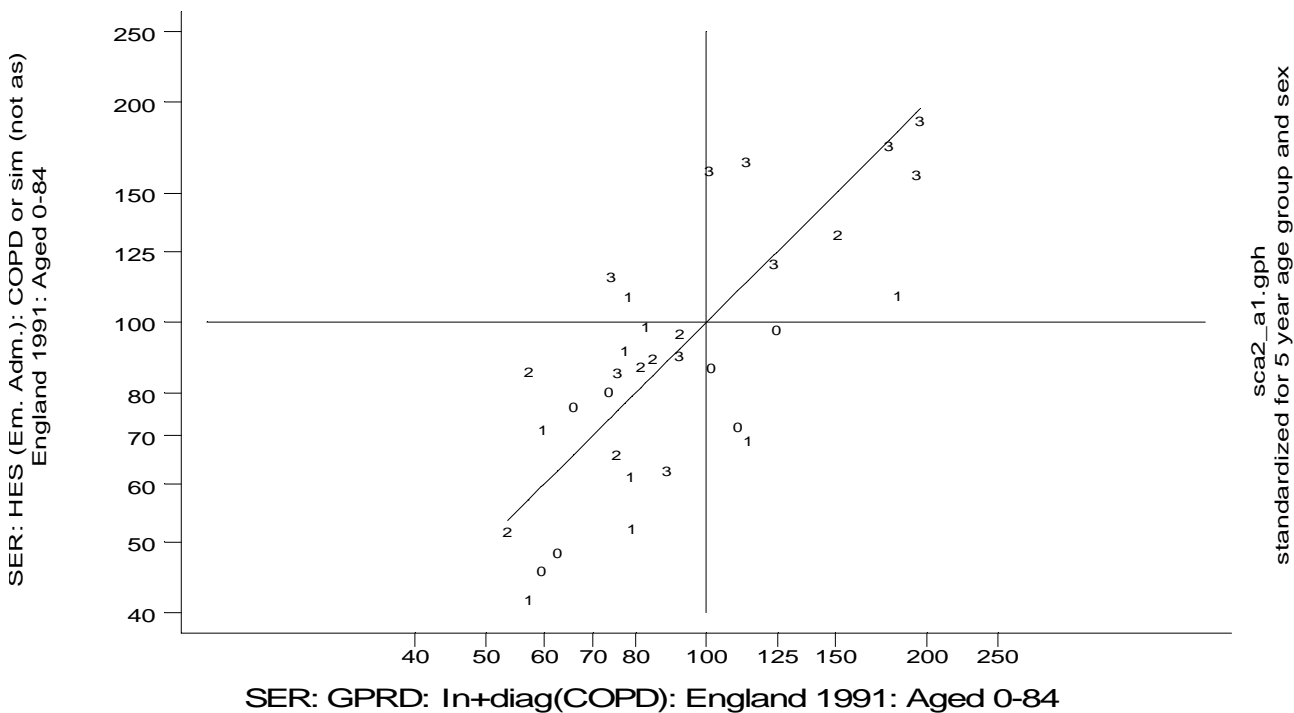


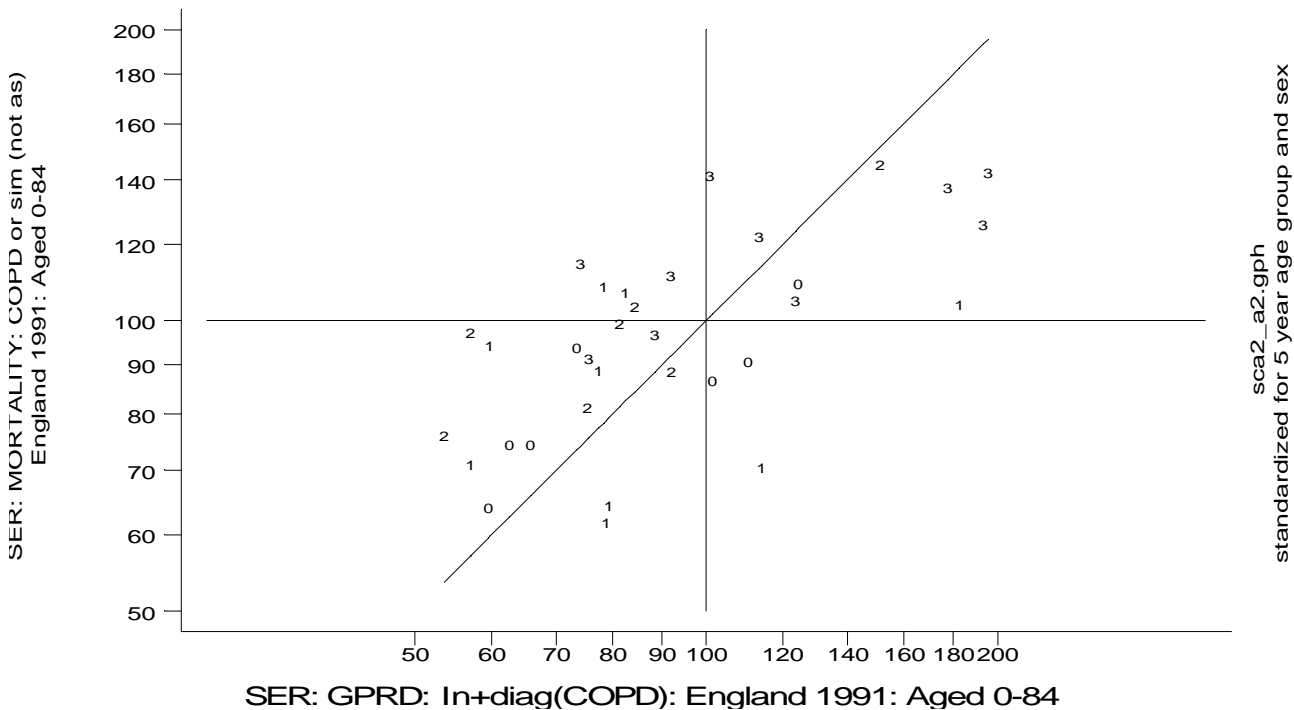
Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

