



Public Health
England

Protecting and improving the nation's health

Reports of cases of tuberculosis to enhanced tuberculosis surveillance systems: UK, 2000 to 2015

Official Statistics



About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through advocacy, partnerships, world-class science, knowledge and intelligence, and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Notes

Tuberculosis definition

All new tuberculosis (TB) cases (including cases diagnosed post-mortem) that meet one of the two following case definitions should be notified:

- culture confirmed case: culture confirmed disease, with speciation confirming *Mycobacterium tuberculosis* complex (*M. tuberculosis*, *M. bovis*, *M. africanum* or *M. microti*)
- clinically diagnosed case: in the absence of culture confirmation, a case that meets the following criteria:
 - a clinician's judgement that the patient's clinical and/or radiological signs and/or symptoms are compatible with active TB, *and*
 - a clinician's decision to treat the patient with a full course of anti-TB therapy for active TB

Enhanced surveillance of tuberculosis

Enhanced Tuberculosis Surveillance (ETS) was introduced in January 1999 in England and Wales and the following year in Northern Ireland. The equivalent scheme in Scotland, Enhanced Surveillance of Mycobacterial Infections (ESMI), was introduced in 2000. Data from the two systems is compiled for the purpose of UK reporting.

Clinical teams provide information on TB cases either directly through the web-based ETS system entered at the clinic, or on a case report form entered onto the system at the Health Protection Team level. Data includes notification details, demographic information, clinical and microbiological information.

Data from all TB isolates identified in UK Mycobacteria Reference Laboratories (excluding Scotland) is routinely imported into ETS and matched to case notifications using patient identifiers common to both the laboratory isolate and the case notification. In addition, external to the system, an annual probabilistic matching process based on the patient identifiers is undertaken to identify additional matches. Data for Scotland is not matched using this method.

Data sources

All TB data presented in this report for England, Wales and Northern Ireland is from ETS, other than in London where cases are notified to the London TB Register (LTBR). Data from the LTBR is routinely imported to ETS. Data for Scotland is from ESMI.

Population data used in the calculation of rates is from the Office for National Statistics (ONS), incorporating data from the National Records of Scotland and Northern Ireland Statistics and Research Agency.

Data was extracted from ETS at the beginning of April 2016 then cleaned and validated by end of August 2016. Data for Scotland in this report may differ slightly from data presented in Scottish reports as cases that have transferred from England to Scotland were deduplicated at the UK level.

PHE has produced a detailed public health report with TB data for England to the end of 2015, which is available at <https://www.gov.uk/government/collections/tuberculosis-and-other-mycobacterial-diseases-diagnosis-screening-management-and-data>.

Reports produced by the Public Health Agency Northern Ireland are available at <http://www.publichealth.hscni.net/directorate-public-health/health-protection/tuberculosis>

Reports produced by Public Health Wales are available at <http://www.wales.nhs.uk/sites3/page.cfm?orgId=457&pid=27952>

Reports produced by Health Protection Scotland are available at <http://www.hps.scot.nhs.uk/resp/resourcedetail.aspx?id=3077>

Data type and methodology

TB case notifications were reported by area of residence and by calendar year.

Overall TB rates per 100,000 population, as well as those by area of reporting, were calculated using the mid-year estimates provided by the ONS. Average annual rates per 100,000 for the three-year period were calculated by dividing the numerator (the number of TB notifications in the three-year period) by the denominator (the sum of the mid-year population estimates for the same three-year period) and multiplying by 100,000. A 95% confidence interval for incidence was obtained assuming a Poisson distribution.

For the purposes of TB outcome reporting, the drug sensitive cohort is defined as all TB cases, excluding those with multi-drug resistant/rifampicin resistant TB (MDR/RR-TB) (initial or acquired), or non-culture confirmed cases treated with an MDR-TB regimen. TB outcomes are reported at 12 months for drug sensitive cases with an expected duration of treatment less than 12 months. This group excludes cases with CNS disease, who have an expected duration of treatment of 12 months. In addition, those

with spinal, cryptic disseminated or miliary disease are excluded from this group, as CNS involvement cannot be reliably ruled out for the purposes of reporting. The last recorded outcome is reported for the entire drug sensitive cohort.

Rates are presented from 2000 to 2015; all other breakdowns are presented for the past ten years.

Statistical analysis was carried out using STATA 13.

Glossary

Acquired resistance: resistance identified on repeat culture after three months of the first specimen date. Cases with a change from a sensitive to resistant result following treatment start are reclassified as acquired resistance, even if this is within the three month period

CI: confidence interval (95% confidence intervals used)

ESMI: Enhanced Surveillance of Mycobacterial Infections

ETS: Enhanced Tuberculosis Surveillance system

Initial resistance: a cultured isolate resistant to a particular drug within three months of the first specimen date

LTBR: London TB Register

MDR-TB: multi-drug resistant TB is defined as resistance to at least isoniazid and rifampicin, with or without resistance to other drugs

MDR/RR-TB: multi-drug resistant/Rifampicin resistant TB is defined as resistance to rifampicin including MDR-TB cases

ONS: Office for National Statistics

XDR-TB: extensively-drug resistant TB is defined as resistance to isoniazid and rifampicin (MDR-TB), at least one injectable agent (capreomycin, kanamycin or amikacin) and at least one fluoroquinolone (moxifloxacin, ofloxacin, ciprofloxacin)

Table 1: Number of TB case notifications, rates and annual percentage change, UK, 2000-2015

