GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

Tuberculosis in Wales

Annual Report

Data to the end of 2025

Public Health Wales

Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales. We work locally, nationally and internationally, with our partners and communities.

Communicable Disease Surveillance Centre
Public Health Wales
Number 2 Capital Quarter
Tyndall Street
Cardiff
CF10 4BZ
www.publichealthwales.org

Acknowledgements
Public Health Wales would like to thank all those who contributed to data and surveillance systems for Tuberculosis in Wales.
Report prepared by the BBV, STI, TB and Inequalities specialist subject group, Public Health Wales Communicable Disease Surveillance Centre (CDSC).

Suggested Citation: Public Health Wales (2026). Tuberculosis in Wales Annual Report (Data to the end of 2025). Cardiff, Public Health Wales.

Table of Contents

1 Executive Summary 5
1.1 Purpose 5
1.2 Key findings and trends 5
2 Data sources, limitations and methodology 7
2.1 National TB Surveillance system 7
2.2 Welsh Index of Multiple Deprivation 7
2.3 UKHSA whole genome sequencing and cluster analysis 7
2.4 Office for National Statistics 7
3 Tuberculosis (TB) notifications and incidence 9
3.1 Demographic profile of TB cases 10
3.1.1. Geographical distribution 10
3.1.2 Sex and age distribution 11
3.1.3 Country of birth and ethnicity 11
3.1.4 Social risk factors, deprivation and co-morbidities 14
4 Diagnosis, microbiology and drug resistance 18
4.1 Diagnosis and site of infection 18
4.2 Multi-drug (MDR) and extensively drug resistant (XDR) cases 19
5 Treatment and outcomes 20
5.1 Symptom onset to treatment initiation 20
5.2 Treatment outcomes 20
5.2.1 TB related mortality 23
6 TB prevention and control 24
7 Whole genome sequencing 25

Figures

Figure 1 Rates of Tuberculosis per 100,000 population in the UK, 2024 9
Figure 2 Number of cases and rate of TB per 100,000 population (red line) in Wales, 2016-2025 . 9
Figure 3 Five-year average rate of TB per 100,000 population by Local Authority of Residence, 2021-2025 10
Figure 4 Rate of TB per 100,000 population by age group and year, 2021-2025 11
Figure 5 Five-year average annual number of TB cases and rate per 100,000 population by ethnic group, 2021-2025, Wales 13
Figure 6 Proportion (%) of UK born TB cases by ethnicity in Wales, 2021-2025 13
Figure 7 Time between entry to UK and TB notification for non-UK born cases in Wales, 2021-2025 14
Figure 8 Self-reported history of current social risk factors among TB patients in Wales 2021-2025 14
Figure 9 History of current self-reported social risk factors among UK-born TB patients in Wales, 2021-2025 15
Figure 10 History of current self-reported social risk factors among non-UK born TB patients in Wales, 2021-2025 16

Figure 11 5-year average rate of TB in Wales per 100,000 population by deprivation decile, 2021-2025 16
Figure 12 Time between symptom onset and start of treatment for TB cases in Wales, 2021-2025 20
Figure 13 TB treatment outcome at 12 months for drug sensitive cases with expected treatment duration greater than 12 months, Wales, 2020-2024 21

Tables

Table 1 TB notifications per 100,000 population by health board of residence from 2021-2025 . 10
Table 2 Number of notifications and rate of TB in Wales by sex, 2021-2025 11
Table 3 Number and proportion (%) of TB cases UK and non-UK born by year, 2021-2025 12
Table 4 Demographics of TB cases UK and non-UK born by year, 2021-2025 12
Table 5 Percentage of TB cases in Wales with co-morbidities, 2021-2025 17
Table 6 Number and percentage of TB cases in Wales by site of disease, 2021-2025 18
Table 7 Number and percentage of TB cases in Wales with bacteriological confirmation, 2021-2025 19
Table 8 Number and percentage of TB cases in Wales with previous diagnosis, 2021-2025 19
Table 9 Pulmonary TB cases with a time over four months between symptom onset and start of treatment in Wales, 2021-2025 20
Table 10 TB treatment completion at 12 months by age group[1] for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024 22
Table 11 TB treatment completion at 12 months by sex for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024 22
Table 12 TB treatment outcome at 12 months by Health Board of residence for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024 22
Table 13 TB treatment outcome at 12 months by site of disease for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2024[a] 23
Table 14 All drug sensitive and severe TB cases reported to have died at last recorded outcome, Wales, 2020-2024 23
Table 15 Percentage of cases who have received BCG vaccinations and percentage of cases with known status, 2021-2025 24

