-0.17, 0.80)	0.24	(-0.24, 0.73)	0.28	(-0.20, 0.77)
Cl^-	0.11	(-0.73, 0.95)	0.63	(-0.19, 1.46)	0.30	(-0.51, 1.11)	1.01	(0.20, 1.83)	0.18	(-0.64, 1.01)	-0.09	(-0.91, 0.74)	-0.10	(-0.92, 0.72)
SO_4^{2-}	-0.14	(-0.77, 0.50)	0.29	(-0.34, 0.92)	-0.14	(-0.75, 0.48)	-0.60	(-1.21, 0.02)	0.30	(-0.31, 0.91)	0.31	(-0.30, 0.94)	-0.32	(-0.93, 0.30)
BS	-0.21	(-0.61, 0.18)	0.12	(-0.26, 0.51)	-0.30	(-0.68, 0.08)	-0.21	(-0.60, 0.18)	0.04	(-0.35, 0.43)	0.08	(-0.30, 0.47)	0.06	(-0.33, 0.45)
$GRPM_{10}$	0.22	(-0.30, 0.74)	0.48	(-0.03, 1.01)	-0.10	(-0.61, 0.41)	0.00	(-0.51, 0.50)	0.03	(-0.47, 0.54)	0.26	(-0.24, 0.77)	0.15	(-0.35, 0.66)
$NKPM_{10}$	-0.04	(-0.51, 0.44)	0.39	(-0.08, 0.86)	0.18	(-0.28, 0.64)	0.14	(-0.32, 0.60)	0.38	(-0.08, 0.84)	0.24	(-0.22, 0.69)	0.16	(-0.29, 0.61)
PM_{10}	-0.20	(-0.70, 0.29)	0.52	(0.03, 1.01)	0.23	(-0.25, 0.71)	0.11	(-0.37, 0.59)	0.30	(-0.18, 0.79)	0.19	(-0.28, 0.67)	0.20	(-0.27, 0.67)
$GRPM_{2.5}$	0.05	(-0.37, 0.48)	-0.04	(-0.46, 0.39)	-0.11	(-0.52, 0.31)	-0.06	(-0.47, 0.36)	0.15	(-0.26, 0.57)	0.16	(-0.25, 0.57)	0.10	(-0.31, 0.51)
$PM_{2.5}$	0.07	(-0.37, 0.52)	0.17	(-0.27, 0.61)	-0.04	(-0.47, 0.40)	-0.13	(-0.56, 0.31)	0.27	(-0.17, 0.71)	0.35	(-0.09, 0.78)	0.33	(-0.09, 0.76)
$GRPM_{10-2.5}$	-0.18	(-0.74, 0.38)	0.92	(0.36, 1.48)	-0.23	(-0.79, 0.33)	0.07	(-0.49, 0.64)	-0.13	(-0.70, 0.43)	0.23	(-0.33, 0.79)	-0.13	(-0.68, 0.42)
PPM_{10}	-0.20	(-0.65, 0.24)	0.19	(-0.25, 0.62)	0.03	(-0.40, 0.46)	0.03	(-0.40, 0.46)	0.21	(-0.22, 0.64)	0.14	(-0.29, 0.57)	0.09	(-0.33, 0.52)
$NPPM_{10}$	0.00	(-0.48, 0.49)	0.38	(-0.09, 0.86)	0.11	(-0.36, 0.58)	0.10	(-0.37, 0.57)	0.34	(-0.13, 0.82)	0.24	(-0.23, 0.70)	0.21	(-0.24, 0.66)
$NPPM_{2.5}$	0.03	(-0.42, 0.49)	0.15	(-0.30, 0.59)	-0.09	(-0.53, 0.35)	0.00	(-0.44, 0.44)	0.38	(-0.06, 0.82)	0.33	(-0.10, 0.77)	0.25	(-0.17, 0.68)
$NPPM_{10-2.5}$	-0.05	(-0.58, 0.49)	0.64	(0.12, 1.16)	0.44	(-0.08, 0.97)	0.24	(-0.29, 0.77)	0.09	(-0.43, 0.62)	-0.07	(-0.59, 0.45)	0.03	(-0.48, 0.53)

b) Cardiovascular

Particle	Lag 0		Lag 1		Lag 2		Lag 3		Lag 4		Lag 5		Lag 6	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
PNC	-0.78	(-2.32, 0.79)	2.19	(0.64, 3.77)	0.72	(-0.81, 2.27)	0.43	(-1.05, 1.94)	-0.29	(-1.76, 1.20)	-0.83	(-2.28, 0.64)	-0.25	(-1.68, 1.20)
NO_3	-0.17	(-0.99, 0.66)	-0.43	(-1.26, 0.41)	0.01	(-0.82, 0.84)	-0.20	(-1.03, 0.63)	0.89	(0.06, 1.72)	0.80	(-0.01, 1.62)	0.53	(-0.28, 1.35)
NO_3^-	0.90	(-0.50, 2.32)	0.03	(-1.33, 1.41)	0.65	(-0.71, 2.04)	0.80	(-0.57, 2.18)	-1.13	(-2.51, 0.27)	-0.65	(-2.01, 0.74)	-0.41	(-1.76, 0.97)
Cl^-	-0.23	(-1.30, 0.84)	-0.13	(-1.17, 0.93)	0.09	(-0.95, 1.14)	-0.28	(-1.32, 0.78)	0.89	(-0.16, 1.94)	0.82	(-0.22, 1.87)	-0.19	(-1.23, 0.85)
SO_4^{2-}	0.14	(-0.51, 0.79)	0.20	(-0.43, 0.85)	-0.33	(-0.96, 0.31)	-0.29	(-0.93, 0.34)	-0.18	(-0.82, 0.47)	0.22	(-0.42, 0.87)	0.33	(-0.31, 0.97)
$GRPM_{10}$	0.08	(-0.79, 0.96)	0.07	(-0.79, 0.95)	-0.47	(-1.33, 0.39)	-0.04	(-0.88, 0.82)	0.30	(-0.55, 1.15)	0.66	(-0.20, 1.52)	0.26	(-0.58, 1.11)
$NKPM_{10}$	0.11	(-0.68, 0.90)	0.20	(-0.57, 0.97)	-0.14	(-0.90, 0.62)	-0.30	(-1.05, 0.46)	0.44	(-0.32, 1.21)	0.64	(-0.11, 1.41)	0.44	(-0.30, 1.19)
PM_{10}	-0.08	(-0.89, 0.74)	0.23	(-0.58, 1.04)	-0.11	(-0.90, 0.69)	-0.32	(-1.11, 0.47)	0.23	(-0.57, 1.03)	0.70	(-0.09, 1.50)	0.47	(-0.31, 1.26)
$GRPM_{2.5}$	0.10	(-0.62, 0.81)	-0.21	(-0.92, 0.51)	-0.43	(-1.13, 0.27)	-0.03	(-0.72, 0.67)	0.45	(-0.25, 1.15)	0.51	(-0.18, 1.20)	0.10	(-0.59, 0.79)
$PM_{2.5}$	0.34	(-0.39, 1.08)	0.16	(-0.57, 0.89)	-0.23	(-0.95, 0.49)	-0.40	(-1.12, 0.32)	0.36	(-0.37, 1.09)	0.67	(-0.05, 1.40)	0.49	(-0.22, 1.20)
$GRPM_{10-2.5}$	-0.21	(-1.16, 0.75)	0.24	(-0.71, 1.19)	-0.43	(-1.37, 0.52)	-0.46	(-1.40, 0.50)	-0.46	(-1.39, 0.49)	0.74	(-0.20, 1.68)	-0.08	(-1.00, 0.85)
PPM_{10}	0.18	(-0.55, 0.92)	0.39	(-0.33, 1.11)	0.10	(-0.61, 0.81)	0.18	(-0.52, 0.89)	0.15	(-0.56, 0.87)	0.44	(-0.27, 1.15)	0.49	(-0.21, 1.19)
$NPPM_{10}$	-0.30	(-1.09, 0.50)	-0.12	(-0.90, 0.66)	-0.37	(-1.14, 0.41)	-0.28	(-1.05, 0.50)	0.45	(-0.33, 1.23)	0.61	(-0.16, 1.38)	0.31	(-0.43, 1.06)
$NPPM_{2.5}$	-0.07	(-0.82, 0.69)	-0.33	(-1.06, 0.41)	-0.44	(-1.16, 0.29)	-0.33	(-1.06, 0.40)	0.61	(-0.12, 1.35)	0.78	(0.05, 1.51)	0.40	(-0.30, 1.11)
$NPPM_{10-2.5}$	-0.57	(-1.45, 0.31)	0.34	(-0.52, 1.20)	-0.03	(-0.89, 0.83)	-0.05	(-0.92, 0.83)	-0.09	(-0.95, 0.78)	0.00	(-0.85, 0.86)	0.01	(-0.82, 0.85)