Year	Total		Annual change in case numbers (%)	Annual change in rate (%)
	Number of cases	Rate per 100,000 (95% CI)		
2000	6,686	11.4 (11.1 - 11.6)	-	-
2001	6,760	11.4 (11.2 - 11.7)	1.1%	0.0%
2002	7,291	12.3 (12.0 - 12.6)	7.9%	7.9%
2003	7,219	12.1 (11.8 - 12.4)	-1.0%	-1.6%
2004	7,589	12.7 (12.4 - 12.9)	5.1%	5.0%
2005	8,283	13.7 (13.4 - 14.0)	9.1%	7.9%
2006	8,307	13.7 (13.4 - 14.0)	0.3%	0.0%
2007	8,260	13.5 (13.2 - 13.8)	-0.6%	-1.5%
2008	8,491	13.7 (13.4 - 14.0)	2.8%	1.5%
2009	8,870	14.2 (14.0 - 14.5)	4.5%	3.6%
2010	8,397	13.4 (13.1 - 13.7)	-5.3%	-5.6%
2011	8,919	14.1 (13.8 - 14.4)	6.2%	5.2%
2012	8,714	13.7 (13.4 - 14.0)	-2.3%	-2.8%
2013	7,866	12.3 (12.0 - 12.5)	-9.7%	-10.2%
2014	7,025	10.9 (10.6 - 11.1)	-10.7%	-11.4%
2015	6,240	9.6 (9.3 - 9.8)	-11.2%	-11.9%

CI - confidence interval

Between 2000 and 2011, there was an overall increase in the number of cases and rate of TB in the UK, with some annual fluctuations. In the past four years, there has been a year-on-year decline in the number of cases and rate of TB in the UK. The number and rate of TB cases in 2015 is the lowest since data from enhanced TB surveillance was first available in 2000.

Table 2: Number of TB case notifications and rates by country, UK, 2000-2015

Year	Country									
	England		Wales		Northern Ireland		Scotland		UK	
	Number of cases	Rate per 100,000 (95% CI)	Number of cases	Rate per 100,000 (95% CI)	Number of cases	Rate per 100,000 (95% CI)	Number of cases	Rate per 100,000 (95% CI)	Number of cases	Rate per 100,000 (95% CI)
2000	6,044	12.3 (12.0 - 12.6)	182	6.3 (5.4 - 7.2)	57	3.4 (2.6 - 4.4)	403	8.0 (7.2 - 8.8)	6,686	11.4 (11.1 - 11.6)
2001	6,169	12.5 (12.2 - 12.8)	183	6.3 (5.4 - 7.3)	57	3.4 (2.6 - 4.4)	351	6.9 (6.2 - 7.7)	6,760	11.4 (11.2 - 11.7)
2002	6,675	13.4 (13.1 - 13.8)	155	5.3 (4.5 - 6.2)	67	3.9 (3.1 - 5.0)	394	7.8 (7.0 - 8.6)	7,291	12.3 (12.0 - 12.6)
2003	6,631	13.3 (13.0 - 13.6)	164	5.6 (4.8 - 6.5)	57	3.3 (2.5 - 4.3)	367	7.2 (6.5 - 8.0)	7,219	12.1 (11.8 - 12.4)
2004	6,929	13.8 (13.5 - 14.1)	187	6.3 (5.4 - 7.3)	81	4.7 (3.8 - 5.9)	392	7.7 (7.0 - 8.5)	7,589	12.7 (12.4 - 12.9)
2005	7,658	15.1 (14.8 - 15.5)	185	6.2 (5.4 - 7.2)	75	4.3 (3.4 - 5.4)	365	7.1 (6.4 - 7.9)	8,283	13.7 (13.4 - 14.0)
2006	7,682	15.1 (14.7 - 15.4)	183	6.1 (5.3 - 7.1)	61	3.5 (2.7 - 4.5)	381	7.4 (6.7 - 8.2)	8,307	13.7 (13.4 - 14.0)
2007	7,578	14.7 (14.4 - 15.1)	204	6.8 (5.9 - 7.8)	69	3.9 (3.0 - 5.0)	409	7.9 (7.2 - 8.7)	8,260	13.5 (13.2 - 13.8)
2008	7,809	15.1 (14.7 - 15.4)	169	5.6 (4.8 - 6.5)	66	3.7 (2.9 - 4.7)	447	8.6 (7.8 - 9.4)	8,491	13.7 (13.4 - 14.0)
2009	8,112	15.5 (15.2 - 15.9)	213	7.0 (6.1 - 8.0)	59	3.3 (2.5 - 4.2)	486	9.3 (8.5 - 10.2)	8,870	14.2 (14.0 - 14.5)
2010	7,676	14.6 (14.3 - 14.9)	152	5.0 (4.2 - 5.8)	66	3.7 (2.8 - 4.7)	503	9.6 (8.7 - 10.4)	8,397	13.4 (13.1 - 13.7)
2011	8,280	15.6 (15.3 - 15.9)	131	4.3 (3.6 - 5.1)	61	3.4 (2.6 - 4.3)	447	8.4 (7.7 - 9.3)	8,919	14.1 (13.8 - 14.4)
2012	8,086	15.1 (14.8 - 15.4)	136	4.4 (3.7 - 5.2)	87	4.8 (3.8 - 5.9)	405	7.6 (6.9 - 8.4)	8,714	13.7 (13.4 - 14.0)
2013	7,261	13.5 (13.2 - 13.8)	142	4.6 (3.9 - 5.4)	73	4.0 (3.1 - 5.0)	390	7.3 (6.6 - 8.1)	7,866	12.3 (12.0 - 12.5)
2014	6,472	11.9 (11.6 - 12.2)	114	3.7 (3.0 - 4.4)	95	5.2 (4.2 - 6.3)	344	6.4 (5.8 - 7.1)	7,025	10.9 (10.6 - 11.1)
2015	5,758	10.5 (10.2 - 10.8)	116	3.7 (3.1 - 4.5)	60	3.2 (2.5 - 4.2)	306	5.7 (5.1 - 6.4)	6,240	9.6 (9.3 - 9.8)

CI - confidence interval

The majority of TB cases in the UK occur in England. The rate of TB is also considerably higher in England compared with the other countries of the UK. There has been a considerable decline in the number of cases and rate of TB in England, Wales and Scotland in the past four to six years. Northern Ireland has both a small number of cases and rate of TB, with annual fluctuations.