1 Executive Summary

1.1 Purpose

This report provides an epidemiological overview of tuberculosis (TB) in Wales. It includes data on newly diagnosed TB cases reported through the National Tuberculosis Surveillance System (NTBS). The report also includes Whole Genome Sequencing (WGS) data provided by the UK Health Security Agency (UKHSA), and supplemented using NTBS, to describe clusters of TB disease within Wales. The report is aimed at health professionals, policy makers, criminal justice, third sector agencies and academia.

1.2 Key findings and trends

- The number of newly diagnosed TB cases in Wales increased from 98 to 107 in 2025 (3.4 per 100,000 population) representing an increase in incidence from 3.1 to 3.4 per 100,000 population. Whilst Wales remains within the WHO definition of a low incidence country (<10 per 100,000 population), this is the highest rate in the past 10 years and there is substantial geographic variation in incidence.
- Aneurin Bevan University health board (UHB) had the highest rate of TB, surpassing rates in Cardiff and Vale UHB (5.8 and 4.4 per 100,000 population respectively).
- The five-year average rate of TB in Newport was 10.2 per 100,000 population, exceeding the WHO definition of low incidence.
- In 2025, rates of TB remained highest amongst males with 4.3 per 100,000 population compared to 2.5 per 100,000 population in females, consistent with previous years with the exception of 2022.
- The highest incidence rate was observed in cases aged 25 to 34 years old (7.3 per 100,000 population) an increase of 83% increase compared to 2024.
- The majority of cases notified in 2025 were born outside of the UK (65%), of these 77% were aged between 25 and 54 years old. There was a 24% increase in the number of UK-born cases in 2025 compared to the previous year.
- Of non-UK born cases with a recorded year of entry to the UK, 53% had an interval period of 2-6 years between arrival in the UK and notification to NTBS (median 4 years, IQR 2-13 years). It cannot be established whether these cases are the result of reactivation of TB infection acquired prior to arrival, new acquisition overseas after initial arrival, or transmission within the UK subsequent to arrival.
- The five-year average rate of TB was highest in those reporting Black-African and Pakistani ethnicity (76.3 and 75.3 per 100,000 population respectively).
- Overall, 16% of cases in 2025 self-reported having at least one social risk factor, with drug use and alcohol misuse being the most prevalent risk factors (both at 8% of cases). Six percent self-reported having two or more social risk factors, a decrease from 7% in 2024.
- Social risk factors were more frequently self-reported in UK born cases, with 25% of UK born cases reported having at least one social risk factor, compared to 11% in those born overseas.
- TB disease is more frequently reported in those living in the more deprived areas of Wales. The five-year average rate of TB in the most deprived decile increased from 5.6 to 6.4 per 100,000 population. In 2025, the rate in the most deprived

decile was 8.2 per 100,000 population and 2.6 per 100,000 population in the least deprived decile.

- In 2025, 76% of all cases were culture confirmed. Pulmonary disease was reported in 60 cases (56%) and of these, 92% had culture confirmation. This remains above the European Centre of Disease Prevention and Control (ECDC) target of 80% for culture confirmation of pulmonary tuberculosis.
- Of pulmonary (with or without extra pulmonary disease) cases with a sputum smear sample, 52% were sputum smear positive indicating high potential risk of onward infection.
- Of the 67 TB cases exhibiting symptoms in 2025, 28% had started treatment within two months of symptom onset. 12% of pulmonary cases started treatment over four months after symptom onset, an increase compared to 2024.
- In 2025, there was an increase in the number of MDR and pre-XDR cases.
- Where outcome data are available, 88% of cases newly diagnosed in 2024 have completed treatment within 12 months, an increase from 2023.