“HES vs. GPRD”



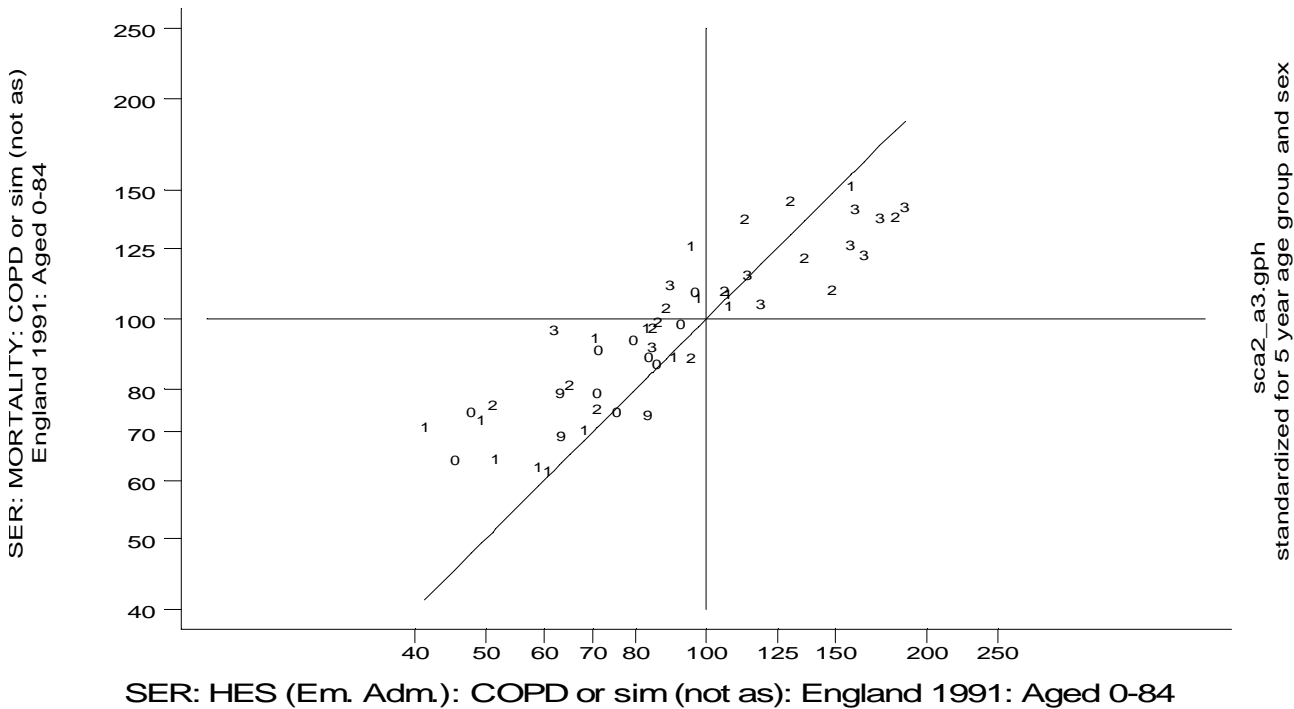
“MORTALITY vs. GPRD”



Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

“MORTALITY vs. HES”



A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

COPD: Spearman Rank Correlation Coefficients: "All Ages vs. All Ages"

	MORTALITY	HES	GPRD: In+diag(COPD)	GPRD: COPD diag only	GPRD: Inhaler only	GPRD: In+diag (COPD or (SYM not AS))
MORTALITY		0.91	0.59	0.62	0.38	0.63
HES	0.91		0.70	0.71	0.38	0.64
GPRD: In+diag(COPD)	0.59	0.70		0.89	0.61	0.76
GPRD: COPD diag only	0.62	0.71	0.89		0.42	0.66
GPRD: Inhaler only	0.38	0.38	0.61	0.42		0.88
GPRD: In+diag(COPD or (SYM not AS))	0.63	0.64	0.76	0.66	0.88	

ALL AGES vs. ALL AGES

```
a1: HES (0-84) vs. GPRD (0-84)
Number of obs =      33
Spearman's rho =      0.7045
Test of Ho: hsl_2 and gsc1_4 independent
Pr > |t| =      0.0000
```

```
a2: MORTALITY (0-84) vs. GPRD (0-84)
Number of obs =      33
Spearman's rho =      0.5926
Test of Ho: msl_2 and gsc1_4 independent
Pr > |t| =      0.0003
```

```
a3: MORTALITY (0-84) vs. HES (0-84)
Number of obs =      50
Spearman's rho =      0.9071
Test of Ho: msl_2 and hsl_2 independent
Pr > |t| =      0.0000
```

Comparisons with alternative COPD outcomes in the GPRD

```
HES (0-84) vs. GPRD (0-84)

. spearman hsl_2 gsal_2
Number of obs =      33
Spearman's rho =      0.7132
Test of Ho: hsl_2 and gsal_2 independent
Pr > |t| =      0.0000
```

```
. spearman hsl_2 gsbl_1
Number of obs =      33
Spearman's rho =      0.3817
Test of Ho: hsl_2 and gsbl_1 independent
Pr > |t| =      0.0284
```

```
. spearman hsl_2 gsc1_9
Number of obs =      33
Spearman's rho =      0.6364
Test of Ho: hsl_2 and gsc1_9 independent
Pr > |t| =      0.0001
```

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

MORTALITY (0-84) vs. GPRD (0-84)

```
. spearman msl_2 gsal_2
Number of obs =      33
Spearman's rho =      0.6153
Test of Ho: msl_2 and gsal_2 independent
Pr > |t| =      0.0001
```

```
. spearman msl_2 gsbl_1
Number of obs =      33
Spearman's rho =      0.3763
Test of Ho: msl_2 and gsbl_1 independent
Pr > |t| =      0.0309
```

```
. spearman msl_2 gsc1_9
Number of obs =      33
Spearman's rho =      0.6300
Test of Ho: msl_2 and gsc1_9 independent
Pr > |t| =      0.0001
```

Within the GPRD: GPRD (0-84) vs. GPRD (0-84)

```
. spearman gsal_2 gsc1_4
Number of obs =      33
Spearman's rho =      0.8907
Test of Ho: gsal_2 and gsc1_4 independent
Pr > |t| =      0.0000
```

```
. spearman gsbl_1 gsc1_4
Number of obs =      33
Spearman's rho =      0.6090
Test of Ho: gsbl_1 and gsc1_4 independent
Pr > |t| =      0.0002
```

```
. spearman gsc1_9 gsc1_4
Number of obs =      33
Spearman's rho =      0.7580
Test of Ho: gsc1_9 and gsc1_4 independent
Pr > |t| =      0.0000
```

```
. spearman gsbl_1 gsal_2
Number of obs =      33
Spearman's rho =      0.4231
Test of Ho: gsbl_1 and gsal_2 independent
Pr > |t| =      0.0141
```

```
. spearman gsc1_9 gsal_2
Number of obs =      33
Spearman's rho =      0.6601
Test of Ho: gsc1_9 and gsal_2 independent
Pr > |t| =      0.0000
```

```
. spearman gsbl_1 gsc1_9
Number of obs =      33
Spearman's rho =      0.8790
Test of Ho: gsbl_1 and gsc1_9 independent
Pr > |t| =      0.0000
```