c) Respiratory

Particle	Lag 0 %	95% CI	Lag 1 %	95% CI	Lag 2 %	95% CI	Lag 3 %	95% CI	Lag 4 %	95% CI	Lag 5 %	95% CI	Lag 6 %	95% CI
PNC	1.44	(-0.97, 3.90)	2.31	(-0.08, 4.75)	0.16	(-2.13, 2.49)	-0.34	(-2.55, 1.93)	-0.20	(-2.39, 2.04)	-1.05	(-3.17, 1.12)	0.38	(-1.75, 2.56)
NO_3^-	0.82	(-0.43, 2.08)	0.85	(-0.40, 2.12)	-0.24	(-1.48, 1.01)	-0.66	(-1.90, 0.59)	-0.11	(-1.36, 1.16)	-0.45	(-1.69, 0.81)	0.18	(-1.05, 1.43)
Cl^-	1.01	(-1.12, 3.19)	1.12	(-0.96, 3.24)	1.61	(-0.44, 3.70)	1.74	(-0.34, 3.86)	0.51	(-1.62, 2.69)	0.45	(-1.65, 2.59)	-0.19	(-2.24, 1.90)
SO_4^{2-}	0.34	(-1.30, 2.02)	0.12	(-1.49, 1.76)	-0.33	(-1.91, 1.28)	-0.82	(-2.41, 0.79)	-0.43	(-2.04, 1.20)	-0.06	(-1.65, 1.56)	0.10	(-1.48, 1.71)
BS	-0.10	(-1.04, 0.85)	0.34	(-0.58, 1.28)	0.00	(-0.92, 0.93)	-0.64	(-1.56, 0.30)	0.00	(-0.94, 0.94)	-0.29	(-1.22, 0.65)	0.12	(-0.81, 1.05)
$GRPM_{10}$	1.00	(-0.33, 2.35)	1.10	(-0.23, 2.44)	0.89	(-0.43, 2.22)	0.05	(-1.25, 1.36)	-0.56	(-1.86, 0.75)	-1.01	(-2.28, 0.29)	0.09	(-1.19, 1.39)
$NKPM_{10}$	0.12	(-1.07, 1.31)	1.10	(-0.07, 2.30)	1.75	(0.59, 2.92)	0.67	(-0.48, 1.84)	0.13	(-1.02, 1.30)	-0.51	(-1.65, 0.64)	0.88	(-0.25, 2.03)
PM_{10}	0.22	(-1.01, 1.47)	1.17	(-0.07, 2.41)	2.03	(0.81, 3.26)	0.64	(-0.57, 1.86)	0.29	(-0.92, 1.51)	-0.62	(-1.81, 0.58)	0.74	(-0.45, 1.93)
$GRPM_{2.5}$	0.11	(-0.98, 1.21)	0.54	(-0.53, 1.62)	0.97	(-0.10, 2.05)	0.25	(-0.80, 1.32)	-0.16	(-1.23, 0.91)	-0.70	(-1.75, 0.37)	0.54	(-0.51, 1.60)
$PM_{2.5}$	0.27	(-0.84, 1.39)	0.33	(-0.77, 1.44)	1.49	(0.40, 2.60)	0.39	(-0.70, 1.49)	0.43	(-0.68, 1.54)	-0.23	(-1.32, 0.88)	0.69	(-0.38, 1.78)
$GRPM_{10-2.5}$	1.30	(-0.17, 2.78)	2.07	(0.61, 3.55)	0.04	(-1.42, 1.53)	-0.59	(-2.05, 0.90)	-0.36	(-1.81, 1.11)	-0.47	(-1.89, 0.96)	0.04	(-1.37, 1.47)
PPM_{10}	-0.17	(-1.27, 0.93)	0.47	(-0.59, 1.54)	0.40	(-0.66, 1.46)	-0.01	(-1.06, 1.05)	0.65	(-0.41, 1.72)	-0.24	(-1.29, 0.83)	0.35	(-0.69, 1.40)
$NPPM_{10}$	0.40	(-0.81, 1.63)	0.94	(-0.25, 2.16)	1.62	(0.43, 2.82)	0.66	(-0.53, 1.87)	0.02	(-1.17, 1.23)	-0.23	(-1.39, 0.95)	0.96	(-0.18, 2.12)
$NPPM_{2.5}$	0.27	(-0.88, 1.42)	0.69	(-0.44, 1.82)	1.58	(0.48, 2.71)	0.79	(-0.33, 1.92)	0.15	(-0.97, 1.28)	-0.12	(-1.22, 1.00)	0.59	(-0.49, 1.68)
$NPPM_{10-2.5}$	0.47	(-0.88, 1.84)	0.92	(-0.40, 2.25)	0.81	(-0.51, 2.15)	0.05	(-1.28, 1.39)	-0.23	(-1.55, 1.11)	-0.32	(-1.62, 0.99)	1.24	(-0.04, 2.53)

