

Birth defect rates in England: 1995-2002

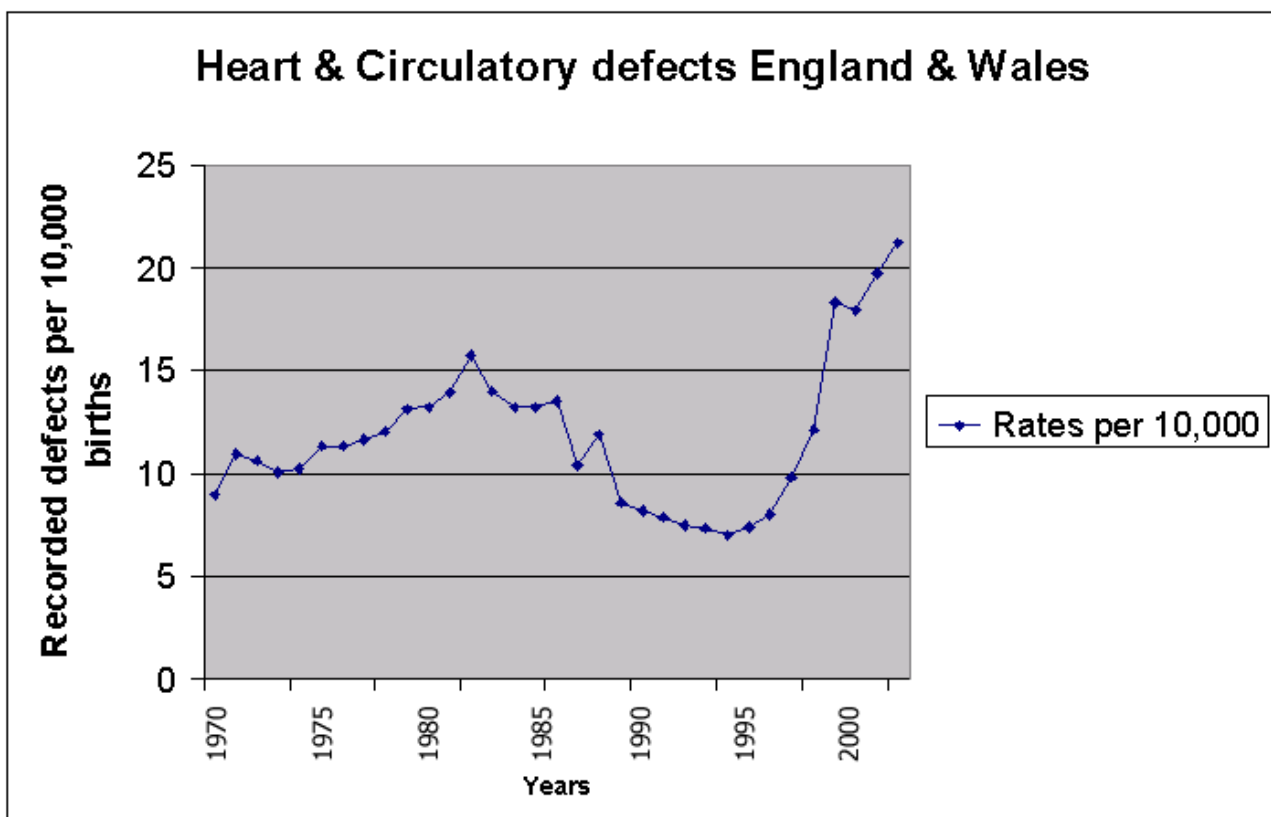
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Background

In January 1964, when the Chief Medical Officer started the collection of birth defect statistics “as a means of providing early information of causal factors of congenital malformation”, he also reminded doctors that “following the thalidomide tragedy it was generally felt that there should be a national notification of congenital abnormalities so that any increase in these conditions might be noted as soon as possible”. [1]

Birth defects are caused by mutagens that damage DNA such as radioactivity, organophosphate herbicides/pesticides [2] and industrial emissions of PM2.5s, i.e. particles small enough to get into the lungs, containing certain heavy metals, dioxins and similar chemicals. [3, 4, 5]

The earliest birth defect data published by the Office of National Statistics [ONS] so far examined starts in 1971 when the recorded rate of babies born with heart and circulatory defects in England and Wales was 9.0 per 10,000 births, but the true rate was almost certainly higher due to under-reporting. The recorded rate rose to an initial peak of 15.7 per 10,000 in 1983 before falling to a minimum of 7.0 per 10,000 in 1995. The recorded rate in 2003 was 21.2 per 10,000, i.e. more than triple that in 1995. Improvements in scanning techniques has meant that more defects are detected earlier, allowing the opportunity for pregnancies to be terminated and concealing the true extent of the increase in reported rates that omit termination data.