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

ALL AGES

Observed Number of COPD Events,
England 1991: Aged 0-84

rha	urban	goc1_4	hol_2	mol_2
Northern	rural	1097	943	398
Northern	mixed	.	1102	389
Northern	urban	.	1054	284
Northern	conurbat	901	2052	601
Yorkshir	rural	.	565	228
Yorkshir	mixed	479	987	362
Yorkshir	urban	.	845	379
Yorkshir	conurbat	239	3006	981
Trent	rural	345	1043	396
Trent	mixed	269	2181	818
Trent	urban	.	741	284
Trent	conurbat	609	2466	682
E Anglia	rural	409	724	395
E Anglia	mixed	269	222	104
E Anglia	Indeterm	.	309	146
NW Thame	mixed	337	688	246
NW Thame	urban	143	686	288
NW Thame	conurbat	299	1757	712
NE Thame	rural	.	502	214
NE Thame	mixed	.	149	81
NE Thame	urban	77	610	266
NE Thame	conurbat	262	2790	908
SE Thame	rural	139	626	290
SE Thame	mixed	.	523	223
SE Thame	urban	54	1121	390
SE Thame	conurbat	116	1719	643
SW Thame	mixed	500	604	403
SW Thame	urban	49	350	199
SW Thame	conurbat	174	831	490
Wessex	rural	339	171	105
Wessex	mixed	363	804	309
Wessex	urban	.	804	323
Wessex	Indeterm	.	630	275
Oxford	rural	.	472	181
Oxford	mixed	226	1279	630
Oxford	urban	.	189	59
S Wester	rural	259	1057	404
S Wester	mixed	311	745	298
S Wester	urban	227	620	291
S Wester	Indeterm	.	542	182
W Midlan	rural	187	668	314
W Midlan	mixed	.	756	325
W Midlan	urban	350	802	342
W Midlan	conurbat	1515	2769	1263
Mersey	mixed	409	684	276
Mersey	urban	.	495	131
Mersey	conurbat	781	3125	878
N Wester	mixed	.	269	134
N Wester	urban	544	1812	758
N Wester	conurbat	1379	4896	1436

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

Denominator for COPD Events,
England 1991: Aged 0-84

rha	urban	gdc1_4	hd1_2	md1_2
Northern	rural	73693.9	782999	782999
Northern	mixed	.	597416	597416
Northern	urban	.	553415	553415
Northern	conurbat	46625.4	1114143	1114143
Yorkshir	rural	.	487087	487087
Yorkshir	mixed	21894.9	739537	739537
Yorkshir	urban	.	663675	663675
Yorkshir	conurbat	21123.7	1732867	1732867
Trent	rural	26873.1	944794	944794
Trent	mixed	31104.1	1805855	1805855
Trent	urban	.	616563	616563
Trent	conurbat	50327.4	1283438	1283438
E Anglia	rural	60878.6	1232209	1232209
E Anglia	mixed	39800.4	418874	418874
E Anglia	Indeterm	.	396166	396166
NW Thame	mixed	39289.2	722017	722017
NW Thame	urban	24596.9	777014	777014
NW Thame	conurbat	41145.8	2029948	2029948
NE Thame	rural	.	553971	553971
NE Thame	mixed	.	290283	290283
NE Thame	urban	9959.2	608426	608426
NE Thame	conurbat	18955.0	2277344	2277344
SE Thame	rural	14831.8	561907	561907
SE Thame	mixed	.	589118	589118
SE Thame	urban	5564.5	1052077	1052077
SE Thame	conurbat	12769.3	1432129	1432129
SW Thame	mixed	73245.9	1156955	1156955
SW Thame	urban	7411.1	562687	562687
SW Thame	conurbat	20236.4	1254634	1254634
Wessex	rural	41099.5	247082	247082
Wessex	mixed	29406.8	1080522	1080522
Wessex	urban	.	952302	952302
Wessex	Indeterm	.	643322	643322
Oxford	rural	.	592824	592824
Oxford	mixed	37103.4	1755566	1755566
Oxford	urban	.	177780	177780
S Wester	rural	27446.6	1004839	1004839
S Wester	mixed	30809.9	879303	879303
S Wester	urban	31243.0	819129	819129
S Wester	Indeterm	.	529621	529621
W Midlan	rural	16603.4	823682	823682
W Midlan	mixed	.	818638	818638
W Midlan	urban	38256.0	787725	787725
W Midlan	conurbat	163850.3	2764012	2764012
Mersey	mixed	44506.4	607659	607659
Mersey	urban	.	326479	326479
Mersey	conurbat	38048.6	1446235	1446235
N Wester	mixed	.	235257	235257
N Wester	urban	32636.9	1142919	1142919
N Wester	conurbat	79551.5	2572495	2572495