Table 3: Number of TB case notifications and rates by PHE Centre, England, 2015

PHE Centre*	Number of cases	Rate per 100,000 (95% CI)
London	2,269	26.2 (25.1 - 27.3)
West Midlands	708	12.3 (11.4 - 13.3)
South East	605	7.0 (6.4 - 7.5)
North West	570	7.9 (7.3 - 8.6)
Yorkshire and the Humber	440	8.2 (7.4 - 9.0)
East of England	393	6.2 (5.6 - 6.8)
East Midlands	354	7.6 (6.8 - 8.4)
South West	290	5.3 (4.7 - 5.9)
North East	129	4.9 (4.1 - 5.8)

* Ordered by highest to lowest number of cases
 CI - confidence interval

In 2015, London PHE Centre (PHEC) accounted for the highest number of TB cases in England, followed by the West Midlands PHEC. The rate of TB per 100,000 population in London PHEC is five times higher than the rate in the North East PHEC.

Table 4: Three-year average number of TB case notifications and rates by upper tier local authority and local authority district, England, 2013-2015

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases[#]	Average annual rate per 100,000 (95% CI)
London		2,599	30.4 (29.7-31.1)
	Barking and Dagenham	60	30.1 (25.9-34.9)
	Barnet	73	19.5 (17.0-22.2)
	Bexley	23	9.7 (7.6-12.3)
	Brent	217	67.6 (62.5-73.0)
	Bromley	24	7.5 (5.8-9.4)
	Camden	42	17.9 (14.9-21.3)
	City of London	1	8.2 (1.0-29.5)
	Croydon	92	24.5 (21.7-27.5)
	Ealing	194	56.6 (52.1-61.4)
	Enfield	70	21.5 (18.7-24.6)
	Greenwich	97	35.9 (31.9-40.3)
	Hackney	73	27.7 (24.2-31.7)
	Hammersmith and Fulham	42	23.3 (19.4-27.8)
	Haringey	76	28.4 (24.8-32.3)
	Harrow	114	46.4 (41.6-51.6)
	Havering	26	10.4 (8.2-13.1)
	Hillingdon	107	36.5 (32.6-40.7)
	Hounslow	143	53.7 (48.7-59.1)
	Islington	56	25.4 (21.7-29.6)
	Kensington and Chelsea	31	19.6 (15.8-24.0)
	Kingston upon Thames	24	14.1 (11.0-17.8)
	Lambeth	71	22.3 (19.4-25.5)
	Lewisham	67	23.0 (19.9-26.4)
	Merton	52	25.4 (21.5-29.7)
	Newham	278	85.6 (79.9-91.6)
	Redbridge	131	44.9 (40.5-49.5)
	Richmond upon Thames	11	5.9 (4.1-8.2)
	Southwark	82	27.1 (23.9-30.8)
	Sutton	24	11.9 (9.3-15.1)
	Tower Hamlets	92	32.5 (28.8-36.6)
	Waltham Forest	101	37.8 (33.6-42.3)
	Wandsworth	58	18.5 (15.8-21.4)
	Westminster	48	20.6 (17.4-24.3)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
West Midlands		821	14.4 (13.8-14.9)
	Birmingham	320	29.0 (27.2-30.9)
	Coventry	93	27.6 (24.4-31.0)
	Dudley	32	10.0 (8.1-12.3)
	Herefordshire, County of	4	2.0 (1.0-3.5)
	Sandwell	98	31.0 (27.6-34.8)
	Shropshire	9	3.0 (2.0-4.4)
	Solihull	15	7.0 (5.1-9.4)
	Staffordshire	36	4.2 (3.5-5.1)
	Cannock Chase	0	0.3 (0.0-1.9)
	East Staffordshire	10	8.4 (5.6-12.0)
	Lichfield	4	3.9 (2.0-6.8)
	Newcastle-under-Lyme	5	4.2 (2.4-6.9)
	South Staffordshire	3	3.0 (1.4-5.5)
	Stafford	10	7.3 (4.9-10.5)
	Staffordshire Moorlands	3	3.4 (1.6-6.3)
	Tamworth	1	0.9 (0.1-3.1)
	Stoke-on-Trent	30	12.1 (9.7-14.8)
	Telford and Wrekin	9	5.1 (3.3-7.5)
	Walsall	40	14.7 (12.2-17.6)
	Warwickshire	41	7.4 (6.2-8.9)
	North Warwickshire	2	2.7 (0.9-6.2)
	Nuneaton and Bedworth	16	12.4 (9.1-16.5)
	Rugby	10	9.4 (6.3-13.6)
	Stratford-on-Avon	3	2.2 (1.0-4.3)
	Warwick	11	8.1 (5.6-11.4)
	Wolverhampton	68	26.7 (23.2-30.7)
	Worcestershire	26	4.5 (3.5-5.6)
	Bromsgrove	2	2.1 (0.8-4.6)
	Malvern Hills	2	2.2 (0.7-5.1)
	Redditch	7	8.7 (5.4-13.1)
	Worcester	7	7.3 (4.6-11.0)
	Wychavon	5	4.2 (2.3-6.9)
	Wyre Forest	2	2.4 (0.9-4.9)
South East		650	7.5 (7.2-7.9)
	Bracknell Forest	9	7.6 (5.0-11.1)
	Brighton and Hove	21	7.3 (5.6-9.4)
	Buckinghamshire	43	8.2 (6.9-9.8)
	Aylesbury Vale	13	6.9 (4.9-9.4)
	Chiltern	5	5.3 (3.0-8.8)
	South Bucks	6	9.2 (5.6-14.4)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
South East continued	Wycombe	19	10.9 (8.2-14.1)
	East Sussex	23	4.2 (3.3-5.3)
	Eastbourne	6	6.2 (3.8-9.7)
	Hastings	7	7.3 (4.5-11.3)
	Lewes	3	3.3 (1.6-6.1)
	Rother	3	3.6 (1.7-6.7)
	Wealden	3	1.9 (0.9-3.7)
	Hampshire	52	3.8 (3.3-4.5)
	Basingstoke and Deane	10	6.0 (4.1-8.5)
	East Hampshire	2	1.4 (0.5-3.3)
	Eastleigh	4	2.9 (1.4-5.1)
	Fareham	5	4.1 (2.2-6.9)
	Gosport	1	1.2 (0.2-3.5)
	Hart	2	2.1 (0.8-4.7)
	Havant	3	2.2 (0.9-4.3)
	New Forest	2	1.3 (0.5-2.7)
	Rushmoor	18	19.3 (14.5-25.1)
	Test Valley	2	1.7 (0.6-3.6)
	Winchester	3	2.5 (1.1-4.8)
	Isle of Wight	2	1.2 (0.4-2.8)
	Kent	100	6.6 (5.9-7.4)
	Ashford	11	8.7 (5.9-12.2)
	Canterbury	8	5.3 (3.4-7.8)
	Dartford	10	9.5 (6.3-13.6)
	Dover	4	3.5 (1.8-6.2)
	Gravesham	17	16.2 (12.0-21.3)
	Maidstone	13	7.8 (5.5-10.7)
	Sevenoaks	5	4.5 (2.6-7.4)
	Shepway	6	5.5 (3.2-8.7)
	Swale	5	3.6 (2.0-5.9)
	Thanet	11	8.0 (5.5-11.2)
	Tonbridge and Malling	4	2.9 (1.5-5.3)
	Tunbridge Wells	6	5.5 (3.3-8.5)
	Medway	15	5.6 (4.1-7.5)
	Oxfordshire	63	9.4 (8.1-10.8)
	Cherwell	17	12.0 (9.0-15.7)
	Oxford	31	19.7 (15.9-24.1)
	South Oxfordshire	5	3.4 (1.9-5.7)
	Vale of White Horse	5	3.7 (2.0-6.3)
	West Oxfordshire	5	4.9 (2.8-8.0)
	Portsmouth	16	7.5 (5.5-9.9)
Reading	56	34.7 (29.6-40.3)	

