



MESOTHELIOMA AREA STATISTICS:
COUNTY DISTRICTS IN
GREAT BRITAIN

1976 - 1991

GEOGRAPHICAL DISTRIBUTION IN GREAT BRITAIN OF THE ASBESTOS-RELATED DISEASE MESOTHELIOMA

Mesothelioma is a rare form of cancer that principally affects the external lining of the lungs (pleura) and stomach (peritoneum). It has a strong association with exposure to asbestos dust, and the long latency period between first exposure to asbestos and the development and diagnosis of mesothelioma is seldom less than 15 years and can be as long as 60 years.

A summary analysis of mesothelioma deaths within county districts in Great Britain was published in "Health and Safety Statistics 1995/1996". This paper is an expansion of the geographical information published. The number of mesothelioma deaths during 1976-1991 (inclusive) within each county district in Great Britain is shown in the attached table. The table also includes Standardised Mortality Ratios (SMRs) which are an age-standardised measure of mortality, a full description of how these were calculated is in the attached appendix.

As mesothelioma takes between 15 and 60 years to develop after exposure to asbestos dust, this data relates only to exposure during the 1970s and earlier. The major hotspots highlighted in this data are all areas close to known industrial sites where asbestos has been used in the past. The data shows that:

{ Male deaths are concentrated around ports and dockyards. Asbestos was used as insulation in ships and workers were exposed to it during fitting out and shipbreaking activities. The county district with the highest SMR is the shipbuilding area of Clydebank, which had an SMR ten times higher than the average for Great Britain. Other port and dockyard areas within Strathclyde (Dumbarton, Bearsden and Milngavie, Glasgow city, Renfrew and Inverclyde) and Dunfermline also had high SMRs. The overall SMR for Scotland was higher than the national average mainly due to these shipbuilding areas. Other shipbuilding areas with high SMRs include: all county districts in Tyne and Wear; all county districts in Cleveland; Barrow; Plymouth; the port areas in Hampshire (Portsmouth, Southampton, Havant, Gosport and Fareham); Wirral; Caradon; Medina and port areas in

Kent (mainly Gillingham and Rochester-upon-Medway).

{ Other areas with high SMRs for men include:

- those with a large railway engineering industry such as Crewe and Nantwich; Thamesdown; Eastleigh and Doncaster some of which have SMRs more than three times higher than the average for Great Britain. Again, this is due to asbestos being formerly used as insulation in railway carriages and steam locomotives, where workers would have been exposed during maintenance activities.

-Districts along the River Thames which had dockyards handling asbestos imports and industries involved in the manufacture of products containing raw asbestos - such as asbestos insulation materials, asbestos textiles and asbestos cement. Some London districts have SMRs of over three times higher than expected.

- Districts in West Yorkshire, which had large asbestos textile industries.

{ The number of mesothelioma deaths for women during this time period is more than 5 times lower than the number of male deaths. Female SMRs are therefore based on much lower expected numbers of deaths. Areas with high SMRs for both males and females include the London districts, where women worked alongside men in the asbestos factories, and Sunderland where a large asbestos factory used to be located. Other areas with high female deaths are those associated with the manufacture of gas masks during the war (in Nottingham, Broxtowe, Preston and Blackburn) and areas associated with the textile industry (in Lancashire and West Yorkshire). Some port areas such as Barrow and Clydebank - have high death rates for women, due probably to the number of women whose husbands worked in shipbuilding and were exposed to asbestos from their husbands' work clothes.

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HSE publications:

“Health and Safety Statistics 2000/01 HSE Books (2001)”, ISBN 0-7176-2110-3.
Available at www.hse.gov.uk/statistics/hss0001.pdf. Also available from all good
booksellers or:

HSE Books
PO Box 1999
Sudbury
Suffolk
CO10 2WA.
(Tel: 01787 881165).

The following leaflets are also available - free from HSE Books at the above address:

"Managing asbestos in workplace buildings", IND(G)223(L) - guidance for workplace
building owners and managers.

"Asbestos and you", IND(G)107(L) (rev) - general information for workers.

"Asbestos alert for building maintenance, repair and refurbishment workers",
IND(G)188P - a pocket card for workers.

"Asbestos dust: The Hidden Killer. Are you at risk? Essential advice for building
maintenance, repair and refurbishment workers", IND(G)187L - a leaflet for workers.