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

Crude Rate of COPD Events,
England 1991: Aged 0-84

rha	urban	grcl_4	hrl_2	mr1_2
Northern	rural	14.9	1204.3	508.3
Northern	mixed	.	1844.6	651.1
Northern	urban	.	1904.5	513.2
Northern	conurbat	19.3	1841.8	539.4
Yorkshir	rural	.	1160.0	468.1
Yorkshir	mixed	21.9	1334.6	489.5
Yorkshir	urban	.	1273.2	571.1
Yorkshir	conurbat	11.3	1734.7	566.1
Trent	rural	12.8	1103.9	419.1
Trent	mixed	8.6	1207.7	453.0
Trent	urban	.	1201.8	460.6
Trent	conurbat	12.1	1921.4	531.4
E Anglia	rural	6.7	587.6	320.6
E Anglia	mixed	6.8	530.0	248.3
E Anglia	Indeterm	.	780.0	368.5
NW Thame	mixed	8.6	952.9	340.7
NW Thame	urban	5.8	882.9	370.6
NW Thame	conurbat	7.3	865.5	350.7
NE Thame	rural	.	906.2	386.3
NE Thame	mixed	.	513.3	279.0
NE Thame	urban	7.7	1002.6	437.2
NE Thame	conurbat	13.8	1225.1	398.7
SE Thame	rural	9.4	1114.1	516.1
SE Thame	mixed	.	887.8	378.5
SE Thame	urban	9.7	1065.5	370.7
SE Thame	conurbat	9.1	1200.3	449.0
SW Thame	mixed	6.8	522.1	348.3
SW Thame	urban	6.6	622.0	353.7
SW Thame	conurbat	8.6	662.3	390.6
Wessex	rural	8.2	692.1	425.0
Wessex	mixed	12.3	744.1	286.0
Wessex	urban	.	844.3	339.2
Wessex	Indeterm	.	979.3	427.5
Oxford	rural	.	796.2	305.3
Oxford	mixed	6.1	728.5	358.9
Oxford	urban	.	1063.1	331.9
S Wester	rural	9.4	1051.9	402.1
S Wester	mixed	10.1	847.3	338.9
S Wester	urban	7.3	756.9	355.3
S Wester	Indeterm	.	1023.4	343.6
W Midlan	rural	11.3	811.0	381.2
W Midlan	mixed	.	923.5	397.0
W Midlan	urban	9.1	1018.1	434.2
W Midlan	conurbat	9.2	1001.8	456.9
Mersey	mixed	9.2	1125.6	454.2
Mersey	urban	.	1516.2	401.3
Mersey	conurbat	20.5	2160.8	607.1
N Wester	mixed	.	1143.4	569.6
N Wester	urban	16.7	1585.4	663.2
N Wester	conurbat	17.3	1903.2	558.2