When examining the above graph, and also the very high rates of babies born with defects in some Primary Care Trusts (PCTs), it's worth recalling the final paragraph of the above Times article of 1964: “The scheme will be widely welcomed as a valuable means of helping to cope with a problem that

involves a high infant mortality rate and is responsible for much ill health, disability and parental distress.” [1]

Hazardous fuel

Since 1992, and especially from the downgrading of IPPC [Integrated Pollution Prevention and Control] in 2000, relaxation in the quality of fuel allowed to be burned in power stations, cement kilns and other industrial processes has led to a massive increase in toxic PM2.5 emissions - leading to increased rates of asthma, heart attacks, stroke, diabetes 2, depression, obesity, birth defects, infant mortality, stillbirth, cancers, ME/CFS, MS, autism, premature deaths of all ages etc. etc. [3]. Dr Dick van Steenis first proved industrial PM2.5 causation for asthma with epidemiological studies in West Wales and elsewhere. [6] He followed up the asthma surveys by comparing rates of hospital admissions for cancer and hospital referrals for depression in both high and low asthma zones, finding correlation with asthma incidence, i.e. the high zones in West Wales being where there was maximum grounding of PM2.5 emissions from the oil refinery/power station complex at Milford Haven waterway. [7] Incineration of municipal and hazardous waste has also increased exposure to PM2.5s, causing health damage up to some 20 miles downwind, compared with 3 miles from hazardous landfills.

Published birth defect data

The 1987-2001 ONS birth defect data [8] revealed a sharp upward trend in the rate of total defects recorded per 10,000 total births [i.e. live and stillbirths], leading to a press release [9] and concern among some politicians, including John McDonnell MP, Lembit Opik MP, Nick Harvey MP and David Taylor MP - all of whom have either been quoted in press articles, or have asked parliamentary questions.

In 1987, published ONS birth defect data included statistics for 18 types of defects and also the number of babies notified as having defects for 200 locations in England and Wales. In 1988 and subsequent years, the numbers of babies recorded as having defects was not printed for any location. The number of locations was gradually reduced over time, so that in 2001 only 100 locations were listed. In 2002, birth defect data was only published for the 28 Strategic Health Authorities in England and five health authorities in Wales, making any trend analysis in England impossible. The purpose was clearly to hide high zones by diluting with low zones.

The unpublished ONS data examined here confirms earlier concerns and provides greater detail over an 8-year period 1995 to 2002.

Unpublished ONS data

Following a personal request to Ruth Kelly MP, ONS have kindly released birth defect statistics for each of the Primary Care Trusts [PCT] in England for the years 1995 to 2002. The data comprises the numbers of babies recorded as born with defects in each year and the numbers of live and stillbirths in each PCT, enabling a rate to be calculated. Where the number of babies born with defects was less than 5, no figure was divulged to allegedly preserve confidentiality. The purpose is clearly to hide differentials. This means that the rate of babies born with defects in the chosen “control” cannot be stated with certainty, although it is of course possible to calculate rates for 4, 3, 2, 1 and zero such babies. Islington, in the heart of the largest urban area in the UK has been chosen as a control so that any confounding factors due to traffic emissions can be discounted.