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
South East continued	Slough	69	47.8 (41.5-54.7)
	Southampton	31	12.5 (10.1-15.3)
	Surrey	68	5.8 (5.1-6.7)
	Elmbridge	5	3.5 (1.9-5.9)
	Epsom and Ewell	6	8.1 (4.9-12.7)
	Guildford	7	4.7 (2.8-7.2)
	Mole Valley	1	1.5 (0.4-4.0)
	Reigate and Banstead	13	9.1 (6.5-12.4)
	Runnymede	5	6.3 (3.6-10.2)
	Spelthorne	8	8.2 (5.2-12.1)
	Surrey Heath	6	6.5 (3.8-10.4)
	Tandridge	2	2.0 (0.6-4.6)
	Waverley	2	1.9 (0.8-3.9)
	Woking	13	12.7 (9.0-17.5)
	West Berkshire	8	5.1 (3.3-7.6)
	West Sussex	48	5.8 (4.9-6.8)
	Adur	1	1.6 (0.3-4.6)
	Arun	8	5.0 (3.1-7.5)
	Chichester	4	3.5 (1.8-6.0)
	Crawley	21	19.1 (14.7-24.4)
	Horsham	4	3.0 (1.5-5.2)
	Mid Sussex	6	3.9 (2.3-6.3)
	Worthing	5	4.4 (2.4-7.3)
	Windsor and Maidenhead	12	8.4 (5.9-11.6)
	Wokingham	16	10.3 (7.6-13.6)
	North West		643
	Blackburn with Darwen	43	29.0 (24.2-34.5)
	Blackpool	13	9.5 (6.8-12.9)
	Bolton	52	18.6 (15.8-21.8)
	Bury	19	10.3 (7.8-13.3)
	Cheshire East	17	4.5 (3.4-6.0)
	Cheshire West and Chester	11	3.4 (2.4-4.8)
	Cumbria	12	2.4 (1.7-3.3)
	Allerdale	3	2.8 (1.2-5.4)
	Barrow-in-Furness	2	2.5 (0.8-5.7)
	Carlisle	3	2.5 (1.1-4.9)
	Copeland	1	1.4 (0.3-4.2)
	Eden	1	1.3 (0.2-4.6)
	South Lakeland	3	3.2 (1.5-5.9)
	Halton	3	2.4 (1.1-4.5)
	Knowsley	3	2.3 (1.1-4.2)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
North West continued	Lancashire	75	6.3 (5.5-7.2)
	Burnley	5	5.4 (2.9-9.0)
	Chorley	4	3.9 (2.1-6.6)
	Fylde	2	2.6 (1.0-5.7)
	Hyndburn	9	11.2 (7.4-16.3)
	Lancaster	3	2.4 (1.1-4.3)
	Pendle	15	17.0 (12.5-22.7)
	Preston	22	15.9 (12.3-20.2)
	Ribble Valley	1	1.7 (0.4-5.0)
	Rossendale	4	5.3 (2.6-9.5)
	South Ribble	5	4.3 (2.3-7.2)
	West Lancashire	2	2.1 (0.8-4.3)
	Wyre	2	1.8 (0.7-4.0)
	Liverpool	40	8.4 (7.0-10.1)
	Manchester	141	27.0 (24.5-29.7)
	Oldham	50	21.8 (18.5-25.6)
	Rochdale	29	13.6 (10.9-16.8)
	Salford	29	12.1 (9.7-14.9)
	Sefton	7	2.6 (1.6-3.9)
	St. Helens	3	1.9 (0.9-3.5)
	Stockport	16	5.7 (4.2-7.5)
	Tameside	19	8.7 (6.6-11.3)
	Trafford	26	11.4 (9.0-14.1)
Warrington	10	5.0 (3.4-7.1)	
Wigan	13	4.1 (2.9-5.5)	
Wirral	9	2.8 (1.8-4.1)	
Yorkshire and the Humber		514	9.6 (9.1-10.1)
	Barnsley	8	3.5 (2.3-5.2)
	Bradford	118	22.3 (20.0-24.7)
	Calderdale	17	8.2 (6.1-10.8)
	Doncaster	22	7.3 (5.7-9.3)
	East Riding of Yorkshire	6	1.7 (1.0-2.7)
	Kingston upon Hull, City of	17	6.5 (4.8-8.5)
	Kirklees	75	17.3 (15.1-19.7)
	Leeds	100	13.0 (11.6-14.5)
	North East Lincolnshire	5	2.9 (1.6-4.9)
	North Lincolnshire	11	6.3 (4.3-8.9)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