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

Expected Number of COPD Events,
England 1991: Aged 0-84

rha	urban	gecl_4	hel_2	mel_2
Northern	rural	881.2	976.9	368.7
Northern	mixed	.	698.2	258.7
Northern	urban	.	581.8	207.7
Northern	conurbat	465.8	1304.2	482.2
Yorkshir	rural	.	611.6	234.4
Yorkshir	mixed	262.6	918.4	351.5
Yorkshir	urban	.	748.8	279.3
Yorkshir	conurbat	236.9	1885.8	700.9
Trent	rural	340.1	1217.2	462.5
Trent	mixed	343.5	2038.2	763.7
Trent	urban	.	698.7	262.5
Trent	conurbat	537.6	1501.9	563.9
E Anglia	rural	687.3	1598.9	623.5
E Anglia	mixed	339.6	430.6	163.2
E Anglia	Indeterm	.	490.0	186.4
NW Thame	mixed	435.4	761.2	280.5
NW Thame	urban	250.5	811.6	299.5
NW Thame	conurbat	395.0	2083.3	787.2
NE Thame	rural	.	707.5	273.0
NE Thame	mixed	.	302.3	112.7
NE Thame	urban	91.2	692.2	259.9
NE Thame	conurbat	211.8	2345.1	875.7
SE Thame	rural	189.2	788.2	312.6
SE Thame	mixed	.	886.5	359.8
SE Thame	urban	58.7	1176.3	446.0
SE Thame	conurbat	156.6	1511.2	566.5
SW Thame	mixed	876.1	1464.8	574.2
SW Thame	urban	91.5	686.1	264.3
SW Thame	conurbat	196.8	1341.7	512.8
Wessex	rural	541.6	358.3	142.6
Wessex	mixed	318.3	1182.0	444.1
Wessex	urban	.	1134.5	433.9
Wessex	Indeterm	.	993.4	401.6
Oxford	rural	.	564.6	206.9
Oxford	mixed	378.1	1814.5	675.2
Oxford	urban	.	138.8	49.1
S Wester	rural	393.6	1398.8	548.1
S Wester	mixed	394.8	1226.6	487.1
S Wester	urban	301.2	952.8	362.7
S Wester	Indeterm	.	651.5	248.9
W Midlan	rural	169.3	937.7	350.1
W Midlan	mixed	.	914.1	337.9
W Midlan	urban	430.3	934.5	348.8
W Midlan	conurbat	1651.2	3104.0	1148.0
Mersey	mixed	495.4	701.2	260.9
Mersey	urban	.	333.4	120.7
Mersey	conurbat	399.0	1675.7	623.3
N Wester	mixed	.	282.4	107.6
N Wester	urban	360.3	1390.7	528.2
N Wester	conurbat	776.5	2836.1	1054.6

A7 COPD standard output graphs

Scatterplots and correlation coefficients (standardised event ratios standardised for age and sex)

- region and urban-rural comparisons between GPRD, HES and Mortality, England 1991, ages 0-84

SER's for COPD Events, standardized for age5 and sex
 England 1991: Aged 0-84

rha	urban	gsc1_4	hsl_2	ms1_2
Northern	rural	124.5	96.5	108.0
Northern	mixed	.	157.8	150.4
Northern	urban	.	181.2	136.8
Northern	conurbat	193.4	157.3	124.6
Yorkshir	rural	.	92.4	97.3
Yorkshir	mixed	182.4	107.5	103.0
Yorkshir	urban	.	112.8	135.7
Yorkshir	conurbat	100.9	159.4	140.0
Trent	rural	101.5	85.7	85.6
Trent	mixed	78.3	107.0	107.1
Trent	urban	.	106.1	108.2
Trent	conurbat	113.3	164.2	120.9
E Anglia	rural	59.5	45.3	63.4
E Anglia	mixed	79.2	51.6	63.7
E Anglia	Indeterm	.	63.1	78.3
NW Thame	mixed	77.4	90.4	87.7
NW Thame	urban	57.1	84.5	96.2
NW Thame	conurbat	75.7	84.3	90.4
NE Thame	rural	.	71.0	78.4
NE Thame	mixed	.	49.3	71.9
NE Thame	urban	84.4	88.1	102.3
NE Thame	conurbat	123.7	119.0	103.7
SE Thame	rural	73.5	79.4	92.8
SE Thame	mixed	.	59.0	62.0
SE Thame	urban	91.9	95.3	87.4
SE Thame	conurbat	74.1	113.7	113.5
SW Thame	mixed	57.1	41.2	70.2
SW Thame	urban	53.5	51.0	75.3
SW Thame	conurbat	88.4	61.9	95.6
Wessex	rural	62.6	47.7	73.6
Wessex	mixed	114.1	68.0	69.6
Wessex	urban	.	70.9	74.4
Wessex	Indeterm	.	63.4	68.5
Oxford	rural	.	83.6	87.5
Oxford	mixed	59.8	70.5	93.3
Oxford	urban	.	136.2	120.2
S Wester	rural	65.8	75.6	73.7
S Wester	mixed	78.8	60.7	61.2
S Wester	urban	75.4	65.1	80.2
S Wester	Indeterm	.	83.2	73.1
W Midlan	rural	110.4	71.2	89.7
W Midlan	mixed	.	82.7	96.2
W Midlan	urban	81.3	85.8	98.0
W Midlan	conurbat	91.8	89.2	110.0
Mersey	mixed	82.6	97.5	105.8
Mersey	urban	.	148.5	108.5
Mersey	conurbat	195.7	186.5	140.9
N Wester	mixed	.	95.3	124.6
N Wester	urban	151.0	130.3	143.5
N Wester	conurbat	177.6	172.6	136.2