When the data was examined, there were very wide variations in rates. Locations downwind of

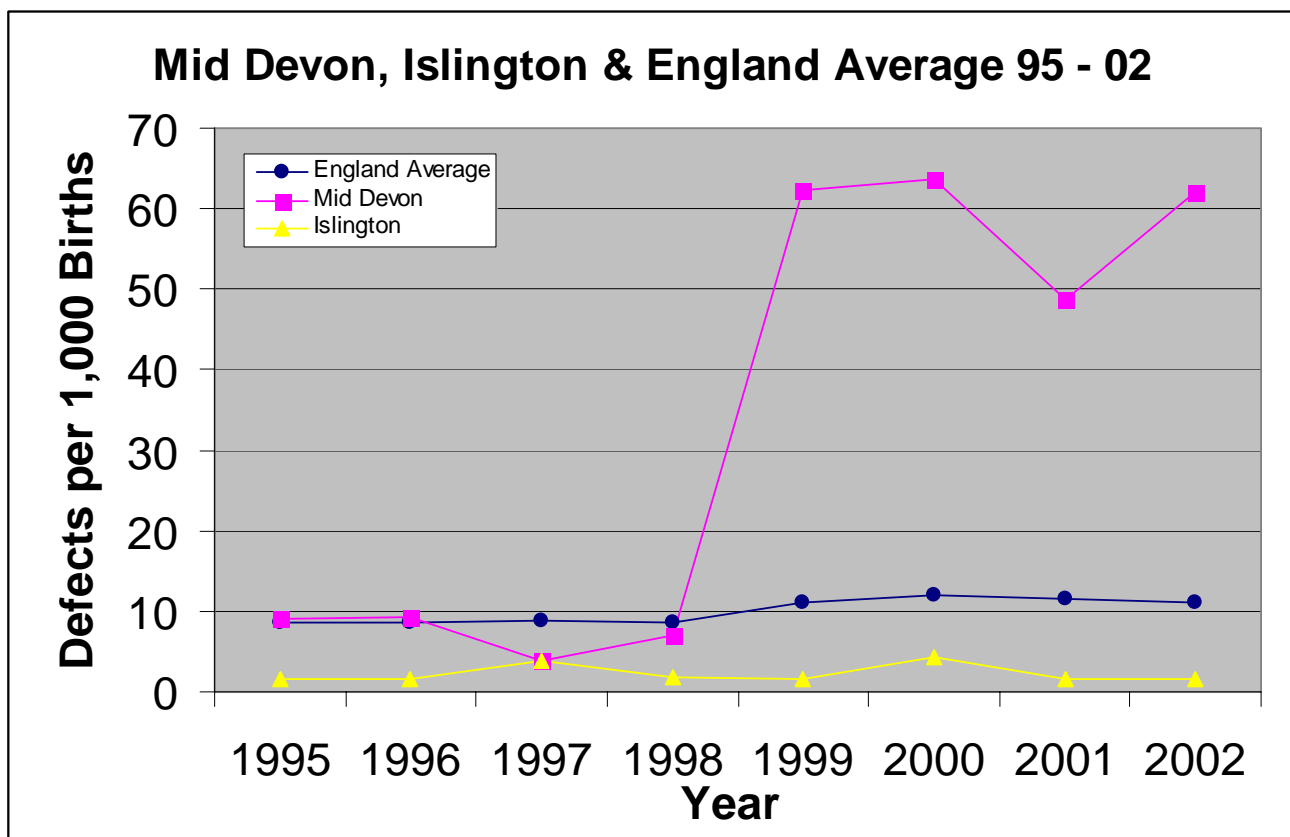
incinerators, oil refineries, cement kilns and power stations had elevated rates of birth defects.

The highest recorded rate of babies born with defects in 2002 was 62.1 per 1,000 births in Mid Devon PCT, where one in 16 of all babies born were recorded as having at least one birth defect.

In Islington, the recorded birth defect rate was between 1 in 632 births and 1 in infinity, as follows:

1.6 per 1,000 births if 4 Islington babies born with a recorded defect [i.e. 1 in 632 births] or
 0.4 per 1,000 if there had been only one such baby [1 in 2,526 births]
 or 0.0 per 1,000 if no babies born with defects [1 in infinity]

The 2002 differential between rural Mid Devon and urban Islington is 39-fold if 4 babies were born with defects in Islington and 155-fold if just one Islington baby was born with defects. It's possible that some of the Mid Devon defects could have been caused by incineration of "foot and mouth" carcasses using waste oil/solvents as fuel because such foot and mouth pyres were suspected by Devon dog breeder, Diane Irwin, who noticed defects in dogs for the first time since 1969. [10]