Yorkshire and the Humber continued	North Yorkshire	15	2.5 (1.8-3.3)
	Craven	2	3.0 (1.0-7.0)
	Hambleton	1	1.5 (0.4-3.8)
	Harrogate	5	3.0 (1.6-5.0)
	Richmondshire	3	5.0 (2.2-9.9)
	Ryedale	1	1.3 (0.2-4.6)
	Scarborough	3	2.8 (1.3-5.3)
	Selby	1	1.2 (0.2-3.4)
	Rotherham	14	5.5 (4.0-7.4)
	Sheffield	83	14.7 (12.9-16.6)
	Wakefield	19	5.6 (4.3-7.3)
	York	5	2.6 (1.5-4.2)
East of England		427	6.8 (6.4-7.2)
	Bedford	22	13.4 (10.4-17.1)
	Cambridgeshire	38	6.0 (4.9-7.2)
	Cambridge	13	9.8 (7.0-13.5)
	East Cambridgeshire	2	2.7 (1.1-5.5)
	Fenland	8	7.8 (5.0-11.8)
	Huntingdonshire	9	5.0 (3.3-7.3)
	South Cambridgeshire	7	4.6 (2.8-7.0)
	Central Bedfordshire	8	3.1 (2.0-4.6)
	Essex	60	4.2 (3.6-4.9)
	Basildon	13	7.2 (5.1-9.9)
	Braintree	3	2.0 (0.9-3.8)
	Brentwood	6	8.0 (4.7-12.6)
	Castle Point	3	3.8 (1.8-6.9)
	Chelmsford	6	3.3 (1.9-5.3)
	Colchester	6	3.1 (1.8-5.0)
	Epping Forest	8	6.5 (4.2-9.6)
	Harlow	8	9.5 (6.1-14.1)
	Maldon	1	1.6 (0.3-4.7)
	Rochford	1	0.8 (0.1-2.8)
	Tendring	3	2.1 (1.0-4.1)
	Uttlesford	3	3.2 (1.4-6.3)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
East of England continued	Hertfordshire	78	6.8 (5.9-7.7)
	Broxbourne	7	7.0 (4.3-10.8)
	Dacorum	6	4.0 (2.4-6.3)
	East Hertfordshire	5	3.3 (1.8-5.5)
	Hertsmere	9	8.5 (5.5-12.4)
	North Hertfordshire	8	6.1 (3.9-9.1)
	St Albans	7	4.6 (2.8-7.1)
	Stevenage	9	10.1 (6.6-14.8)
	Three Rivers	6	6.3 (3.6-10.0)
	Watford	15	15.8 (11.5-21.1)
	Welwyn Hatfield	8	7.2 (4.6-10.6)
	Luton	63	29.8 (25.7-34.4)
	Milton Keynes	26	10.2 (8.1-12.7)
	Norfolk	35	4.0 (3.3-4.9)
	Breckland	3	2.5 (1.2-4.6)
	Broadland	2	1.6 (0.6-3.5)
	Great Yarmouth	9	8.8 (5.8-12.9)
	King's Lynn and West Norfolk	6	3.8 (2.2-6.0)
	North Norfolk	2	2.3 (0.9-4.7)
	Norwich	11	8.0 (5.5-11.2)
	South Norfolk	2	1.8 (0.7-3.7)
	Peterborough	44	23.2 (19.4-27.5)
	Southend-on-Sea	13	7.5 (5.4-10.2)
	Suffolk	28	3.8 (3.1-4.7)
	Babergh	2	1.9 (0.6-4.4)
	Forest Heath	3	4.8 (2.2-9.1)
	Ipswich	9	6.4 (4.2-9.4)
	Mid Suffolk	2	2.4 (0.9-4.9)
	St Edmundsbury	6	5.1 (2.9-8.1)
	Suffolk Coastal	3	2.1 (0.9-4.2)
	Waveney	4	3.7 (2.0-6.4)
	Thurrock	9	5.3 (3.5-7.8)
	East Midlands		389
	Derby	35	13.8 (11.3-16.8)
	Derbyshire	22	2.8 (2.2-3.6)
	Amber Valley	4	3.5 (1.9-6.0)
	Bolsover	1	1.7 (0.5-4.4)
	Chesterfield	5	5.1 (2.9-8.3)
	Derbyshire Dales	1	0.9 (0.1-3.4)
	Erewash	4	3.5 (1.8-6.1)
	High Peak	2	2.2 (0.8-4.8)
	North East Derbyshire	1	1.0 (0.2-2.9)
	South Derbyshire	3	3.4 (1.6-6.2)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
East Midlands continued	Leicester	141	41.8 (37.9-46.0)