2 Data sources, limitations and methodology

2.1 National TB Surveillance system

The National TB Surveillance System (NTBS) is a surveillance system run by UK Health Security Agency (UKHSA) that provides detailed information on the epidemiology of tuberculosis in England, Wales, Scotland and Northern Ireland. Clinical teams notify newly diagnosed cases and update information on treatment outcomes. All people diagnosed with TB in Wales are reported through NTBS. Data extraction and cleaning is carried out by UKHSA to ensure deduplication across England and Wales prior to release to Public Health Wales for publication.

2.2 Welsh Index of Multiple Deprivation

The Welsh Index of Multiple Deprivation (WIMD)[1] is the official measure of relative deprivation for small areas in Wales. It is a National Statistic produced by Welsh Government. WIMD identifies areas with the highest concentrations of several different types of deprivation. The prime purpose of the index is to provide the evidence to inform planning and policy including funding or targeting of programmes and services for local areas. WIMD ranks all Lower Super Output Areas in Wales from 1 (most deprived) to 1,917 (least deprived).

WIMD is currently made up of eight separate domains (or types) of deprivation. Each domain is compiled from a range of different indicators. The domains included in WIMD 2025 are:

- Income
- Employment
- Health
- Education
- Access to Services
- Housing
- Community Safety
- Physical Environment

WIMD is a measure of multiple deprivation that is both an area-based measure and a measure of relative deprivation.

2.3 UKHSA whole genome sequencing and cluster analysis

Whole genome sequencing (WGS) on culture confirmed samples of TB in Wales is carried out by the Pathogen Genomics Unit (PenGU). Cluster analysis of WGS data to determine WGS-linked clusters of TB containing two or more Welsh cases is carried out by UKHSA. There is 12 single nucleotide polymorphism (SNP) distance cut-off for clustering isolates. Public Health Wales link patient information from NTBS with the sequence data from isolates.

2.4 Office for National Statistics

The Office for National Statistics (ONS) provides national and subnational mid-year population estimates for the UK and its constituent countries by adminisrative area, age

[1] Further information on the Welsh Index of Multiple Deprivation available at: https://www.gov.wales/welsh-index-multiple-deprivation

and sex (including components of population change, median age and population density). Population statistics for gender, age and location of residence are based on 2025 mid-year figures[2]. Population estimates for Ethnicity are based on the 2024 ONS census[3].

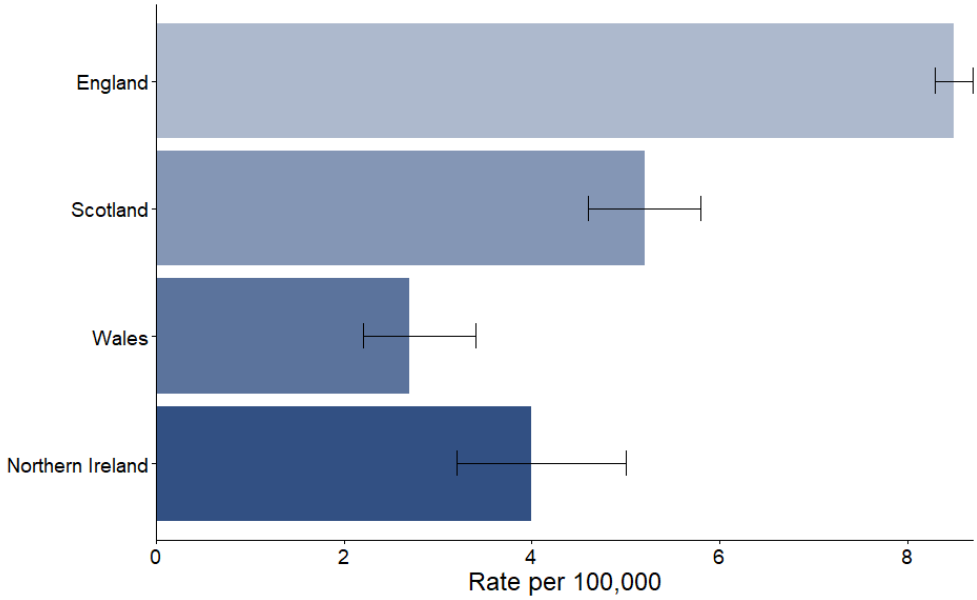
[2] Office for National Statistics. Mid-2023 population estimates: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/estimatesofthepopulationforenglandandwales
[3] Office for National Statistics. 2021 census: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/datasets/ethnicgroupbyageandsexinenglandandwales

3 Tuberculosis (TB) notifications and incidence

In 2025, a total of 107 newly diagnosed cases of TB were reported in Wales (3.4 per 100,000 population). This equates to a European age-standardised rate of 3.4 per 100,000 population. This represents an increase of 8.4% from the previous year (98 cases, 3.1 per 100,000 population).