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males					Females				
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
GREAT BRITAIN	8340	100				1515	100			
ENGLAND AND WALES	7412	97				1399	101			
SCOTLAND	928	127				116	83			
Greater London	1025	101				280	151			
Barking and Dagenham	87	350	**	1	10	39	859	**	1	1
Newham	97	325	**	2	11	30	567	**	2	5
Tower Hamlets	44	189	**	3	35	14	364	**	3	9
Havering	67	183	**	4	36	9	142		12	79
Bexley	50	155	**	5	52	15	261	**	5	18
Redbridge	51	141	*	6	61	18	272	**	4	16
Hillingdon	47	134		7	66	7	114		17	125
Greenwich	38	122		8	80	11	190		7	36
Sutton	27	105		9	108	4	80		22	194
Lewisham	37	104		10	109	7	106		19	145
Merton	27	102		11	115	3	60		26	250
Kingston upon Thames	21	100		12	119	8	200		6	30
Hounslow	28	97		13	128	3	58		27	253
Harrow	29	95		14	140	4	71		24	218
City Of London	1	94		15	142	0	0.0		32	367
Islington	22	93		16	144	1	23		31	362
Wandsworth	34	91		17	152	3	42		29	310
Hammersmith and Fulham	19	86		18	166	7	167		9	56
Waltham Forest	27	82		19	180	11	180		8	44
Hackney	21	81		20	187	5	107		18	140
Camden	20	77		21	200	7	141		13	80
Southwark	22	65		22	256	8	130		15	100
Kensington and Chelsea	12	65		23	257	0	0.0		32	367
Enfield	25	62		24	279	7	94		20	166
Ealing	25	61		25	285	10	138		14	85
Bromley	27	58		26	295	14	161		10	57
Lambeth	19	54		27	309	2	31		30	349
Richmond upon Thames	14	54		28	311	6	120		16	112
Brent	19	53		29	315	4	65		25	237
Croydon	22	49		30	331	4	48		28	290
Barnet	22	48		31	335	7	82		21	189
Haringey	12	43		32	355	8	156		11	63
Westminster, City Of	12	42		33	366	4	74		23	210
Greater Manchester	305	81				76	107			
Salford	49	131		1	70	16	225	**	1	24
Bolton	42	111		2	94	8	112		5	130
Tameside	31	96		3	134	7	115		4	124
Rochdale	27	94		4	143	10	187		2	39
Manchester	58	87		5	161	10	80		6	196
Bury	18	70		6	228	2	41		10	312
Trafford	23	70		7	234	3	49		9	282
Wigan	24	56		8	302	11	137		3	87
Stockport	19	45		9	347	5	62		8	242
Oldham	14	44		10	352	4	67		7	233

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	Males					Females				
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Merseyside	315	144				42	99			
Wirral	120	231	**	1	27	12	119		2	116
Knowsley	31	151	*	2	54	4	106		3	146
Liverpool	96	129	*	3	74	21	144		1	76
Sefton	55	121		4	83	5	55		4	262
St Helens	13	49		5	332	0	0.0		5	367
South Yorkshire	147	73				15	42			
Doncaster	67	155	**	1	51	1	14		3	365
Sheffield	58	66		2	252	12	74		1	211
Rotherham	15	41		3	369	2	32		2	346
Barnsley	7	20		4	431	0	0.0		4	367
Tyne and Wear	520	297				95	291			
North Tyneside	127	405	**	1	7	11	186		2	40
South Tyneside	102	397	**	2	8	5	107		5	141
Newcastle upon Tyne	123	283	**	3	17	15	180	*	3	45
Sunderland	95	227	**	4	29	55	723	**	1	2
Gateshead	73	224	**	5	31	9	149		4	72
West Midlands	215	54				43	61			
Solihull	24	86		1	167	1	21		6	364
Sandwell	40	84		2	173	6	70		3	225
Birmingham	94	62		3	280	19	70		2	223
Wolverhampton	20	51		4	324	8	119		1	114
Dudley	16	36		5	389	5	63		4	241
Walsall	11	29		6	406	3	45		5	303
Coventry	10	21		7	429	1	12		7	366
West Yorkshire	334	110				114	203			
Calderdale	46	157	**	1	49	13	229	*	2	22
Leeds	155	144	**	2	60	63	315	**	1	13
Kirklees	47	86		3	164	20	195	**	3	34
Bradford	51	78		4	195	6	49		5	286
Wakefield	35	77		5	201	12	150		4	70
Avon	136	94				21	80			
Bath	19	137		1	64	3	111		2	136
Kingswood	13	103		2	112	1	46		6	298
Bristol	61	98		3	121	9	78		3	201
Woodspring	22	79		4	192	3	57		5	256
Northavon	12	75		5	211	2	77		4	202
Wansdyke	9	70		6	227	3	137		1	89
Bedfordshire	49	72				9	79			
Luton	21	97		1	129	4	112		2	133
South Bedfordshire	10	74		2	214	3	134		1	93
North Bedfordshire	12	64		3	264	1	31		4	348
Mid Bedfordshire	6	42		4	367	1	43		3	306
Berkshire	83	89				15	93			
Bracknell	23	236	**	1	25	3	180		1	43
Slough	18	132		2	68	4	175		2	49
Wokingham	12	81		3	186	2	81		4	190
Newbury	12	71		4	222	2	70		5	221
Windsor and Maidenhead	12	62		5	282	4	117		3	120
Reading	6	32		6	394	0	0.0		6	367