	Leicestershire	27	4.0 (3.2-5.0)
	Blaby	5	4.9 (2.7-8.2)
	Charnwood	7	3.8 (2.3-5.9)
	Harborough	4	4.9 (2.6-8.4)
	Hinckley and Bosworth	3	2.8 (1.3-5.3)
	Melton	0	-
	North West Leicestershire	3	3.5 (1.7-6.4)
	Oadby and Wigston	5	8.9 (5.0-14.7)
	Lincolnshire	32	4.4 (3.6-5.4)
	Boston	8	12.0 (7.7-17.9)
	East Lindsey	6	4.1 (2.4-6.6)
	Lincoln	4	4.2 (2.1-7.3)
	North Kesteven	2	1.5 (0.5-3.5)
	South Holland	2	2.6 (1.0-5.3)
	South Kesteven	7	5.3 (3.3-8.1)
	West Lindsey	3	3.6 (1.7-6.7)
	Northamptonshire	47	6.6 (5.5-7.8)
	Corby	3	5.1 (2.4-9.4)
	Daventry	3	3.4 (1.5-6.6)
	East Northamptonshire	3	3.0 (1.3-5.9)
	Kettering	4	4.1 (2.1-7.2)
	Northampton	27	12.3 (9.8-15.3)
	South Northamptonshire	1	1.5 (0.4-3.9)
	Wellingborough	6	7.8 (4.6-12.4)
	Nottingham	54	17.1 (14.5-19.9)
	Nottinghamshire	29	3.6 (2.9-4.5)
	Ashfield	5	3.8 (2.1-6.4)
	Bassetlaw	3	2.6 (1.2-5.0)
	Broxtowe	6	5.4 (3.2-8.5)
	Gedling	5	4.3 (2.4-7.1)
	Mansfield	5	4.4 (2.4-7.4)
	Newark and Sherwood	2	2.0 (0.8-4.1)
	Rushcliffe	3	2.9 (1.4-5.4)
Rutland	2	4.4 (1.4-10.3)	
South West		311	5.7 (5.4-6.1)
	Bath and North East Somerset	14	7.5 (5.4-10.2)
	Bournemouth	13	7.0 (5.0-9.5)
	Bristol, City of	91	20.6 (18.2-23.2)
	Cornwall	13	2.4 (1.7-3.3)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
South West continued	Devon	29	3.8 (3.1-4.7)
	East Devon	2	1.2 (0.4-2.9)
	Exeter	6	4.6 (2.7-7.3)
	Mid Devon	2	2.5 (0.9-5.5)
	North Devon	3	3.5 (1.7-6.5)
	South Hams	3	3.6 (1.6-6.8)
	Teignbridge	10	7.6 (5.1-10.9)
	Torrige	1	1.0 (0.1-3.7)
	West Devon	3	6.2 (2.9-11.3)
	Dorset	10	2.3 (1.5-3.3)
	Christchurch	0	0.7 (0.0-3.8)
	East Dorset	2	2.6 (1.1-5.4)
	North Dorset	1	1.9 (0.5-4.9)
	Purbeck	1	2.2 (0.5-6.4)
	West Dorset	2	1.7 (0.5-3.9)
	Weymouth and Portland	3	4.6 (2.1-8.7)
	Gloucestershire	34	5.6 (4.6-6.8)
	Cheltenham	8	7.2 (4.6-10.6)
	Cotswold	2	2.0 (0.6-4.6)
	Forest of Dean	1	1.2 (0.2-3.5)
	Gloucester	14	10.9 (7.8-14.7)
	Stroud	6	4.9 (2.9-7.9)
	Tewkesbury	4	4.7 (2.4-8.2)
	Isles of Scilly	0	-
	North Somerset	8	4.0 (2.6-5.9)
	Plymouth	14	5.4 (3.9-7.2)
	Poole	5	3.3 (1.9-5.5)
	Somerset	14	2.5 (1.8-3.4)
	Mendip	5	4.2 (2.3-7.1)
	Sedgemoor	3	2.2 (1.0-4.4)
	South Somerset	5	2.8 (1.6-4.8)
	Taunton Deane	2	1.5 (0.5-3.4)
	West Somerset	0	-
	South Gloucestershire	18	6.6 (5.0-8.6)
Swindon	23	10.7 (8.3-13.5)	
Torbay	8	6.0 (3.9-9.0)	
Wiltshire	15	3.2 (2.3-4.2)	
North East		145	5.5 (5.0-6.1)
	County Durham	10	1.9 (1.3-2.7)
	Darlington	5	5.1 (2.9-8.2)
	Gateshead	14	6.8 (4.9-9.2)
	Hartlepool	4	4.0 (2.0-7.1)