The rate of TB disease in Wales remains the lowest in the UK with a notification rate of 3.1 per 100,000 in 2024 compared to the UK rate of 8.6 per 100,000 population. Four nations data are not yet available for 2025.

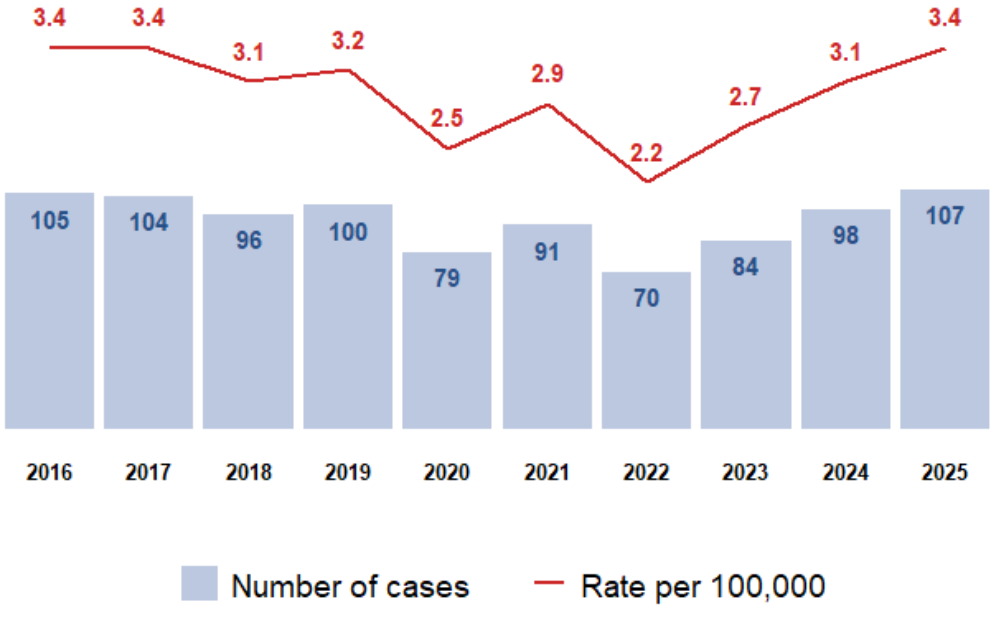
Figure 1 Rates of Tuberculosis per 100,000 population in the UK, 2024



Source: UKHSA, 2025

Notifications and rates of TB in Wales have increased by 1.9% over the past ten years from 2016 to 2025 (Figure 2).

Figure 2 Number of cases and rate of TB per 100,000 population (red line) in Wales, 2016-2025



Source: NTBS, 2025

3.1 Demographic profile of TB cases

3.1.1. Geographical distribution

In 2025, new TB cases were most frequently reported in residents in the Aneurin Bevan UHB and Cardiff and Vale UHB areas (35 and 23 cases respectively), representing a rate of 5.8 and 4.4 per 100,000 population respectively. The lowest rate was reported in Powys THB at 3 per 100,000 population. Rates per 100,000 population by health board of residence are shown in Table 1.