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	Males				Females					
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Buckinghamshire	74	95				15	114			
South Bucks	13	121		1	81	3	167		2	55
Aylesbury Vale	21	117		2	86	2	66		4	234
Milton Keynes	13	89		3	154	4	160		3	59
Chiltern	11	83		4	178	5	215		1	26
Wycombe	16	76		5	209	1	28		5	355
Cambridgeshire	43	49				12	81			
Huntingdonshire	11	68		1	242	1	37		6	327
Cambridge	9	65		2	259	3	113		1	128
South Cambridgeshire	8	49		3	330	3	112		2	131
East Cambridgeshire	4	42		4	362	1	65		4	236
Fenland	5	42		5	365	2	99		3	156
Peterborough	6	31		6	396	2	62		5	243
Cheshire	129	95				16	66			
Crewe and Nantwich	47	300	**	1	14	1	36		6	330
Ellesmere Port and Neston	15	136		2	65	4	215		1	25
Halton	19	124		3	79	0	0.0		8	367
Vale Royal	13	80		4	191	3	105		2	148
Congleton	8	68		5	246	2	96		3	161
Chester	8	44		6	350	0	0.0		7	367
Macclesfield	10	42		7	360	3	70		4	220
Warrington	9	37		8	384	3	68		5	228
Cleveland	177	229				15	110			
Stockton-on-Tees	73	319	**	1	13	5	124		3	109
Hartlepool	33	244	**	2	24	3	124		2	108
Langbaugh	41	198	**	3	33	5	137		1	88
Middlesbrough	30	149	*	4	56	2	56		4	260
Cornwall and Isles of Scilly	76	97				9	63			
Caradon	28	231	**	1	28	1	47		4	297
Carrick	19	131		2	71	3	112		2	132
Kerrier	12	83		3	176	0	0.0		6	367
Restormel	9	63		4	270	1	40		5	319
North Cornwall	6	48		5	336	3	136		1	91
Penwith	2	19		6	436	1	50		3	281
Isles Of Scilly	0	0.0		7	452	0	0.0		7	367
Cumbria	155	197				13	91			
Barrow-In-Furness	106	918	**	1	2	7	340	*	1	11
Copeland	18	170	*	2	43	0	0.0		6	367
South Lakeland	14	82		3	184	2	61		3	248
Carlisle	9	56		4	305	1	34		5	343
Allerdale	6	39		5	377	1	36		4	332
Eden	2	27		6	411	2	156		2	64
Derbyshire	106	73				18	71			
Derby	50	148	*	1	57	4	68		6	229
Amber Valley	16	87		2	162	1	32		8	347
Erewash	12	76		3	207	2	72		5	215
South Derbyshire	7	66		4	253	1	56		7	261
North East Derbyshire	6	40		5	373	0	0.0		9	367
Chesterfield	6	37		6	383	3	105		2	147
The Derbyshire Dales	4	34		7	392	2	97		3	160
High Peak	3	24		8	419	2	88		4	179
Bolsover	2	17		9	439	3	153		1	68