Conclusions

1. The upward trend of heart and circulatory defects in England and Wales demonstrates a major public health failure in the UK and also a failure of the Environment Agency to regulate industrial emissions of PM2.5s. The US equivalent of the Environment Agency have enforced the US Clean Air Act, which has resulted in savings of \$193 billion over the ten years 1992 to 2002 due to reduced hospital visits and fewer days off work resulting from the reductions of industrial emissions of PM2.5s according to the White House Office of Management and Budget [11]. Most of the savings would have been from the last two years of this ten-year period, enhanced by the successful prosecutions of ten

power companies, six oil companies and one steel company. If the same standard of reduction of PM2.5s took place in the UK, there would be a £10 saving for every £1 spent on abatement - i.e. for each £1 spent on PM2.5 abatement, there would be a £6 saving on the NHS bill and £4 on reduced social security payments. The opportunity for the UK to adopt the US Clean Air strategy was suggested to The Chancellor in October 2004 by Paul Marsden MP. [12] This letter was passed from HM Treasury to DEFRA for reply and the eventual response, signed by Environment Minister Elliot Morley MP, ignored all health effects of industrial PM2.5s, also the potential NHS savings of £24 billion per annum and also how additional revenue could be raised to “provide adequate compensation for avoidable illness from the millions of UK citizens harmed by government neglect, despite the 1985 commitment to the World Health Organisation to reduce mortality inequalities in the UK.” [12] and the recent ruling [Fadeyeva-v-Russia] by the European Court of Human Rights, making the State responsible for protecting citizens from industrial air pollution. [13]

2. The very high birth defect rates in many PCTs should be of sufficient concern to further examine the incidence at smaller areas, such as electoral ward or broad post-code and also examine other health parameters in the same locations with the intention of removing the cause(s) of illness and premature death. Elevated birth defect rates should be examined in the context of the present Department of Health strategy of cutting treatment, hospital beds and staff to try and cope with increasing budget deficits in certain PCTs, instead of recognising the impact of industrial PM2.5 pollution and then using the savings from reducing industrial PM2.5 pollution to provide a top quality NHS.

3. High birth defect rates both near, and downwind of incinerators [see data for Slough, Hillingdon, Hounslow, Harrow, Kingston and Bexley] demonstrate the lack of regulation by the Environment Agency and also suggest a reluctance by public health doctors to examine causes of illness.

Data

Table 1: Numbers of live births, stillbirths, total births and babies born with defects in each Primary Care Trust in England ranked in descending order of the rate of babies born with defects per 1,000 births.

Primary Care Trust	Live births	Stillbirths	Total births	No of babies with defects	Defect rate/ 1,000 births
England			568,910	6,298	11.1
Mid Devon	930	less than 5	934 max	58	62.1 min
Leicester City West	1633	10	1643	92	60.0
East Devon	854	less than 5	858 max	48	55.9 min
Sheffield South West	969	5	974	48	49.3
South Leicestershire	1609	7	1616	75	46.4
Eastern Leicestershire	2473	30	2503	113	45.1
Exeter	1282	8	1290	56	43.4
North Sheffield	1543	11	1554	60	38.6
Hinckley & Bosworth	1139	8	1147	44	38.4
Charnwood & NW Leicestershire	2442	23	2465	93	37.7
Nottingham City	3325	21	3346	124	36.9
Central Derby	1074	less than 5	1078 max	38	35.3 min
Melton Rutland & Harborough	1355	10	1365	48	35.2
South East Sheffield	1917	9	1926	66	34.3
Salford	2584	12	2596	82	31.6
Gedling	1073	7	1080	33	30.6
Broxtowe & Hucknall	1338	6	1344	41	30.5
Erewash	1211	6	1217	34	27.9