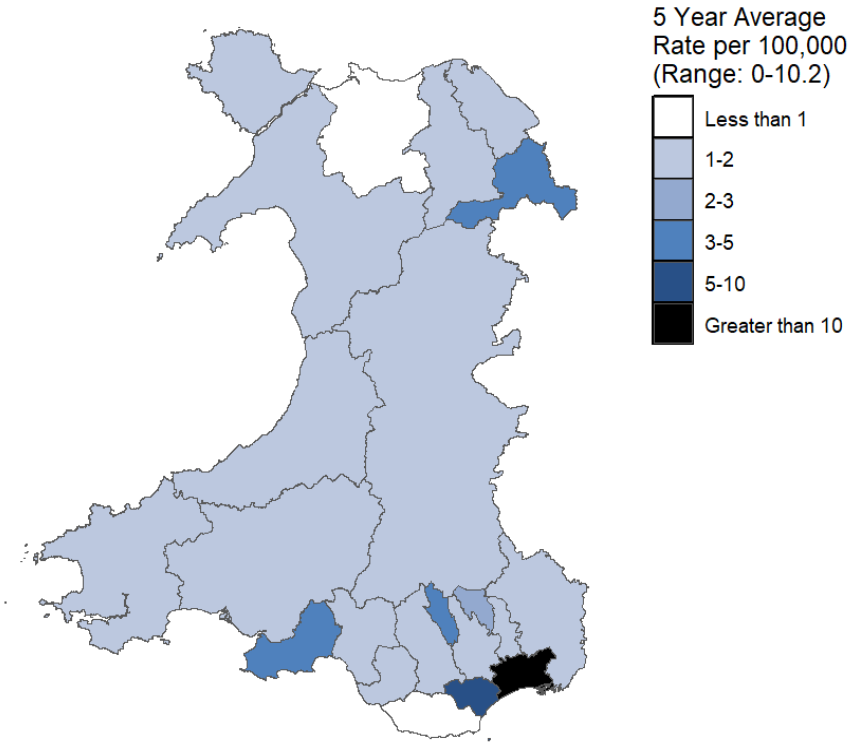
Table 1 TB notifications per 100,000 population by health board of residence from 2021-2025

Local Health Board	2021	2022	2023	2024	2025
Aneurin Bevan UHB	3.4	3.2	4.4	2.3	5.8
Betsi Cadwaladr UHB	2.5	1.5	0.7	2.0	1.9
Cardiff and Vale UHB	4.7	3.8	4.5	5.6	4.4
Cwm Taf Morgannwg UHB	2.7	2.0	0.2	2.2	1.8
Hywel Dda UHB	1.8	0.5	1.5	2.6	1.5
Powys THB	0.7	0.0	3.0	0.7	3.0
Swansea Bay UHB	2.4	2.3	3.6	4.1	3.5

Source: NTBS, 2025

Within health board area there is substantial variation in case rates by local authority of residence, as shown in Figure 3, with Newport and Cardiff reporting the highest rates year on year, with 5-year average rates (2021-2025) of 10.2 and 6.2 per 100,000 population respectively.

Figure 3 Five-year average rate of TB per 100,000 population by Local Authority of Residence, 2021-2025



Source: NTBS, 2025

3.1.2 Sex and age distribution

Of the 107 TB cases reported in 2025, 62.6% were male and 37.4% were female (rates of 4.3 and 2.5 per 100,000 population respectively), a consistent trend overtime with the exception of 2022, where the majority of cases were female (Table 2).