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	Males					Females				
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Devon	304	175				16	50			
Plymouth	200	570	**	1	3	6	93		2	168
West Devon	12	152		2	53	1	72		3	217
South Hams	14	103		3	113	0	0.0		9	367
North Devon	15	96		4	136	1	35		6	334
Exeter	14	93		5	146	1	35		7	338
Torbay	20	85		6	169	3	64		4	239
East Devon	14	58		7	293	1	22		8	363
Torrige	4	43		8	354	2	126		1	106
Mid Devon	4	38		9	380	1	55		5	266
Teignbridge	7	36		10	385	0	0.0		9	367
Dorset	83	71				18	81			
Christchurch	11	121		1	82	3	172		1	51
Poole	19	92		2	148	2	51		6	274
East Dorset	11	77		3	198	2	81		4	191
Bournemouth	21	71		4	223	7	114		2	127
Weymouth and Portland	7	69		5	239	2	109		3	138
West Dorset	8	52		6	321	2	69		5	226
Purbeck	3	38		7	378	0	0.0		7	367
North Dorset	3	31		8	399	0	0.0		7	367
Durham	58	62				17	102			
Darlington	17	110		1	97	7	246		1	21
Chester-le-Street	8	106		2	106	2	154		2	66
Easington	11	70		3	233	2	74		4	212
Derwentside	10	70		4	236	3	116		3	123
Sedgefield	6	44		5	349	1	42		7	307
Durham	3	25		6	415	1	46		6	299
Teesdale	1	23		7	421	0	0.0		8	367
Wear Valley	2	19		8	435	1	53		5	271
East Sussex	72	56				7	27			
Hastings	11	82		1	181	3	104		1	152
Lewes	10	65		2	258	1	34		2	341
Eastbourne	10	63		3	278	1	29		3	354
Rother	10	56		4	304	1	27		4	358
Wealden	12	51		5	323	0	0.0		6	367
Hove	8	49		6	333	1	27		5	359
Brighton	11	43		7	353	0	0.0		6	367
Essex	271	120				53	132			
Castle Point	27	226	**	1	30	2	95		11	164
Thurrock	33	190	**	2	34	6	206		2	28
Basildon	34	180	**	3	37	5	150		5	71
Brentwood	20	176	*	4	40	5	255		1	19
Maldon	13	175		5	41	1	79		13	199
Rochford	12	108		6	98	3	157		4	62
Colchester	20	104		7	110	4	116		9	122
Epping Forest	19	98		8	122	3	90		12	172
Tendring	25	96		9	131	3	62		14	245
Southend-on-Sea	27	95		10	139	10	177		3	48
Harlow	8	83		11	174	2	125		7	107
Chelmsford	16	83		12	179	4	119		8	113
Braintree	11	66		13	250	3	104		10	150
Uttlesford	6	64		14	266	2	128		6	103

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	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Gloucestershire	52	64				5	35			
Forest Of Dean	13	110		1	96	1	49		2	283
Gloucester	11	77		2	197	2	81		1	192
Stroud	11	68		3	245	1	35		4	337
Cotswold	8	64		4	262	1	45		3	302
Tewkesbury	6	54		5	310	0	0.0		5	367
Cheltenham	3	20		6	432	0	0.0		5	367
Hampshire	531	244				40	103			
Portsmouth	129	448	**	1	4	10	182		2	41
Southampton	128	406	**	2	6	8	143		3	77
Eastleigh	49	360	**	3	9	0	0.0		12	367
Havant	47	280	**	4	19	6	198		1	32
Gosport	25	256	**	5	21	0	0.0		12	367
Fareham	31	232	**	6	26	2	86		5	181
Test Valley	20	150		7	55	3	132		4	97
New Forest	41	148	*	8	58	4	80		7	193
East Hampshire	19	139		9	62	2	83		6	188
Winchester	14	97		10	126	2	76		8	207
Basingstoke and Deane	14	83		11	175	1	35		11	335
Hart	7	81		12	185	1	67		9	231
Rushmoor	7	76		13	205	1	61		10	247
Hereford and Worcester	44	45				9	52			
Redditch	6	78		1	194	1	76		3	205
Wychavon	10	66		2	255	2	77		2	203
Bromsgrove	7	53		3	314	1	44		6	304
Wyre Forest	7	52		4	322	2	84		1	187
Malvern Hills	7	47		5	340	2	75		4	209
Hereford	3	40		6	375	1	74		5	214
South Herefordshire	3	36		7	387	0	0.0		7	367
Worcester	1	8.7		8	450	0	0.0		7	367
Leominster	0	0.0		9	452	0	0.0		7	367
Hertfordshire	120	85				20	82			
Stevenage	16	177	*	1	39	0	0.0		10	367
Three Rivers	15	114		2	88	2	89		5	176
Watford	12	112		3	93	2	104		4	151
Broxbourne	10	92		4	149	2	110		3	137
Dacorum	16	87		5	160	5	158		1	61
North Hertfordshire	14	85		6	170	1	35		8	336
Welwyn Hatfield	12	81		7	188	1	40		7	317
Hertsmere	10	71		8	226	2	80		6	195
East Hertfordshire	7	45		9	345	4	152		2	69
St Albans	8	42		10	361	1	31		9	350
Humberside	102	78				12	51			
Kingston upon Hull	41	110		1	95	2	29		6	353
Boothferry	11	108		2	99	2	116		3	121
Cleethorpes	10	99		3	120	0	0.0		7	367
Glanford	7	69		4	238	2	118		2	117
Beverley	11	65		5	261	4	132		1	96
Holderness	5	54		6	312	0	0.0		7	367
Great Grimsby	7	53		7	319	1	42		4	311
Scunthorpe	5	51		8	327	0	0.0		7	367
East Yorkshire	5	36		9	386	1	40		5	316