eTable 3 Results from regression analyses, hospital admissions

a) Cardiovascular

Particle	Lag 0		Lag 1		Lag 2		Lag 3		Lag 4		Lag 5		Lag 6	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
PNC	0.65	(-0.37, 1.69)	0.63	(-0.40, 1.66)	-0.29	(-1.29, 0.72)	-0.61	(-1.57, 0.36)	-0.49	(-1.45, 0.47)	-0.74	(-1.68, 0.21)	0.10	(-0.84, 1.05)
NO_3^-	0.37	(-0.14, 0.87)	0.12	(-0.39, 0.63)	0.15	(-0.34, 0.65)	0.33	(-0.16, 0.82)	0.08	(-0.42, 0.58)	0.24	(-0.27, 0.75)	0.28	(-0.23, 0.78)
Cl^-	-0.40	(-1.27, 0.48)	-0.26	(-1.11, 0.60)	-0.24	(-1.07, 0.60)	-0.77	(-1.59, 0.06)	-0.69	(-1.55, 0.18)	0.14	(-0.74, 1.03)	0.48	(-0.38, 1.36)
SO_4^{2-}	0.20	(-0.45, 0.86)	-0.07	(-0.72, 0.58)	-0.05	(-0.69, 0.59)	0.44	(-0.18, 1.07)	0.22	(-0.41, 0.86)	0.50	(-0.14, 1.14)	-0.10	(-0.73, 0.54)
BS	0.06	(-0.37, 0.49)	0.08	(-0.34, 0.50)	-0.36	(-0.78, 0.06)	0.07	(-0.35, 0.49)	0.47	(0.05, 0.90)	0.26	(-0.16, 0.68)	0.12	(-0.30, 0.54)
$GRPM_{10}$	0.37	(-0.19, 0.93)	0.22	(-0.34, 0.79)	-0.13	(-0.68, 0.43)	-0.33	(-0.87, 0.21)	-0.03	(-0.58, 0.52)	0.08	(-0.47, 0.63)	-0.01	(-0.56, 0.54)
$NKPM_{10}$	0.30	(-0.20, 0.80)	0.22	(-0.28, 0.72)	-0.14	(-0.62, 0.35)	0.03	(-0.45, 0.51)	0.28	(-0.21, 0.77)	0.28	(-0.20, 0.76)	0.10	(-0.37, 0.58)
PM_{10}	0.25	(-0.27, 0.78)	0.25	(-0.28, 0.78)	-0.25	(-0.75, 0.26)	0.18	(-0.32, 0.69)	0.39	(-0.12, 0.90)	0.34	(-0.16, 0.85)	0.00	(-0.50, 0.49)
$GRPM_{2.5}$	0.41	(-0.06, 0.88)	0.14	(-0.33, 0.61)	0.11	(-0.34, 0.57)	-0.11	(-0.55, 0.33)	0.24	(-0.21, 0.69)	0.30	(-0.15, 0.75)	0.20	(-0.25, 0.65)
$PM_{2.5}$	0.25	(-0.22, 0.72)	0.19	(-0.27, 0.67)	-0.11	(-0.57, 0.35)	-0.05	(-0.50, 0.41)	0.30	(-0.16, 0.76)	0.28	(-0.18, 0.74)	0.16	(-0.30, 0.61)
$GRPM_{10-2.5}$	0.08	(-0.52, 0.69)	0.03	(-0.57, 0.65)	-0.53	(-1.13, 0.08)	-0.36	(-0.96, 0.25)	-0.61	(-1.21, 0.00)	-0.15	(-0.75, 0.44)	-0.20	(-0.79, 0.39)
PPM_{10}	0.18	(-0.30, 0.65)	-0.02	(-0.49, 0.44)	-0.37	(-0.83, 0.09)	-0.29	(-0.74, 0.17)	0.19	(-0.27, 0.66)	0.09	(-0.38, 0.55)	0.03	(-0.43, 0.49)
$NPPM_{10}$	0.19	(-0.32, 0.70)	0.34	(-0.16, 0.84)	0.05	(-0.44, 0.54)	0.27	(-0.21, 0.77)	0.31	(-0.18, 0.80)	0.34	(-0.15, 0.82)	-0.08	(-0.55, 0.39)
$NPPM_{2.5}$	0.16	(-0.32, 0.65)	0.27	(-0.20, 0.75)	0.13	(-0.33, 0.59)	0.34	(-0.12, 0.80)	0.49	(0.02, 0.95)	0.50	(0.04, 0.96)	0.12	(-0.33, 0.57)
$NPPM_{10-2.5}$	0.16	(-0.39, 0.71)	0.28	(-0.26, 0.83)	-0.15	(-0.70, 0.39)	0.00	(-0.55, 0.56)	-0.20	(-0.75, 0.36)	-0.14	(-0.69, 0.40)	-0.42	(-0.94, 0.10)

b) Respiratory 65+ yrs.