East Lincolnshire	2326	13	2339	62	26.5
Amber Valley	1166	8	1174	31	26.4
Bexhill & Rother	655	less than 5	659 max	17	25.8 min
Sheffield West	1100	5	1105	28	25.3
Isle of Wight	1078	10	1088	26	23.9
Barnsley	2340	11	2351	56	23.8
Greater Derby	1782	7	1789	42	23.5
Halton	1356	7	1363	32	23.5
Bexley	2518	12	2530	59	23.3
Lincolnshire South West Teaching	1538	13	1551	36	23.2
South West Dorset	1247	5	1252	29	23.2
Hatings & St Leonards	959	5	964	22	22.8
Hambleton & Richmondshire	1143	6	1149	26	22.6
North Eastern Derbyshire	1564	less than 5	1568 max	35	22.3 min
Hounslow	3251	20	3171	73	22.3
Rotherham	2734	19	2753	60	21.8
Doncaster Central	832	less than 5	836 max	18	21.5 min
Southend on Sea	1891	12	1903	41	21.5
Swindon	2325	11	2336	50	21.4
South Wiltshire	1166	7	1173	25	21.3
Doncaster Dales & S Derbyshire	1178	less than 5	1182 max	25	21.2 min
Eastern Cheshire	1784	5	1789	38	21.2
West Cumbria	1232	9	1241	26	21.0
Newark & Sherwood	1054	less than 5	1058 max	22	20.8 min
Bracknell Forest	1323	less than 5	1327	27	20.3 min
Ashton, Leigh & Wigan	3316	25	3341	65	19.5
Central Liverpool	2676	18	2684	52	19.4
Warrington	2208	15	2223	43	19.3
North Lincolnshire	1560	11	1571	30	19.1
Birkenhead & Wallasey	2193	12	2205	42	19.0
Scarborough, Whitby & Ryedale	1377	5	1382	26	18.8
Thurrock	1931	15	1946	36	18.5
Eastleigh & Test Valley South	1600	10	1610	28	17.4
Doncaster East	1158	less than 5	1162 max	20	17.2 min
South East Oxfordshire	811	less than 5	815 max	14	17.2 min
East Surrey	1804	5	1809	31	17.1
Heart of Birmingham Teaching	5759	46	5805	99	17.1
Northumberland Care Trust	2762	20	2782	47	16.9
Doncaster West	1131	less than 5	1135	19	16.7 min
Cannock Chase	1389	7	1396	23	16.5
Ashfield	942	less than 5	946 max	15	15.9 min
Chesterfield	942	less than 5	946 max	15	15.9 min
Eden Valley	565	less than 5	969 max	9	15.8 min
Blackpool	1403	5	1408	22	15.6
Adur, Arun & Worthing	2102	9	2111	33	15.6
Wednesbury & West Bromwich	1271	8	1279	20	15.6
Central Manchester	2259	12	2271	35	15.4
South West Kent	2024	7	2031	31	15.3
West Lincolnshire	2175	8	2183	33	15.1
Cheshire West	1463	5	1468	22	15.0
Croydon	4370	28	4398	66	15.0
Haringey Teaching	3739	32	3771	56	14.9
Slough	1864	10	1874	28	14.9
Bebington & West Wirral	1079	7	1086	16	14.7
Staffordshire Moorlands	985	less than 5	962 max	14	14.6 min
East Kent Coastal	2290	7	2297	33	14.4
South Western Staffordshire	1656	8	1664	24	14.4
North Liverpool	1317	9	1326	19	14.3
Bedford	1805	8	1813	26	14.3
Basildon	1402	5	1407	20	14.2