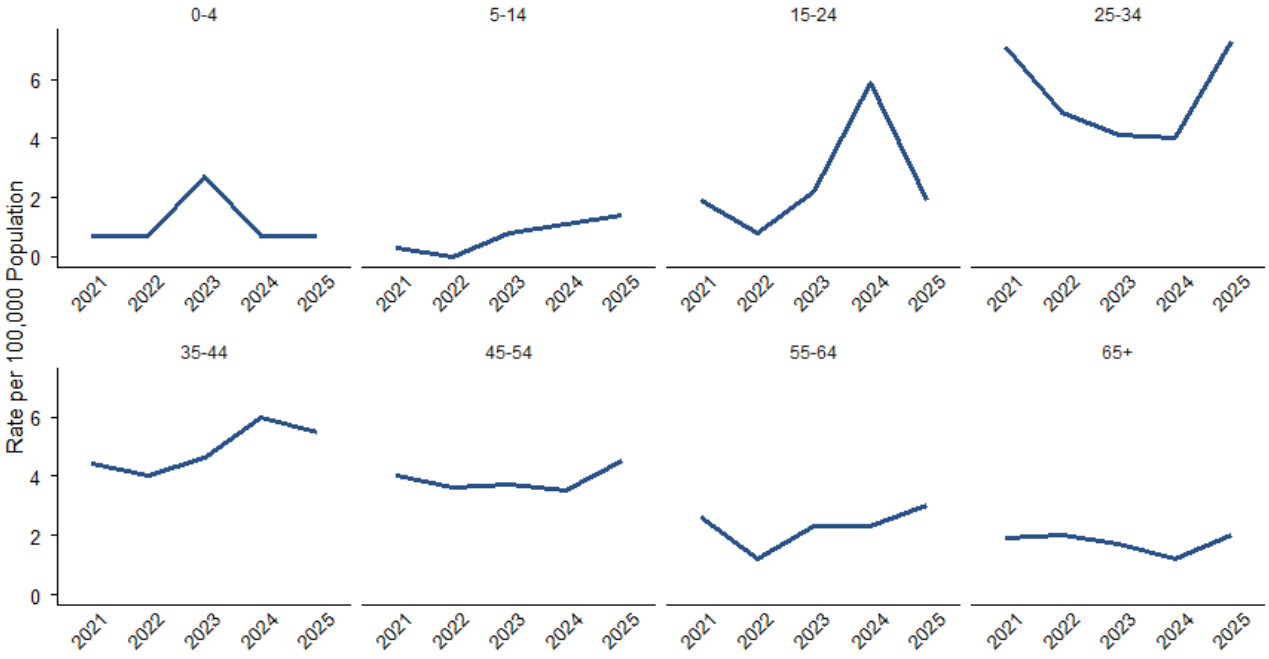
Table 2 Number of notifications and rate of TB in Wales by sex, 2021-2025

Sex	2021	2022	2023	2024	2025
Female	2.3 (37)	2.3 (37)	2.4 (39)	1.7 (27)	2.5 (40)
Male	3.6 (54)	2.1 (33)	2.9 (45)	4.5 (71)	4.3 (67)
Total	91	70	84	98	107

Source: NTBS, 2025

The TB incidence rate was highest in those aged 25-34 (7.3 per 100,000 population), an increase of 83% from the previous year and exceeding the 35-44 year age group. The increase in the 15-24 year olds seen in 2024 was not sustained in 2025 (5.9 and 1.9 per 100,000 population respectively)

Figure 4 Rate of TB per 100,000 population by age group and year, 2021-2025



Source: NTBS, 2025

3.1.3 Country of birth and ethnicity

Country of birth

The majority (65.4%) of TB cases reported in Wales were born overseas with 33.6% of cases born in UK. However, in 2025 there was a marked increase in cases born in the UK compared to 2024 (24% increase).

Table 3 Number and proportion (%) of TB cases UK and non-UK born by year, 2021-2025

Place of Birth	2021	2022	2023	2024	2025
Born Abroad	58 (64%)	54 (77%)	50 (60%)	69 (70%)	70 (65%)
Born in UK	33 (36%)	16 (23%)	34 (40%)	29 (30%)	36 (34%)
Not Known	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)
Total	91	70	84	98	107

Source: NTBS, 2025

Of the 70 born outside of the UK and notified in 2025, the most frequent countries of birth of cases were India (17.1%) and Pakistan (12.9%).

Table 4 Demographics of TB cases UK and non-UK born by year, 2021-2025

		2021		2022		2023		2024		2025	
		Non-UK born	**UK born**	**Non-UK born**	**UK born**	**Non-UK born**	**UK born**	**Non-UK born**	**UK born**	**Non-UK born**	**UK born**
Sex	Female	24	13	29	8	27	12	19	8	26	13
	Male	34	20	25	8	23	22	50	21	44	23
Age Group	0-24	≤10	≤5	≤5	≤5	9	6	19	8	≤10	≤5
	25-54	42	17	43	5	34	14	46	7	54	13
	55+	11	12	10	8	7	14	≤5	≤15	7	19