Particle	Lag 0 %	95% CI	Lag 1 %	95% CI	Lag 2 %	95% CI	Lag 3 %	95% CI	Lag 4 %	95% CI	Lag 5 %	95% CI	Lag 6 %	95% CI
PNC	-0.74	(-2.19, 0.73)	-0.57	(-2.01, 0.89)	-1.31	(-2.72, 0.13)	0.82	(-0.59, 2.24)	1.28	(-0.12, 2.69)	0.55	(-0.81, 1.93)	0.55	(-0.80, 1.91)
NO_3^-	0.60	(-0.14, 1.35)	0.83	(0.09, 1.58)	1.32	(0.59, 2.05)	1.91	(1.19, 2.62)	0.99	(0.27, 1.73)	0.59	(-0.15, 1.34)	0.60	(-0.14, 1.35)
Cl^-	0.02	(-1.27, 1.32)	0.59	(-0.67, 1.86)	-0.46	(-1.70, 0.79)	-1.49	(-2.70, -0.26)	0.82	(-0.44, 2.11)	1.68	(0.42, 2.95)	-0.14	(-1.38, 1.12)
SO_4^{2-}	-0.53	(-1.52, 0.46)	-0.16	(-1.13, 0.82)	0.76	(-0.20, 1.73)	1.31	(0.36, 2.26)	1.17	(0.23, 2.13)	0.09	(-0.85, 1.05)	-0.58	(-1.53, 0.38)
BS	-0.02	(-0.68, 0.63)	-0.02	(-0.66, 0.63)	-0.14	(-0.78, 0.50)	0.40	(-0.24, 1.04)	0.57	(-0.07, 1.22)	0.36	(-0.28, 1.01)	0.25	(-0.39, 0.89)
$GRPM_{10}$	0.50	(-0.33, 1.34)	1.19	(0.36, 2.03)	1.01	(0.19, 1.84)	0.98	(0.17, 1.79)	0.67	(-0.15, 1.49)	0.51	(-0.31, 1.33)	0.42	(-0.40, 1.24)
$NKPM_{10}$	0.49	(-0.29, 1.26)	1.16	(0.40, 1.93)	1.26	(0.51, 2.01)	1.58	(0.84, 2.33)	1.14	(0.39, 1.89)	0.87	(0.14, 1.62)	0.51	(-0.21, 1.24)
PM_{10}	0.45	(-0.36, 1.26)	1.14	(0.34, 1.96)	1.11	(0.32, 1.90)	1.58	(0.80, 2.37)	1.12	(0.34, 1.92)	0.92	(0.14, 1.71)	0.21	(-0.56, 0.98)
$GRPM_{2.5}$	0.37	(-0.32, 1.07)	0.84	(0.16, 1.53)	1.04	(0.37, 1.72)	1.30	(0.64, 1.96)	0.90	(0.22, 1.57)	0.53	(-0.14, 1.20)	0.36	(-0.31, 1.04)
$PM_{2.5}$	0.40	(-0.32, 1.13)	0.43	(-0.29, 1.15)	0.95	(0.25, 1.66)	1.71	(1.01, 2.42)	0.98	(0.27, 1.69)	0.64	(-0.07, 1.35)	0.35	(-0.35, 1.05)
$GRPM_{10-2.5}$	0.39	(-0.52, 1.31)	1.01	(0.10, 1.93)	0.34	(-0.59, 1.28)	-1.04	(-1.95, -0.12)	0.05	(-0.87, 0.98)	0.25	(-0.67, 1.17)	0.28	(-0.63, 1.20)
PPM_{10}	0.06	(-0.65, 0.77)	-0.43	(-1.11, 0.26)	-0.34	(-1.02, 0.34)	0.64	(-0.04, 1.32)	0.83	(0.15, 1.52)	0.69	(0.02, 1.38)	0.45	(-0.22, 1.12)
$NPPM_{10}$	0.89	(0.10, 1.68)	1.88	(1.10, 2.66)	1.77	(1.01, 2.54)	1.64	(0.87, 2.41)	1.15	(0.38, 1.93)	0.97	(0.21, 1.73)	0.20	(-0.53, 0.94)
$NPPM_{2.5}$	0.72	(-0.03, 1.47)	1.55	(0.82, 2.29)	1.75	(1.03, 2.47)	1.80	(1.08, 2.52)	1.13	(0.41, 1.86)	0.89	(0.18, 1.61)	0.27	(-0.43, 0.97)
$NPPM_{10-2.5}$	0.79	(-0.08, 1.66)	1.49	(0.65, 2.35)	0.87	(0.02, 1.73)	0.48	(-0.38, 1.34)	0.64	(-0.21, 1.51)	0.66	(-0.18, 1.51)	0.01	(-0.80, 0.82)

c) Respiratory 0-14 yrs.