Primary Care Trust	Live births	Stillbirths	Total births	No of babies with defects	Defect rate/1,000 births
South Birmingham	4073	17	4090	58	14.2
Crawley	1269	16	1285	18	14.0
Rowley Regis & Tipton	1274	12	1286	18	14.0
South Liverpool	930	6	936	13	13.9
High Peak & Dales	878	5	883	16	13.9
Fylde	573	less than 5	577 max	8	13.9 min
Ellesmere Port & Neston	868	less than 5	872 max	12	13.8 min
Blackburn with Darwen	2110	12	2122	29	13.7
Portsmouth City	2187	12	2199	30	13.6
Daventry & South Northants	1101	5	1106	15	13.6
Fareham & Gosport	1854	9	1863	25	13.4
Northampton	2598	17	2615	35	13.4
Solihull	1860	15	1875	25	13.3
Welwyn Hatfield	1008	5	1013	13	12.8
West Norfolk	1555	6	1561	20	12.8
Western Sussex	1631	less than 5	1635 max	21	12.8 min
Oxford City	1724	11	1735	22	12.7
Herefordshire	1565	11	1576	20	12.7
Cambridge City	1036	8	1044	13	12.5
Middlesbrough	2140	16	2156	27	12.5
Bassetlaw	1043	7	1050	13	12.4
Southampton City	2484	12	2496	31	12.4
St Albans & Harpenden	1693	8	1701	21	12.3
North Manchester	1773	9	1782	22	12.3
Wyre	889	5	894	11	12.3
Eastern Birmingham	3134	30	3164	39	12.3
South Manchester	1626	8	1634	20	12.2
New Forest	1401	less than 5	1405 max	17	12.1 min
South Cambridgeshire	1481	less than 5	1485 max	18	12.1 min
Newbury & Community	1073	less than 5	1077 max	13	12.1 min
Wyre Forest	988	5	993	12	12.1
South & East Dorset	1089	7	1096	13	11.9
North Hampshire	2440	8	2448	29	11.8
Stockport	2956	21	2977	35	11.8
East Hampshire	1647	8	1655	19	11.5
Wokingham	1637	9	1646	19	11.5
Chorley & South Ribble	2088	13	2101	24	11.4
Watford & Three Rivers	1947	14	1961	22	11.2
Castle Point & Rochford	1505	9	1514	17	11.2
Southport & Formby	985	less than 5	999 max	11	11.0 min
Southern Norfolk	1903	5	1908	21	11.0
Ealing	4436	32	4468	30	10.8
Hammersmith & Fulham	2587	16	2603	28	10.8
Poole	1655	7	1662	18	10.8
Ashford	1292	9	1301	14	10.8
Wandsworth	4080	19	4099	44	10.7
Bolton	3170	19	3189	34	10.7
Hillingdon	3292	22	3314	35	10.6
Hyndburn & Ribble Valley	1415	14	1429	15	10.5
Northampton Heartlands	3144	13	3157	33	10.5
Bradford City	3019	30	3049	32	10.5
Maldon & South Chelmsford	868	less than 5	872 max	9	10.3 min
North Dorset	781	less than 5	785 max	8	10.2 min
Shepway	975	less than 5	979 max	10	10.2 min
West Gloucestershire	2432	16	2448	25	10.2
Vale of Aylesbury	2299	11	2310	23	10.0

Primary Care Trust	Live births	Stillbirths	Total births	No of babies with defects	Defect rate/1,000 births
Rochdale	1827	16	1843	18	9.8
Witham, Braintree & Halstead	1539	5	1544	15	9.7
Mansfield District	1027	10	1037	10	9.6
East Elmbridge & Mid Surrey	2800	10	2810	27	9.6
Chelmsford	1356	11	1367	13	9.5
North Norfolk	735	5	740	7	9.5
South Tyneside	1467	7	1474	14	9.5
Carlisle & District	1151	9	1160	11	9.5
Morecambe Bay	2715	9	2724	26	9.5
Reading	2541	18	2559	24	9.4
Kennet & Wiltshire North	2215	11	2226	21	9.4
Oldbury & Smethwick	1255	16	1271	12	9.4
North Tyneside	2042	11	2053	19	9.3
East Leeds	2022	14	2036	19	9.3
Knowsley	1734	12	1746	16	9.2
Mid-Sussex	1406	less than 5	1410 max	13	9.2 min
Redditch & Bromsgrove	1740	8	1748	16	9.2
North Peterborough	1419	8	1427	13	9.1
Harrow	2564	19	2583	23	8.9
North Hertfordshire & Stevenage	2148	10	2158	19	8.8
Central Cheshire	2629	15	2644	23	8.7
Eastbourne Downs	1511	6	1517	13	8.7
City & Hackney	4144	26	4170	36	8.6
Canterbury & Coastal	1618	less than 5	1622 max	14	8.6 min
Trafford North	1165	8	1173	10	8.5
Leeds North West	1516	10	1562	13	8.5
Trafford South	1309	less than 5	1313 max	11	8.4 min
West Lancaster	1066	less than 5	1070 max	9	8.4 min
Barnet	4176	26	4202	35	8.3
Telford & Wrekin	1921	15	1936	16	8.3
South Sefton	1573	9	1582	13	8.2
Windsor, Ascot & Maidenhead	1685	13	1698	14	8.2
Mendip	1090	less than 5	1094 max	9	8.2
Mid Hampshire	1731	6	1737	14	8.1
Oldham	3053	28	3081	25	8.1
Huddersfield Central	1720	17	1737	14	8.1
South West Oxfordshire	2241	14	2255	18	8.0
Easington	987	7	994	8	8.0
Eastern Hull	1361	10	1371	11	8.0
Richmond & Twickenham	2413	12	2425	19	7.8
Tower Hamlets	3844	23	3867	30	7.8
St Helens	1809	7	1816	14	7.7
North East Oxfordshire	908	7	915	7	7.7
Suffolk Coastal	787	less than 5	791 max	6	7.6 min
Gateshead	2012	11	2023	15	7.4
North Stoke	1475	12	1487	11	7.4
Walsall Teaching	3238	15	3253	24	7.4
Selby & York	2687	14	2701	20	7.4
East Cambridge & Fenland	1506	11	1517	11	7.3
North Warwickshire	1908	11	1919	14	7.3
Bradford South & West	1768	12	1780	13	7.3
Huntingdonshire	1672	less than 5	1676 max	12	7.2 min
Bristol North	2754	13	2767	20	7.2
West of Cornwall	1530	less than 5	1534 max	11	7.2
Norwich	1271	5	1276	9	7.1
Bury	2098	9	2107	15	7.1
North Bradford	979	less than 5	983 max	7	7.1 min