Source: NTBS, 2025

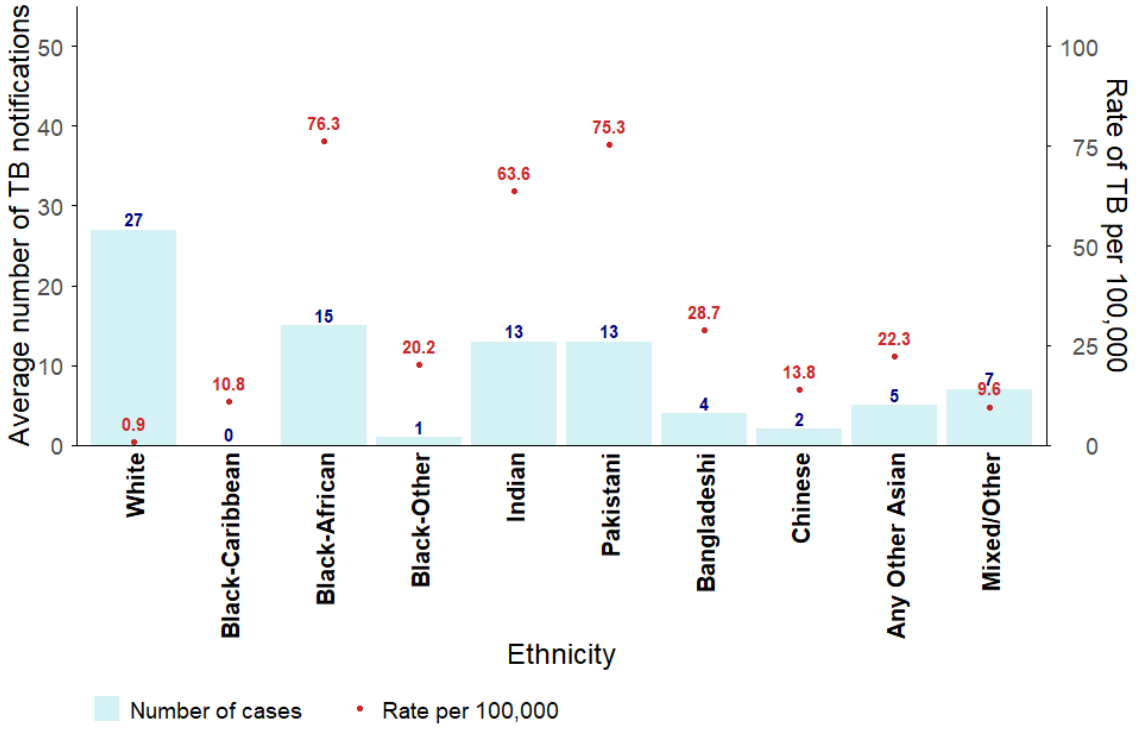
The majority of cases born outside of the UK were between the ages of 25 and 54, but the highest proportion of non-UK born cases were aged 55 or older (Table 4).

Ethnicity

In 2025, 30.8% of TB cases were reported in the White ethnic group. The highest rates have been recorded in the Black-African, Indian and Pakistani populations[4] (Figure 5).

[4] Rates per 100,000 population by ethnicity derived using ONS census data 2021 https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/datasets/ethnicgroupbyageandsexinenglandandwales

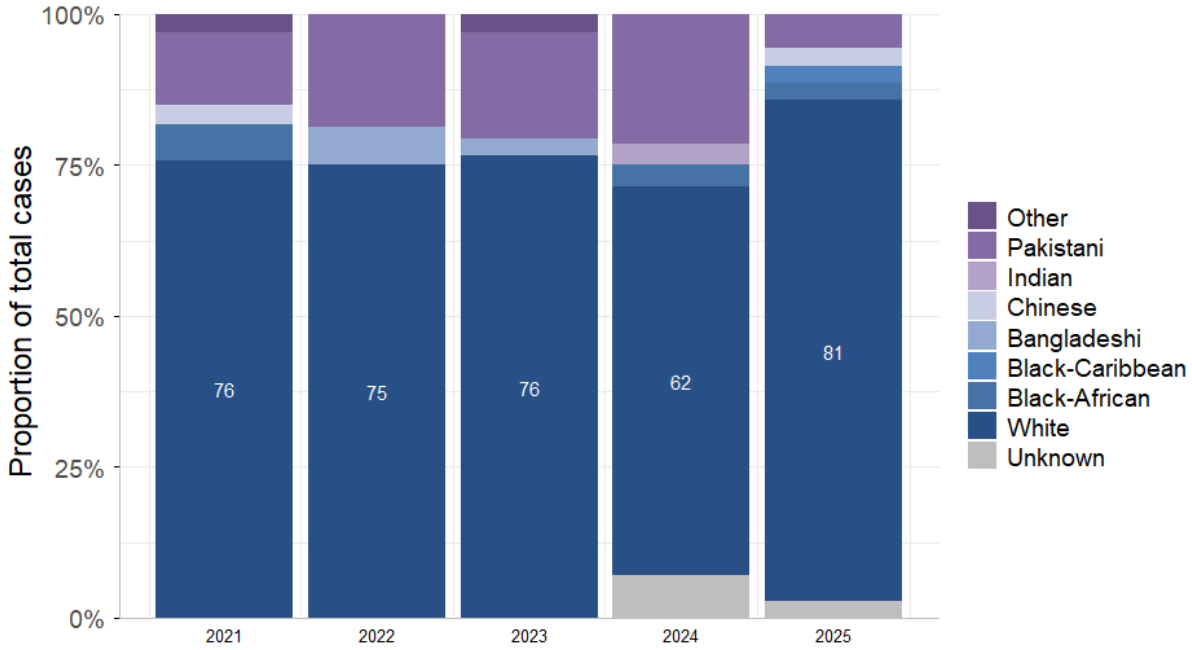
Figure 5 Five-year average annual number of TB cases and rate per 100,000 population by ethnic group, 2021-2025, Wales