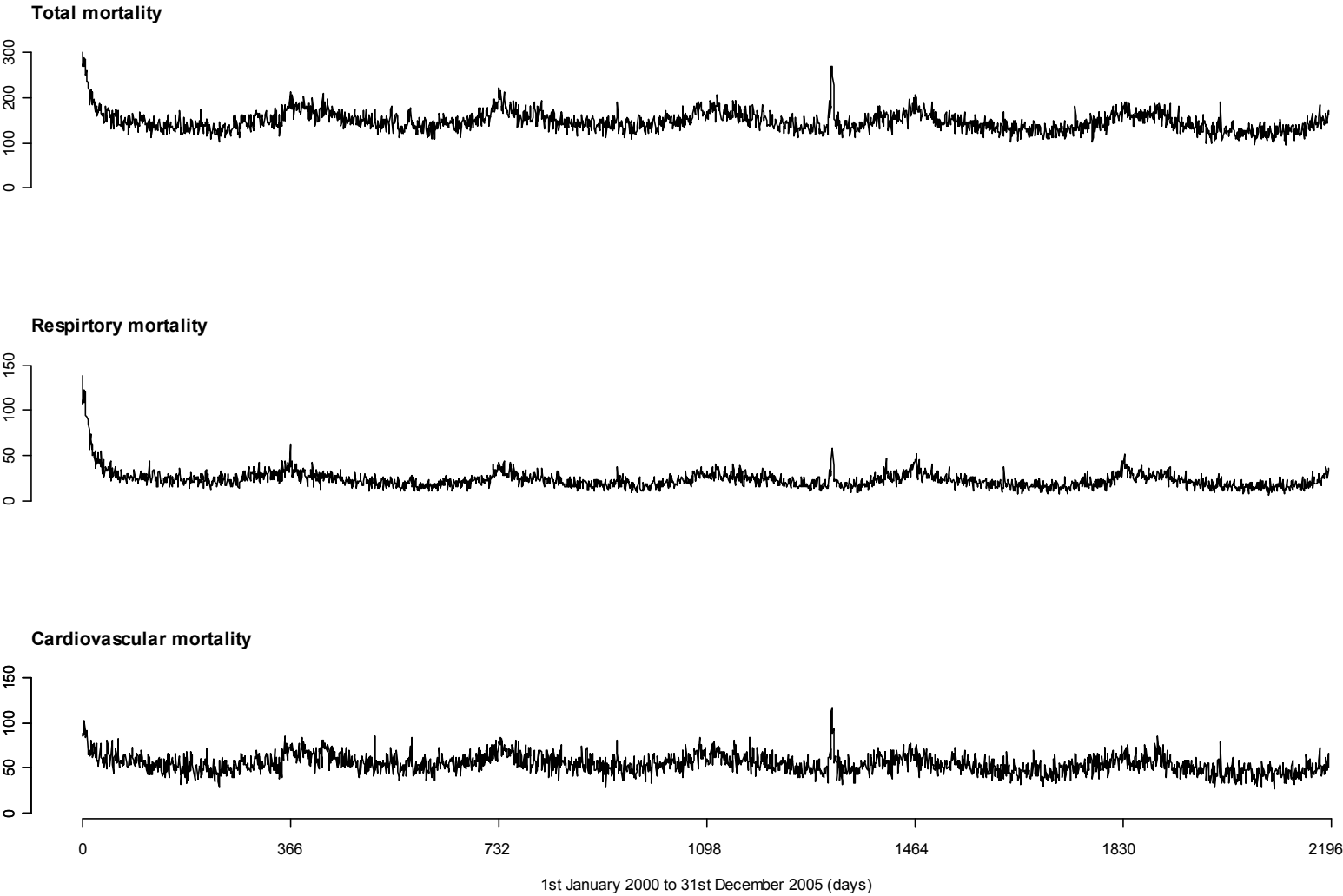| Particle	Lag 0		Lag 1		Lag 2		Lag 3		Lag 4		Lag 5		Lag 6	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI	%	95% CI
PNC	-0.11	(-1.96, 1.76)	1.28	(-0.56, 3.16)	1.65	(-0.17, 3.50)	0.88	(-0.87, 2.67)	0.06	(-1.67, 1.81)	-0.83	(-2.52, 0.90)	0.98	(-0.73, 2.72)
NO_3^-	-0.51	(-1.62, 0.62)	0.29	(-0.84, 1.42)	0.93	(-0.17, 2.04)	0.69	(-0.40, 1.81)	0.83	(-0.28, 1.94)	0.79	(-0.30, 1.90)	0.67	(-0.41, 1.77)
Cl^-	0.86	(-0.96, 2.72)	-0.68	(-2.45, 1.13)	-0.63	(-2.37, 1.14)	-0.88	(-2.63, 0.90)	-0.52	(-2.32, 1.30)	-0.31	(-2.07, 1.48)	0.10	(-1.64, 1.87)
SO_4^{2-}	-0.51	(-1.95, 0.95)	-0.29	(-1.71, 1.14)	-0.01	(-1.40, 1.41)	-0.15	(-1.54, 1.25)	0.39	(-1.01, 1.81)	0.09	(-1.29, 1.49)	0.75	(-0.63, 2.15)
BS	-0.75	(-1.57, 0.08)	0.48	(-0.34, 1.30)	0.79	(-0.01, 1.60)	0.71	(-0.10, 1.51)	0.52	(-0.28, 1.33)	0.71	(-0.09, 1.52)	0.14	(-0.65, 0.94)
$GRPM_{10}$	-1.03	(-2.15, 0.10)	0.49	(-0.65, 1.64)	1.72	(0.59, 2.85)	0.29	(-0.83, 1.42)	-0.10	(-1.22, 1.03)	-0.39	(-1.50, 0.74)	0.37	(-0.77, 1.53)
$NKPM_{10}$	-0.92	(-1.93, 0.11)	-0.13	(-1.13, 0.89)	1.17	(0.18, 2.17)	0.92	(-0.07, 1.91)	0.08	(-0.91, 1.07)	-0.12	(-1.09, 0.86)	0.27	(-0.70, 1.25)
PM_{10}	-0.81	(-1.87, 0.27)	0.07	(-0.99, 1.14)	1.23	(0.20, 2.27)	0.95	(-0.07, 1.99)	0.50	(-0.53, 1.55)	0.30	(-0.73, 1.34)	0.42	(-0.60, 1.45)
$GRPM_{2.5}$	-0.71	(-1.66, 0.24)	0.87	(-0.06, 1.81)	1.88	(0.98, 2.80)	1.32	(0.41, 2.24)	0.75	(-0.17, 1.67)	0.38	(-0.54, 1.31)	0.39	(-0.53, 1.32)
$PM_{2.5}$	-0.31	(-1.27, 0.65)	0.57	(-0.37, 1.53)	1.15	(0.22, 2.09)	0.78	(-0.15, 1.72)	0.31	(-0.63, 1.25)	0.39	(-0.55, 1.33)	0.69	(-0.23, 1.63)
$GRPM_{10-2.5}$	0.48	(-0.76, 1.74)	-0.46	(-1.69, 0.79)	-0.09	(-1.34, 1.17)	-1.26	(-2.51, 0.01)	-0.38	(-1.61, 0.87)	-0.38	(-1.60, 0.86)	-0.25	(-1.48, 1.00)
PPM_{10}	-0.67	(-1.54, 0.22)	0.38	(-0.47, 1.23)	0.66	(-0.18, 1.50)	0.93	(0.10, 1.78)	0.99	(0.15, 1.84)	1.04	(0.20, 1.89)	0.88	(0.05, 1.71)
$NPPM_{10}$	-0.54	(-1.61, 0.54)	-0.40	(-1.44, 0.66)	0.96	(-0.08, 2.00)	0.15	(-0.89, 1.19)	-0.56	(-1.60, 0.48)	-0.61	(-1.62, 0.42)	0.17	(-0.83, 1.18)
$NPPM_{2.5}$	-0.62	(-1.64, 0.40)	-0.06	(-1.05, 0.93)	0.93	(-0.04, 1.90)	0.47	(-0.50, 1.44)	-0.07	(-1.05, 0.91)	0.03	(-0.94, 1.01)	0.47	(-0.48, 1.44)
$NPPM_{10-2.5}$	-0.10	(-1.26, 1.07)	-0.79	(-1.91, 0.35)	0.48	(-0.65, 1.62)	-0.55	(-1.68, 0.59)	-1.19	(-2.32, -0.05)	-1.45	(-2.54, -0.33)	-0.46	(-1.53, 0.63)

eTable 4 Sensitivity of the associations between particle metrics and respiratory mortality to the inclusion of other particle metrics (at lag 2)

Particle	IQR	All Year		Winter		Summer	
		%	95% CI	%	95% CI	%	95% CI
PNC	10450	1.28	(-1.35, 3.97)	1.26	(-1.51, 4.1)	1.42	(-4.99, 8.26)
+ $PM_{2.5}$	10450	0.02	(-2.82, 2.95)	-0.06	(-3.14, 3.11)	0.55	(-5.93, 7.46)
$PM_{2.5}$	7.063	2.14	(0.55, 3.75)	2.14	(0.29, 4.03)	2.12	(-0.92, 5.25)
+ PNC	7.063	2.09	(0.29, 3.92)	2.10	(-0.03, 4.27)	2.11	(-1.18, 5.5)
Cl^-	1.72	1.48	(-0.79, 3.8)	0.93	(-1.67, 3.59)	3.25	(-1.38, 8.1)
+ NK O_3	1.72	1.25	(-1.16, 3.71)	1.25	(-1.54, 4.12)	2.08	(-2.77, 7.16)
NK O_3	27.6	1.95	(-0.93, 4.92)	0.50	(-3.33, 4.47)	3.62	(-0.57, 7.98)
+ Cl^-	27.6	1.19	(-2.03, 4.52)	-0.77	(-5.05, 3.7)	3.19	(-1.45, 8.05)

eTable 5 Sensitivity of the associations between particle metrics and respiratory admissions in children to the inclusion of other particle metrics