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	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Isle of Wight	43	183				1	23			
Medina	35	282	**	1	18	0	0.0		2	367
South Wight	8	72		2	219	1	48		1	292
Kent	315	137				39	93			
Gillingham	52	432	**	1	5	3	140		4	83
Rochester upon Medway	59	320	**	2	12	3	94		9	167
Gravesham	24	179	*	3	38	3	128		5	102
Dartford	20	167	*	4	44	1	48		10	289
Swale	27	164	*	5	46	5	172		1	50
Maidstone	22	115		6	87	4	117		7	119
Shepway	16	100		7	117	3	95		8	165
Sevenoaks	16	97		8	127	0	0.0		13	367
Canterbury	19	88		9	158	1	24		12	361
Tonbridge and Malling	12	86		10	163	4	167		2	54
Dover	14	81		11	189	4	126		6	105
Thanet	16	67		12	249	7	146		3	74
Ashford	9	66		13	251	0	0.0		13	367
Tunbridge Wells	9	60		14	287	1	34		11	342
Lancashire	166	76				90	217			
Rossendale	12	129		1	75	3	167		5	53
Blackpool	29	103		2	111	3	54		10	268
Preston	19	98		3	124	13	358	**	4	10
Hyndburn	12	97		4	125	3	131		7	98
South Ribble	13	96		5	132	17	707	**	2	4
Chorley	12	96		6	135	11	482	**	3	7
West Lancashire	11	77		7	199	0	0.0		14	367
Wyre	14	74		8	215	3	84		9	186
Lancaster	16	73		9	216	2	47		11	296
Blackburn	10	50		10	328	27	707	**	1	3
Pendle	6	44		11	351	1	39		12	323
Burnley	6	43		12	356	1	38		13	325
Fylde	4	30		13	402	4	153		6	67
Ribble Valley	2	23		14	425	2	131		8	99
Leicestershire	76	61				12	55			
Oadby and Wigston	7	95		1	138	0	0.0		8	367
Melton	5	76		2	208	2	179		2	46
Rutland	3	66		3	254	2	265		1	17
Leicester	26	64		4	268	3	41		6	313
Blaby	7	63		5	273	1	53		4	269
Charnwood	11	55		6	306	1	29		7	352
Harborough	5	53		7	317	2	128		3	101
Hinckley and Bosworth	7	53		8	318	0	0.0		8	367
North West Leicestershire	5	41		9	372	1	48		5	287
Lincolnshire	41	44				4	25			
North Kesteven	8	63		1	272	1	48		3	291
West Lindsey	7	59		2	291	1	51		2	275
Lincoln	7	59		3	292	0	0.0		5	367
South Kesteven	7	45		4	346	0	0.0		5	367
South Holland	4	34		5	391	1	52		1	272
Boston	3	33		6	393	0	0.0		5	367
East Lindsey	5	24		7	418	1	28		4	356

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males				Females					
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Norfolk	107	86				24	112			
Norwich	28	147		1	59	2	55		6	265
Broadland	16	93		2	145	2	70		5	222
Great Yarmouth	13	89		3	155	1	39		7	324
Breckland	14	82		4	182	7	248		1	20
South Norfolk	12	69		5	237	4	139		2	84
King's Lynn and West Norfolk	14	64		6	263	5	136		3	90
North Norfolk	10	56		7	301	3	98		4	158
Northamptonshire	59	75				15	110			
Daventry	9	107		1	103	0	0.0		7	367
Kettering	11	96		2	133	3	147		2	73
Wellingborough	9	95		3	137	1	61		6	246
Corby	6	86		4	165	1	88		5	177
South Northamptonshire	7	76		5	206	3	196		1	33
East Northamptonshire	6	60		6	286	2	118		4	118
Northampton	11	47		7	341	5	119		3	115
Northumberland	42	86				5	59			
Blyth Valley	16	155		1	50	2	111		2	135
Castle Morpeth	12	138		2	63	0	0.0		3	367
Wansbeck	6	57		3	296	0	0.0		3	367
Tynedale	5	54		4	313	3	178		1	47
Alnwick	2	39		5	376	0	0.0		3	367
Berwick-upon-Tweed	1	21		6	430	0	0.0		3	367
North Yorkshire	70	63				13	64			
Selby	14	114		1	90	0	0.0		5	367
York	16	98		2	123	0	0.0		5	367
Scarborough	13	69		3	240	5	134		1	94
Harrogate	13	57		4	297	3	69		4	227
Hambleton	6	50		5	329	0	0.0		5	367
Ryedale	5	34		6	390	3	121		3	110
Craven	2	24		7	420	2	126		2	104
Richmond	1	16		8	440	0	0.0		5	367
Nottinghamshire	98	65				49	187			
Bassetlaw	14	89		1	156	2	76		7	206
Nottingham	33	79		2	193	21	278	**	2	15
Rushcliffe	9	63		3	271	4	161		3	58
Broxtowe	10	63		4	276	10	365	**	1	8
Newark and Sherwood	9	58		5	294	3	113		6	129
Gedling	9	56		6	300	4	145		5	75
Mansfield	7	46		7	343	4	155		4	65
Ashfield	7	43		8	358	1	36		8	331
Oxfordshire	52	69				10	77			
Vale of White Horse	16	107		1	100	1	40		4	314
West Oxfordshire	11	92		2	151	1	49		3	285
South Oxfordshire	11	61		3	284	2	66		2	235
Oxford	8	49		4	334	6	199		1	31
Cherwell	6	41		5	371	0	0.0		5	367