PHE Centre*	Upper tier local authority and local authority district**	Average annual number of cases#	Average annual rate per 100,000 (95% CI)
North East continued	Middlesbrough	14	9.8 (7.0-13.3)
	Newcastle upon Tyne	41	14.1 (11.8-16.9)
	North Tyneside	10	4.8 (3.2-6.9)
	Northumberland	8	2.5 (1.6-3.8)
	Redcar and Cleveland	4	3.0 (1.5-5.2)
	South Tyneside	8	5.6 (3.6-8.3)
	Stockton-on-Tees	9	4.6 (3.1-6.7)
	Sunderland	19	6.9 (5.2-8.9)

* Ordered by decreasing total number of cases in 2015

** Those highlighted in bold are upper-tier local authority only, those indented are local authority district only, and those neither highlighted nor indented are both an upper tier local authority and a local authority district

Average number of cases in a local authority district may not be the same as the sum of the average number of cases in the corresponding upper tier local authority due to rounding

CI - confidence intervals

Table 5: Number and proportion of culture confirmed TB cases and pulmonary TB cases by country, UK, 2006-2015

Year	Country																			
	England				Wales				Northern Ireland				Scotland				UK			
	Culture confirmed TB cases		Culture confirmed pulmonary TB cases		Culture confirmed TB cases		Culture confirmed pulmonary TB cases		Culture confirmed TB cases		Culture confirmed pulmonary TB cases		Culture confirmed TB cases		Culture confirmed pulmonary TB cases		Culture confirmed TB cases		Culture confirmed pulmonary TB cases	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2006	4,668	60.8	2,980	69.4	128	69.9	89	79.5	47	77.0	36	83.7	283	74.3	189	80.1	5,126	61.7	3,294	70.3
2007	4,448	58.7	2,850	68.7	128	62.7	93	68.9	57	82.6	43	93.5	288	70.4	212	76.3	4,921	59.6	3,198	69.4
2008	4,537	58.1	2,904	67.8	102	60.4	73	71.6	50	75.8	30	81.1	317	70.9	212	79.7	5,006	59.0	3,219	68.6
2009	4,670	57.6	3,008	68.1	119	55.9	80	63.5	49	83.1	38	86.4	325	66.9	215	74.4	5,163	58.2	3,341	68.5
2010	4,609	60.0	2,867	70.4	107	70.4	72	77.4	54	81.8	35	94.6	325	64.6	228	70.2	5,095	60.7	3,202	70.8
2011	5,031	60.8	3,075	71.7	94	71.8	56	78.9	47	77.0	38	80.9	295	66.0	195	68.9	5,467	61.3	3,364	71.7
2012	4,897	60.6	2,949	70.4	105	77.2	63	80.8	53	60.9	36	76.6	276	68.1	165	75.0	5,331	61.2	3,213	70.8
2013	4,393	60.5	2,712	72.9	87	61.3	62	73.8	45	61.6	29	69.0	241	61.8	156	71.9	4,766	60.6	2,959	72.9
2014	3,924	60.6	2,489	73.2	81	71.1	55	85.9	64	67.4	48	70.6	235	68.3	161	71.2	4,304	61.3	2,753	73.2
2015	3,460	60.1	2,228	72.7	80	69.0	59	90.8	38	63.3	32	84.2	200	65.4	125	77.2	3,778	60.5	2,444	73.4

Over the past ten years in the UK, the proportion of TB cases that were culture confirmed has remained relatively stable. Culture confirmation was higher in pulmonary TB cases. The proportion of TB cases culture confirmed was generally slightly lower in England compared with other countries in the UK.

Table 6: Number and proportion of TB cases with initial drug resistance by country, UK, 2006-2015

Year	Country																													
	England						Wales						Northern Ireland						Scotland						UK					
	Isoniazid resistance without MDR-TB cases*		MDR/RR-TB cases**		XDR-TB cases#		Isoniazid resistance without MDR-TB cases*		MDR/RR-TB cases**		XDR-TB cases#		Isoniazid resistance without MDR-TB cases*		MDR/RR-TB cases**		XDR-TB cases#		Isoniazid resistance without MDR-TB cases*		MDR/RR-TB cases**		XDR-TB cases#		Isoniazid resistance without MDR-TB cases*		MDR/RR-TB cases**		XDR-TB cases#	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
2006	283	6.1	74	1.6	0	0.00	5	3.9	1	0.8	0	0.0	1	2.2	2	4.4	0	0.00	12	4.2	2	0.7	0	0.0	301	5.9	79	1.6	0	0.00
2007	256	5.8	62	1.4	0	0.00	10	7.8	4	3.1	0	0.0	2	3.5	3	5.3	0	0.00	8	2.8	5	1.7	0	0.0	276	5.7	74	1.5	0	0.00
2008	216	4.8	68	1.5	2	0.04	3	3.0	3	3.0	0	0.0	2	4.0	1	2.0	0	0.00	12	3.8	3	1.0	0	0.0	233	4.7	75	1.5	2	0.04
2009	268	5.8	70	1.5	2	0.04	7	5.9	1	0.8	0	0.0	0	0.0	0	0.0	0	0.00	18	5.6	2	0.6	0	0.0	293	5.8	73	1.4	2	0.04
2010	227	5.0	75	1.6	2	0.04	6	5.7	0	0.0	0	0.0	2	3.9	1	2.0	1	1.96	15	4.6	1	0.3	0	0.0	250	5.0	77	1.5	3	0.06
2011	295	5.9	89	1.8	6	0.12	1	1.1	2	2.1	0	0.0	1	2.3	2	4.5	0	0.00	18	6.1	2	0.7	0	0.0	315	5.8	95	1.8	6	0.11
2012	253	5.2	87	1.8	2	0.04	9	8.7	1	1.0	0	0.0	3	5.7	0	0.0	0	0.00	13	4.7	2	0.7	0	0.0	278	5.3	90	1.7	2	0.04
2013	236	5.4	79	1.8	3	0.07	6	6.9	2	2.3	0	0.0	6	13.3	0	0.0	0	0.00	11	4.7	5	2.1	0	0.0	259	5.5	86	1.8	3	0.06
2014	215	5.5	56	1.4	3	0.08	7	8.6	3	3.7	0	0.0	3	4.7	1	1.6	0	0.00	16	6.9	3	1.3	0	0.0	241	5.6	63	1.5	3	0.07
2015	192	5.6	54	1.6	10	0.29	5	6.3	1	1.3	0	0.0	3	7.9	0	0.0	0	0.00	9	4.5	2	1.0	0	0.0	209	5.6	57	1.5	10	0.27
Total	2,441	5.5	714	1.6	30	0.07	59	5.7	18	1.8	0	0.0	23	4.6	10	2.0	1	0.20	132	4.8	27	1.0	0	0.0	2,655	5.5	769	1.6	31	0.06