Particle	IQR	All Year		Winter		Summer	
		%	95% CI	%	95% CI	%	95% CI
PNC	10450	1.37	(-0.67, 3.45)	1.33	(-0.8, 3.5)	1.69	(-3.75, 7.43)
+ $PM_{2.5}$	10450	1.19	(-1.05, 3.48)	1.07	(-1.35, 3.55)	1.67	(-4.09, 7.78)
$PM_{2.5}$	7.063	0.67	(-0.58, 1.94)	0.35	(-1.06, 1.78)	1.80	(-0.87, 4.55)
+ PNC	7.063	0.28	(-1.1, 1.68)	0.15	(-1.46, 1.77)	1.02	(-1.84, 3.97)
PNC	10450	1.37	(-0.67, 3.45)	1.33	(-0.8, 3.5)	1.69	(-3.75, 7.43)
+ PPM_{10}	10450	1.01	(-1.93, 4.04)	0.36	(-2.84, 3.66)	3.47	(-3.64, 11.1)
PPM_{10}	3.3	0.73	(-0.31, 1.79)	0.80	(-0.27, 1.88)	-0.26	(-4.24, 3.88)
+ PNC	3.3	0.25	(-1.24, 1.76)	0.54	(-1.06, 2.17)	-1.69	(-6.65, 3.53)
NO_3^-	3.21	1.10	(0.02, 2.19)	1.01	(-0.55, 2.59)	1.17	(-0.31, 2.68)
+ $PM_{2.5}$	3.21	1.75	(0.28, 3.25)	2.15	(-0.18, 4.53)	1.83	(-0.45, 4.16)
$PM_{2.5}$	7.298	0.33	(-1.18, 1.86)	0.02	(-1.87, 1.94)	0.85	(-1.58, 3.33)
+ NO_3^-	7.298	-1.40	(-3.44, 0.69)	-1.52	(-4.22, 1.25)	-1.67	(-5.22, 2.01)

eTable 6 Sensitivity of the associations between particle metrics and respiratory admissions in the elderly to the inclusion of other particle metrics

Particle	IQR	All Year		Winter		Summer	
		%	95% CI	%	95% CI	%	95% CI
NO_3^-	3.21	1.35	(0.64, 2.07)	-0.12	(-1.2, 0.98)	2.39	(1.47, 3.32)
+ $PM_{2.5}$	3.21	1.60	(0.63, 2.59)	0.21	(-1.39, 1.83)	2.51	(1.09, 3.94)
$PM_{2.5}$	7.298	1.17	(0.1, 2.25)	-0.66	(-2.08, 0.79)	3.29	(1.72, 4.87)
+ NO_3^-	7.298	-0.55	(-1.99, 0.91)	-1.56	(-3.58, 0.51)	0.78	(-1.46, 3.08)

eFigure 1 Time series plots for daily numbers of deaths and hospital admissions 1 January 2000 through 31 December 2005

Total mortality

Respirtory mortality

Cardiovascular mortality

1st January 2000 to 31st December 2005 (days)

Cardiovascular admissions

Respirtory admissions 65+ yrs

Respiratory admissions 0-14 yrs
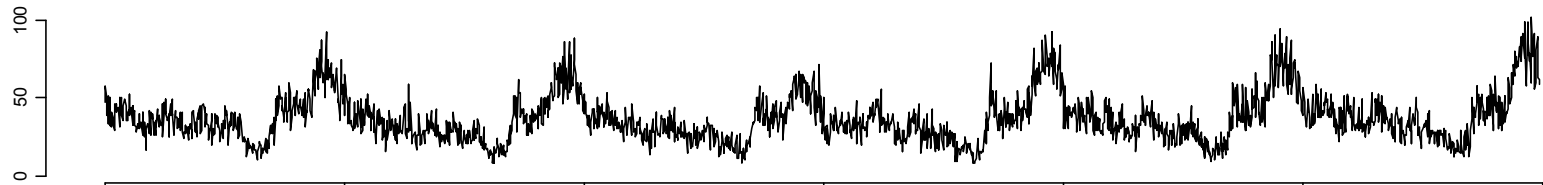
1st January 2000 to 31st December 2005 (days)

eFigure S2 Time series plots for daily particle concentrations 1 January 2000 through 31 December 2005

Particle Number concentration (n/cm3)

Nitrate (ug/m3)

Chloride (ug/m3)

1st January 2000 to 31st December 2005 (days)

Sulphate (ug/m3)

Black Smoke, London wide (u/gm3)

Gravimetric PM10 (ug/m3)