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males				Females					
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Shropshire	31	54				5	50			
Oswestry	5	94		1	141	0	0.0		6	367
Shrewsbury and Atcham	10	73		2	217	1	40		4	315
The Wrekin	11	67		3	247	1	36		5	333
South Shropshire	2	30		4	403	1	88		1	178
Bridgnorth	2	26		5	412	1	79		2	198
North Shropshire	1	12		6	447	1	71		3	219
Somerset	59	79				8	60			
Sedgemoor	20	128		1	76	2	72		2	216
West Somerset	6	77		2	196	2	140		1	82
Mendip	11	76		3	203	1	39		4	322
South Somerset	16	71		4	221	2	50		3	276
Taunton Deane	6	42		5	364	1	38		5	326
Staffordshire	59	40				14	54			
Tamworth	9	133		1	67	0	0.0		9	367
Stafford	13	74		2	213	2	67		3	232
Cannock Chase	7	62		3	281	2	107		1	143
East Staffordshire	6	41		4	370	1	40		8	318
Stoke-on-Trent	12	31		5	400	3	42		7	309
Staffordshire Moorlands	4	27		6	410	2	79		2	197
Lichfield	3	26		7	413	1	50		5	278
Newcastle-under-Lyme	3	16		8	441	2	60		4	249
South Staffordshire	2	15		9	443	1	46		6	300
Suffolk	93	93				13	75			
Ipswich	24	128		1	77	2	59		6	252
Forest Heath	8	114		2	89	1	85		4	184
Waveney	20	107		3	101	4	121		1	111
Babergh	13	106		4	104	0	0.0		7	367
Suffolk Coastal	17	97		5	130	2	64		5	238
Mid Suffolk	7	57		6	299	2	100		2	154
St Edmundsbury	4	31		7	398	2	89		3	174
Surrey	123	77				20	70			
Runnymede	14	120		1	84	1	50		6	277
Surrey Heath	10	107		2	102	5	319	*	1	12
Epsom and Ewell	11	93		3	147	3	138		3	86
Guildford	17	92		4	150	1	30		8	351
Tandridge	10	80		5	190	3	135		4	92
Woking	9	75		6	210	1	47		7	294
Reigate and Banstead	14	72		7	220	2	57		5	258
Spelthorne	10	71		8	225	4	168		2	52
Waverley	12	67		9	248	0	0.0		9	367
Mole Valley	8	59		10	290	0	0.0		9	367
Elmbridge	8	43		11	357	0	0.0		9	367
Warwickshire	30	42				10	82			
North Warwickshire	6	68		1	243	3	212		1	27
Warwick	10	57		2	298	0	0.0		5	367
Stratford-on-Avon	8	48		3	337	2	70		4	224
Rugby	3	23		4	423	2	91		3	169
Nuneaton and Bedworth	3	19		5	437	3	111		2	134