Primary Care Trust	Live births	Stillbirths	Total births	No of babies with defects	Defect rate/1,000 births
Yorkshire Wolds & Coast	1252	5	1257	9	7.1
Central Cornwall	1708	less than 5	1712 max	12	7.0 min
Bedfordshire Heartlands	2731	12	2743	19	6.9
Kensington & Chelsea	2156	11	2167	15	6.9
South Stoke	1449	5	1454	10	6.9
Horsham & Chanctonbury	1178	7	1185	8	6.8
Wycombe	1749	16	1765	12	6.8
West Wiltshire	1313	8	1321	9	6.8
Bromley	3401	15	3416	23	6.7
Tendring	1199	9	1208	8	6.6
Durham & Chester-le-Street	1352	less than 5	1356 max	9	6.6 min
Langbaugh	912	less than 5	916 max	6	6.6 min
Tameside & Glossop	2738	9	2747	18	6.6
South Leeds	1811	8	1819	12	6.6
Bournemouth	1401	5	1406	9	6.4
Sussex Downs & Weald	1405	6	1411	9	6.4
Wolverhampton City	2805	25	2830	18	6.4
Broadland	1100	7	1107	7	6.3
East Yorkshire	1590	5	1595	10	6.3
Cherwell Vale	1448	less than 5	1452 max	9	6.2 min
Swale	1132	less than 5	1136 max	7	6.2 min
Cotswold Vale	1755	7	1762	11	6.2
Coventry	3610	22	2632	22	6.1
North Birmingham	1632	9	1641	10	6.1
Luton	3114	31	3146	19	6.0
Leeds West	1336	8	1344	8	6.0
Dacorum	1553	less than 5	1557 max	9	5.8 min
Sutton & Merton	4665	21	4686	27	5.8
South Gloucestershire	2756	10	2766	16	5.8
Brent	4153	33	4186	24	5.7
South East Hertfordshire	1925	8	1933	11	5.7
Chiltern & South Buckinghamshire	1572	7	1579	9	5.7
Maidstone Weald	2606	8	2614	15	5.7
Billericay, Brentwood & Wickford	1429	less than 5	1433 max	8	5.6 min
Central Suffolk	885	less than 5	889 max	5	5.6 min
Burnley, Pendle & Rossendale	2819	18	2837	16	5.6
Dudley Beacon & Castle	1414	8	1422	8	5.6
Leeds North East	1177	10	1787	10	5.6
Uttersford	720	6	726	less than 5	5.5 max
Kingston	1816	16	1832	10	5.5
Sunderland Teaching	2930	17	2947	16	5.4
Ipswich	1672	11	1683	9	5.3
Barking & Dagenham	2419	19	2438	13	5.3
South Peterborough	1140	8	1148	6	5.2
North Kirklees	2483	17	2500	13	5.2
North Devon	1371	less than 5	1375 max	7	5.1 min
Rugby	968	less than 5	972 max	5	5.1 min
Shropshire County	2741	9	2750	14	5.1
Hartlepool	1010	6	1016	5	4.9
Heywood & Middleton	817	less than 5	821 max	less than 5	4.9 max
South Huddersfield	817	less than 5	821 max	less than 5	4.9 max
Royston, Buntingford & Bishops Stortford	834	less than 5	838 max	less than 5	4.8 max
Durham Dales	832	7	839	less than 5	4.8 max
Bath & North East Somerset	1672	11	1683	8	4.8
Derwentside	840	less than 5	844 max	less than 5	4.7 max
Suffolk West	2385	12	2397	11	4.6