* Culture confirmed cases with DST results for at least isoniazid and rifampicin who are resistant to isoniazid without MDR-TB

** Culture confirmed cases with DST results for at least isoniazid and rifampicin who are resistant to rifampicin without MDR-TB

Culture confirmed cases with DST results for at least isoniazid and rifampicin who are resistant to isoniazid and rifampicin, at least one injectable agent, and at least one fluoroquinolone

The proportion of culture confirmed TB cases with isoniazid resistance without MDR-TB and MDR/RR-TB has remained stable in the UK over the past ten years. Due to small numbers in Wales, Northern Ireland and Scotland, there have been fluctuations in the proportion of cases with isoniazid resistance without MDR-TB and with MDR/RR-TB over the past ten years. With the exception of one case in Northern Ireland, all XDR-TB cases were notified in England.

Table 7: TB outcome at 12 months for drug sensitive TB cases with expected treatment duration <12 months* by country, UK, 2014

Country	Completed		Died		Lost to follow-up		Still on treatment		Stopped		Not evaluated**		Total n
	n	%	n	%	n	%	n	%	n	%	n	%	
England	4,827	84.4	277	4.8	223	3.9	280	4.9	60	1.0	49	0.9	5,716
Wales	77	83.7	8	8.7	3	3.3	3	3.3	0	0.0	1	1.1	92
Northern Ireland	73	83.9	4	4.6	4	4.6	5	5.7	1	1.1	0	0.0	87
Scotland	233	73.5	19	6.0	9	2.8	9	2.8	7	2.2	40	12.6	317
UK	5,210	83.9	308	5.0	239	3.8	297	4.8	68	1.1	90	1.4	6,212

* Excludes initial and acquired resistance to rifampicin and MDR-TB cases and those treated with an MDR-TB regimen. Also excludes those with CNS, spinal, miliary or cryptic disseminated TB

** Not evaluated includes missing, unknown and transferred out

For drug sensitive TB cases notified in 2014 with an expected treatment duration of less than 12 months, treatment completion at 12 months varied by country; the highest proportion was in England and the lowest was in Scotland. Scotland had the highest proportion of cases with no recorded TB outcome (not evaluated).

Table 8: Treatment completion at 12 months for drug sensitive TB cases with expected treatment duration <12 months* by country, UK, 2005-2014

Country	2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
England	4,875	70.3	5,214	75.5	5,286	78.1	5,585	80.0	5,912	81.9	5,632	82.6	6,004	81.9	6,001	83.5	5,486	85.4	4,827	84.4
Wales	116	67.4	115	66.9	113	60.8	115	76.2	145	75.9	107	77.5	90	76.3	91	75.8	100	82.6	77	83.7
Northern Ireland	35	52.2	28	50.0	46	73.0	36	61.0	41	75.9	39	67.2	42	79.2	54	69.2	43	74.1	73	83.9
Scotland	260	74.1	262	71.8	281	72.4	284	67.9	319	70.0	362	77.0	322	75.9	304	79.4	287	81.5	233	73.5
UK	5,286	70.3	5,619	75.0	5,726	77.3	6,020	79.1	6,417	81.0	6,140	82.1	6,458	81.4	6,450	83.0	5,916	85.1	5,210	83.9

* Excludes initial and acquired resistance to rifampicin and MDR-TB cases and those treated with an MDR-TB regimen. Also excludes those with CNS, spinal, miliary or cryptic disseminated TB

Treatment completion at 12 months for drug sensitive TB cases with an expected treatment duration of less than 12 months has improved over the past ten years. Due to small numbers of cases in Northern Ireland and Wales, there have been annual fluctuations in the proportion of cases completing treatment over the past ten years.

Table 9: Last recorded TB outcome for the entire drug sensitive TB cases* by country, UK, 2014

Country	Completed		Died		Lost to follow-up		Still on treatment		Stopped		Not evaluated**		Total n
	n	%	n	%	n	%	n	%	n	%	n	%	
England	5,414	84.5	351	5.5	266	4.2	246	3.8	71	1.1	57	0.9	6,405
Wales	91	82.0	11	9.9	3	2.7	5	4.5	0	0.0	1	0.9	111
Northern Ireland	82	87.2	5	5.3	4	4.3	2	2.1	1	1.1	0	0.0	94
Scotland	249	73.0	20	5.9	10	2.9	12	3.5	8	2.3	42	12.3	341
UK	5,836	84.0	387	5.6	283	4.1	265	3.8	80	1.2	100	1.4	6,951

* Excludes initial and acquired resistance to rifampicin and MDR-TB cases and those treated with an MDR-TB regimen

** Not evaluated includes missing, unknown and transferred out

For drug sensitive TB cases notified in 2014, the last recorded outcome varied by country; the highest proportion who completed treatment was in England and the lowest was in Scotland. A higher proportion of cases in Wales had died compared with other countries. Scotland had the highest proportion of cases with no recorded TB outcome (not evaluated).