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males				Females					
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
West Sussex	75	63				14	60			
Adur	11	103		1	114	1	48		5	293
Crawley	11	100		2	118	2	107		1	139
Worthing	13	70		3	232	2	46		6	301
Mid Sussex	12	70		4	235	2	62		3	244
Horsham	10	62		5	283	1	34		7	340
Chichester	10	53		6	316	3	85		2	182
Arun	8	31		7	397	3	57		4	255
Wiltshire	99	124				13	94			
Thamesdown	63	288	**	1	15	7	190		1	37
Kennet	9	91		2	153	0	0.0		4	367
North Wiltshire	13	83		3	177	0	0.0		4	367
West Wiltshire	10	63		4	274	3	107		2	144
Salisbury	4	24		5	416	3	102		3	153
Clwyd	43	68				5	42			
Wrexham Maelor	13	76		1	204	1	32		4	344
Delyn	7	73		2	218	0	0.0		5	367
Alyn and Deeside	7	70		4	230	1	57		2	257
Colwyn	7	70		3	229	2	99		1	157
Rhuddlan	7	70		5	231	1	50		3	279
Glyndwr	2	28		6	409	0	0.0		5	367
Dyfed	33	57				1	10			
South Pembrokeshire	11	174		1	42	0	0.0		2	367
Preseli	7	64		2	267	0	0.0		2	367
Llanelli	8	59		3	289	0	0.0		2	367
Dinefwr	2	29		4	405	0	0.0		2	367
Ceredigion	3	28		5	407	1	52		1	273
Carmarthen	2	21		6	427	0	0.0		2	367
Gwent	27	39				5	42			
Newport	17	85		1	168	1	28		4	357
Blaenau Gwent	6	46		2	342	1	43		3	305
Islwyn	2	20		3	433	1	57		2	259
Torfaen	2	15		4	445	0	0.0		5	367
Monmouth	0	0.0		5	452	2	100		1	155
Gwynedd	13	33				3	40			
Meirionnydd	3	52		1	320	0	0.0		3	367
Aberconwy	4	40		2	374	1	50		2	280
Ynys Mon-Isle Of Anglesey	4	38		3	382	2	105		1	149
Dwyfor	1	19		4	434	0	0.0		3	367
Arfon	1	13		5	446	0	0.0		3	367
Mid Glamorgan	25	31				11	75			
Taff-Ely	8	64		1	269	2	89		2	173
Rhymney Valley	6	42		2	359	4	158		1	60
Rhondda	4	30		3	404	2	78		3	200
Cynon Valley	3	28		4	408	0	0.0		6	367
Ogwr	3	15		5	444	2	55		5	263
Merthyr Tydfil	1	11		6	449	1	57		4	254
Powys	5	25				0	0.0			
Brecknock	3	42		1	363	0	0.0		1	367
Montgomeryshire	2	23		2	424	0	0.0		1	367
Radnor	0	0.0		3	452	0	0.0		1	367

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males				Females					
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
South Glamorgan	63	109				7	65			
Vale of Glamorgan	19	117		1	85	1	34		2	339
Cardiff	44	106		2	105	6	77		1	204
West Glamorgan	39	66				3	27			
Swansea	26	87		1	159	2	36		2	329
Lliw Valley	7	71		2	224	1	55		1	264
Neath	5	45		3	344	0	0.0		3	367
Port Talbot	1	11		4	448	0	0.0		3	367
Borders	5	29				2	62			
Ettrick and Lauderdale	3	55		1	307	1	96		1	162
Tweeddale	1	41		2	368	0	0.0		3	367
Berwickshire	1	31		3	401	0	0.0		3	367
Roxburgh	0	0.0		4	452	1	89		2	175
Central	35	91				3	43			
Falkirk	27	130		1	73	2	54		2	267
Clackmannan	3	47		2	339	1	85		1	183
Stirling	5	44		3	348	0	0.0		3	367
Dumfries and Galloway	7	30				1	24			
Wigtown	3	63		1	277	0	0.0		2	367
Stewartry	1	24		2	417	0	0.0		2	367
Nithsdale	2	23		3	422	1	63		1	240
Annandale and Eskdale	1	17		4	438	0	0.0		2	367
Fife	67	136				6	65			
Dunfermline	35	202	**	1	32	1	32		3	345
Kirkcaldy	28	130		2	72	3	75		2	208
North East Fife	4	38		3	381	2	97		1	159
Grampian	37	54				7	55			
Aberdeen City	25	84		1	172	5	84		1	185
Moray	6	51		2	325	1	47		3	295
Kincardine and Deeside	3	48		3	338	0	0.0		4	367
Gordon	2	23		4	426	0	0.0		4	367
Banff and Buchan	1	8.5		5	451	1	48		2	288
Highland	14	50				4	79			
Badenoch and Strathspey	2	127		1	78	0	0.0		4	367
Sutherland	2	84		2	171	0	0.0		4	367
Inverness	6	76		3	202	1	68		3	230
Nairn	1	65		4	260	0	0.0		4	367
Ross and Cromarty	2	31		5	395	1	91		2	171
Caithness	1	25		6	414	2	296		1	14
Skye and Lochalsh	0	0.0		7	452	0	0.0		4	367
Lochaber	0	0.0		7	452	0	0.0		4	367
Lothian	103	98				15	73			
West Lothian	21	132		1	69	4	143		1	78
Edinburgh City	69	106		2	107	8	60		3	251
Midlothian	6	56		3	303	2	107		2	142
East Lothian	7	55		4	308	1	42		4	308