Primary Care Trust	Live births	Stillbirths	Total births	No of babies with defects	Defect rate/ 1,000 births
Medway	3259	14	3273	15	4.6
Newcastle-under-Lyme	862	6	868	less than 5	4.6
South Worcestershire	2805	18	2823	13	4.6
North Surrey	2231	8	2239	10	4.5
Teignbridge	886	less than 5	890 max	less than 5	4.5 max
Dudley South	2002	17	2019	9	4.5
Great Yarmouth	903	less than 5	907 max	less than 5	4.4 max
Sedgefield	892	7	899	less than 5	4.4 max
South Hams & West Devon	931	5	936	less than 5	4.3 max
Camden	2841	15	2856	12	4.2
North Tees	2013	8	2021	8	4.0
Westminster	2551	19	2570	10	3.9
Harlow	1029	less than 5	1033 max	less than 5	3.9 max
Burntwood, Tamworth & Lichfield	1541	7	1548	6	3.9
Blackwater Valley & Hart	2104	less than 5	2108 max	8	3.8 min
Taunton Deane	1062	less than 5	1066 max	less than 5	3.8 max
Hertsmere	1084	less than 5	1088 max	less than 5	3.7 max
North Somerset	1905	6	1911	7	3.7
South Warwickshire	2425	8	2433	9	3.7
Lambeth	4380	37	4417	16	3.6
Havering	2257	8	2265	8	3.5
Darlington	1139	less than 5	1143 max	less than 5	3.5 max
Dartford, Gravesham & Swanley	2539	18	2577	9	3.5
Torbay	1152	7	1159	less than 5	3.5 max
West Hull	1436	8	1444	5	3.5
Waveney	1159	5	1164	less than 5	3.4 max
Somerset Coast	1230	5	1235	less than 5	3.2 max
Epping Forest	1338	11	1349	less than 5	3.0 max
Newcastle	2941	22	2963	9	3.0
North & East Cornwall	1340	7	1347	less than 5	3.0 max
East Staffordshire	1317	7	1324	less than 5	3.0 max
Southwark	4135	18	4153	12	2.9
Surrey Heath & Woking	2439	11	2450	7	2.9
South Somerset	1448	5	1453	less than 5	2.8 max
Wakefield West	1431	8	1439	less than 5	2.8 max
Calderdale	2220	14	2234	6	2.7
Guildford & Waverley	2263	12	2275	6	2.6
Airedale	1536	7	1543	less than 5	2.6 max
Colchester	1620	12	1632	less than 5	2.5 max
Cheltenham & Tewkesbury	1610	5	1615	less than 5	2.5 max
Preston	1648	6	1634	20	2.4
Eastern Wakefield	1878	19	1897	less than 5	2.1 max
Bristol South & West	1954	12	1966	less than 5	2.0 max
Craven & Harrogate Rural District	1982	13	1995	less than 5	2.0 max
Islington	2508	18	2526	less than 5	1.6 max
Lewisham	3845	33	3878	6	1.5
Brighton & Hove City	2740	14	2754	less than 5	1.5 max
Plymouth	2574	20	2594	less than 5	1.5 max
Milton Keynes	2909	18	2927	less than 5	1.4 max
Greenwich	3344	31	3375	less than 5	1.2 max
Redbridge	3230	19	3249	less than 5	1.2 max
Enfield	3984	22	4006	less than 5	1.0 max
Newham	4939	44	4983	5	1.0

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