1st January 2000 to 31st December 2005 (days)
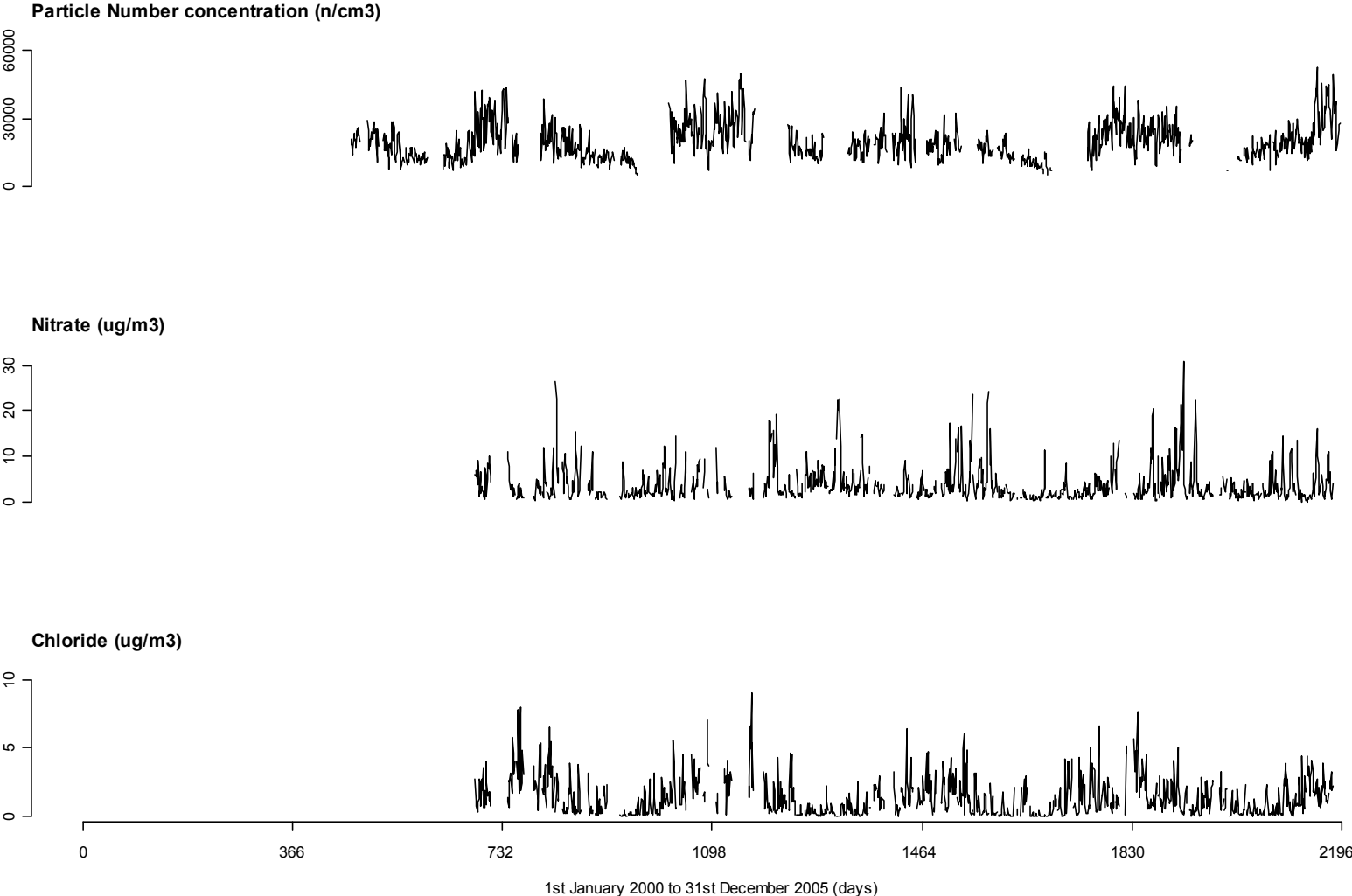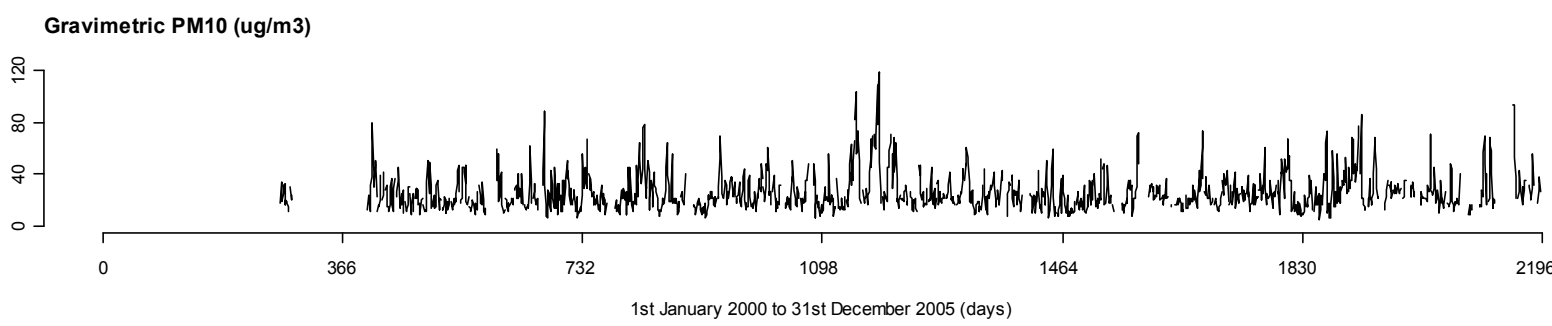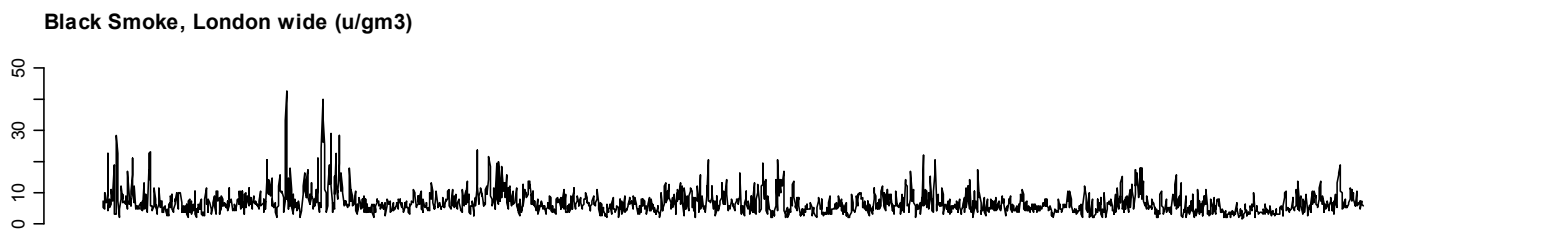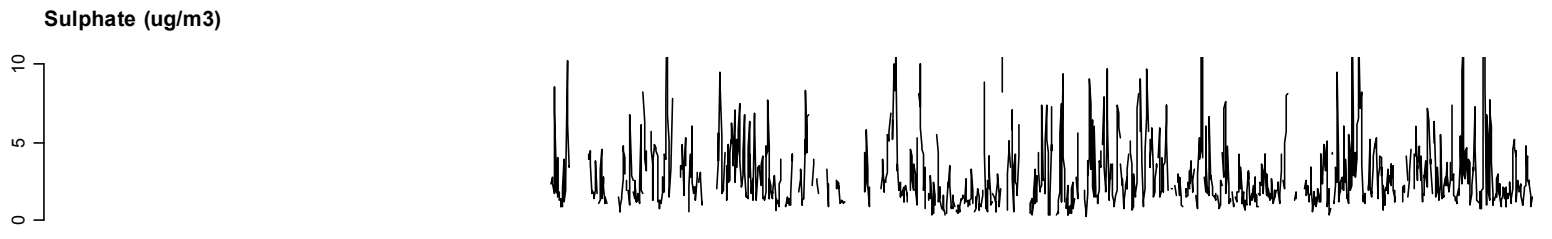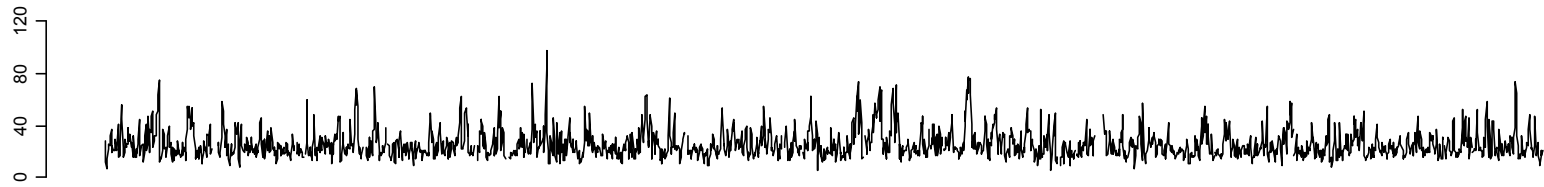
TEOM PM10 (ug/m3)

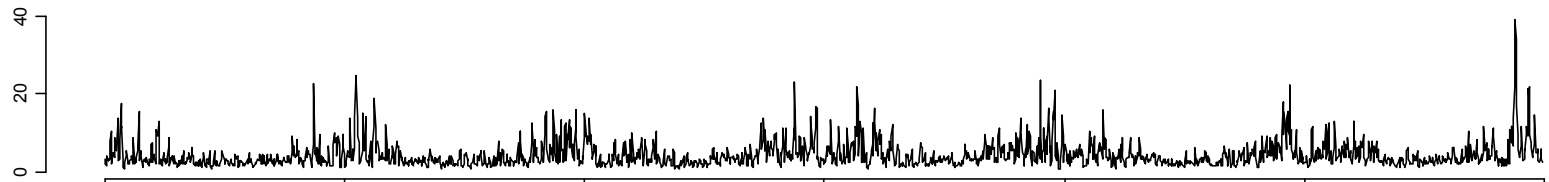**TEOM PM10, London wide (u/gm3)**

Gravimetric PM2.5 (u/gm3)