MESOTHELIOMA SMRS BY COUNTY DISTRICT - GREAT BRITAIN 1976-1991

	Males					Females				
	Deaths	SMR	Signif.	Rank within county	Rank within all districts	Deaths	SMR	Signif.	Rank within county	Rank within all districts
Strathclyde	626	190				69	108			
Clydebank	82	1119	**	1	1	7	497	**	1	6
Dumbarton	29	288	**	2	16	4	203		3	29
Bearsden and Milngavie	15	270	**	3	20	2	194		4	35
Glasgow City	280	252	**	4	22	32	141		6	81
Renfrew	67	246	**	5	23	5	96		8	163
Inverclyde	23	166	*	6	45	2	74		11	213
Cumbernauld and Kilsyth	10	164		7	47	2	181		5	42
East Kilbride	16	162		8	48	4	226		2	23
Strathkelvin	12	113		9	91	1	53		12	270
Kilmarnock and Loudoun	13	113		10	92	2	91		9	170
Eastwood	8	101		11	116	2	133		7	95
Hamilton	12	89		12	157	1	39		15	321
Cunninghame	15	82		13	183	0	0.0		16	367
Motherwell	14	69		14	241	0	0.0		16	367
Argyll and Bute	7	68		15	244	1	49		13	284
Clydesdale	5	63		16	275	0	0.0		16	367
Monklands	8	60		17	288	1	39		14	320
Kyle and Carrick	9	51		18	326	3	87		10	180
Cumnock and Doon Valley	1	15		19	442	0	0.0		16	367
Tayside	30	50				8	69			
Dundee City	20	75		1	212	6	114		1	126
Perth and Kinross	7	36		2	388	1	27		3	360
Angus	3	21		3	428	1	37		2	328
Orkney	2	64				1	189			
Orkney	2	64		1	265	1	189		1	38
Shetland	0	0.0				0	0.0			
Shetland	0	0.0		1	452	0	0.0		1	367
Western Isles	2	38				0	0.0			
Western Isles	2	38		1	379	0	0.0		1	367

** - SMR significantly above average (p<.01)

* - SMR significantly above average (p<.05)

CALCULATION OF SMRs

The Standardised Mortality Ratio (SMR) is a measure of relative mortality in a study population compared to that in some standard population. The standardisation is for age, and if relevant sex. This method is commonly referred to as the indirect method. Age-specific death rates in a standard population (Great Britain death rates for males or females over the period 1976-1991 were used as the standard) are applied to the age structure of the area being considered to calculate an expected number of deaths for the area. The ratio of the observed number of deaths to the expected number of deaths in the area is calculated and multiplied by 100 to give the SMR. The SMR of the standard population is 100. An SMR over or under 100 indicates a higher or lower than expected mortality rate in a specific area.

Table A illustrates the calculation of an SMR for men in area A. The total population of Great Britain from 1976 to 1991 is used as the standard population, column 1. Column 3 is column 2 divided by column 1 to give age-specific death rates in the standard population. These rates are applied to the total population in 1976-1991 in area A, given in column 4 to give expected numbers of deaths in this area, in column 6. The total observed number of deaths, shown in column 5, (1,196) divided by the expected number of deaths (2,024), multiplied by 100 gives an SMR of 59.

The advantage of SMRs is that comparison of mortality rates between the standard population and a particular group is easy.

STATISTICAL SIGNIFICANCE

SMRs in different areas may be greater or less than 100 because of random variation. Statistical tests are used in this paper to indicate those high SMRs which can not reasonably be ascribed to chance. The levels of "statistical significance" have been indicated on the tables. A single star denotes areas where an SMR is statistically greater than 100 at the 95% confidence level ($p < .05$) ie. there is only a 5% chance that the difference occurred as a result of random variation. Two stars denote areas where the SMR is statistically greater than 100 at the 99% confidence level ($p < .01$) ie. there is only a 1% chance that the difference occurred as a result of random variation.

Table A

Age group	All men			Men in area A		
	Population, 1976-1991 (thousands) (1)	Mesothelioma deaths (2)	Death rate per 10,000 (3) = (2) / (1)	Population, 1976-1991 (thousands) (4)	Mesothelioma deaths (5)	Expected deaths (6)=(3)*(4)
0-4	28,554	0	0.000	6,926	0	0.0
5-9	29,683	0	0.000	8,514	0	0.0
10-14	32,324	0	0.000	9,286	0	0.0
15-19	35,061	1	0.000	8,729	0	0.2
20-24	34,931	1	0.000	7,833	0	0.2
25-29	32,949	5	0.002	7,907	2	1.2
30-34	31,188	16	0.005	7,770	7	3.9
35-39	29,220	76	0.026	6,443	17	16.7
40-44	27,454	199	0.073	6,222	32	45.1
45-49	24,983	402	0.161	6,243	76	100.4
50-54	24,398	705	0.289	6,391	136	184.7
55-59	24,001	1,145	0.477	6,269	179	299.1
60-64	22,155	1,436	0.648	5,367	183	347.9
65-69	19,554	1,499	0.767	4,997	222	383.1
70-74	15,232	1,315	0.863	3,729	177	321.9
75-79	10,232	930	0.909	2,176	112	197.8
80-84	5,176	472	0.912	1,007	40	91.8
85+	2,503	145	0.579	525	13	30.4
All ages	429,600	8,347		106,334	1,196	2024.5