1st January 2000 to 31st December 2005 (days)
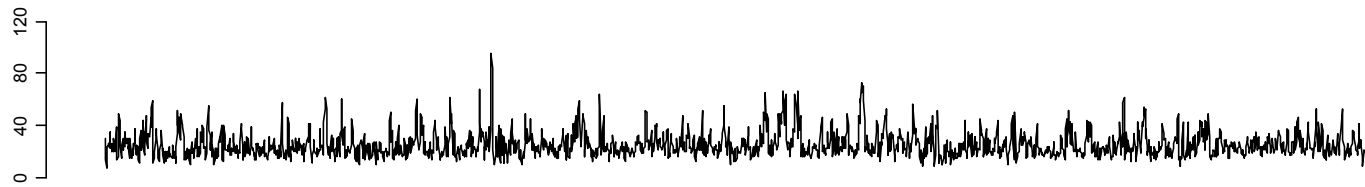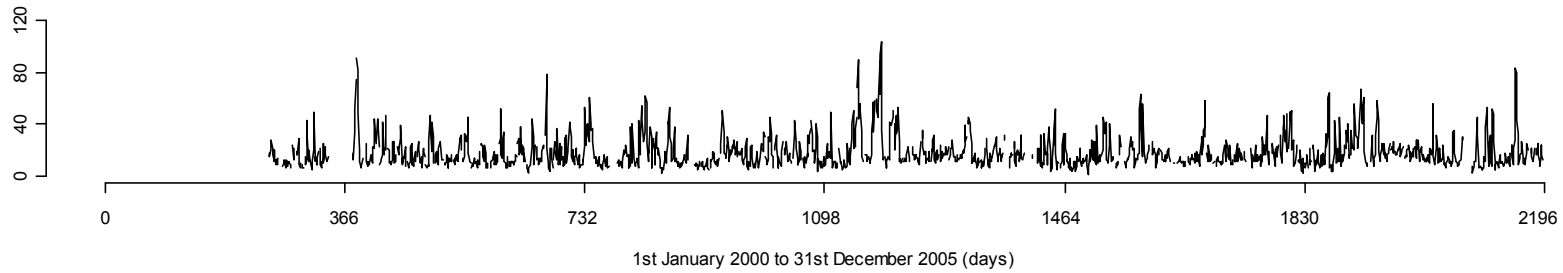
TEOM PM2.5, London wide (ug/m3)
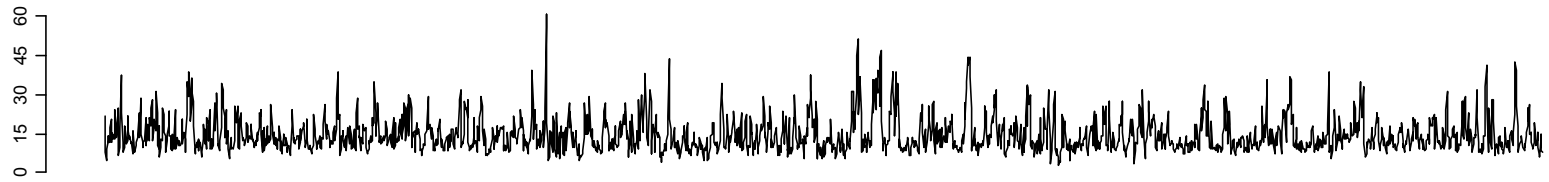
Gravimetric PM10-2.5 (u/gm3)
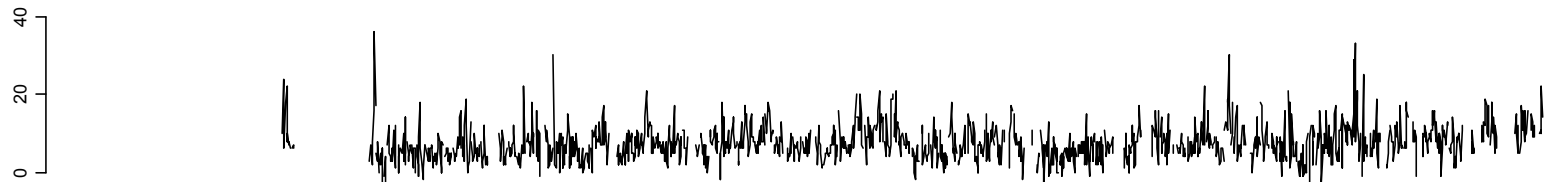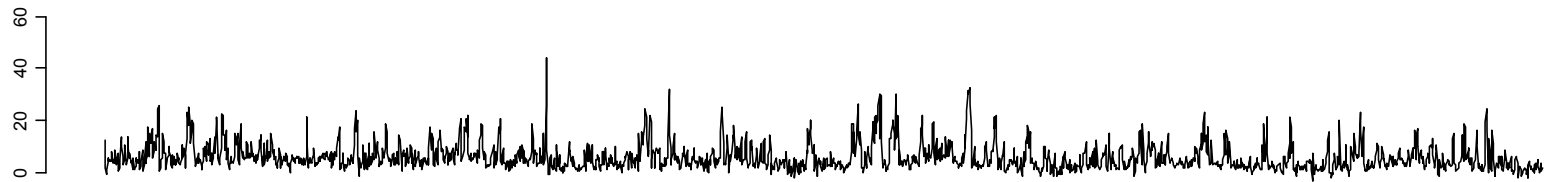
Primary PM10 (ug/m3)

1st January 2000 to 31st December 2005 (days)

Non-primary PM10 (ug/m3)
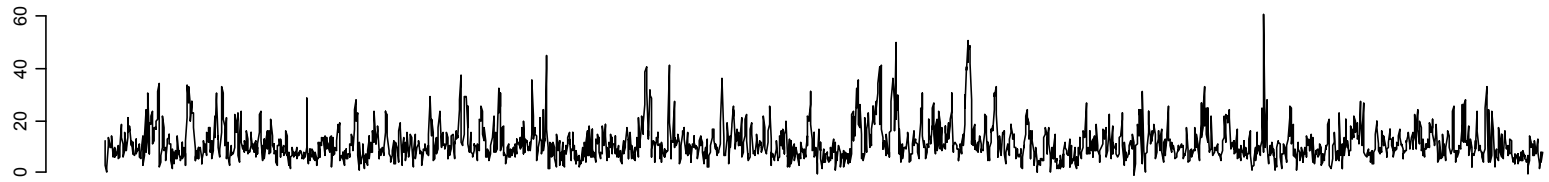
Non-primary PM2.5 (ug/m3)

Non primary coarse PM10-2.5 (ug/m3)

1st January 2000 to 31st December 2005 (days)