Source: NTBS, 2025 and ONS Census, 2021

In 2025, 81% of UK born cases and 6% of non-UK born cases were of White ethnicity. The ethnic profile of UK born TB cases is shown in Figure 6.

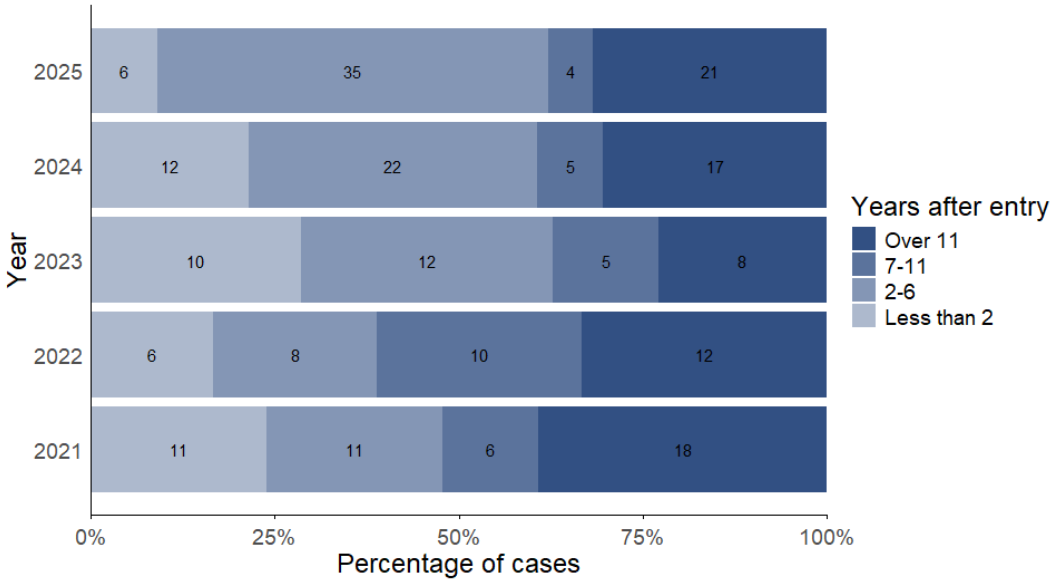
Figure 6 Proportion (%) of UK born TB cases by ethnicity in Wales, 2021-2025



Source: NTBS, 2025

Of the cases notified in 2025 with a date of arrival into the UK, 9% were diagnosed within 2 years of arrival. 32% were diagnosed with TB more than 11 years after arrival (Figure 7). The majority of cases were notified between 2 and 6 years from arrival into the UK (53%). It is not known what proportion of these cases were the result of reactivation of TB infection acquired prior to arrival, new acquisition overseas after initial arrival, or transmission within the UK subsequent to arrival.

Figure 7 Time between entry to UK and TB notification for non-UK born cases in Wales, 2021-2025



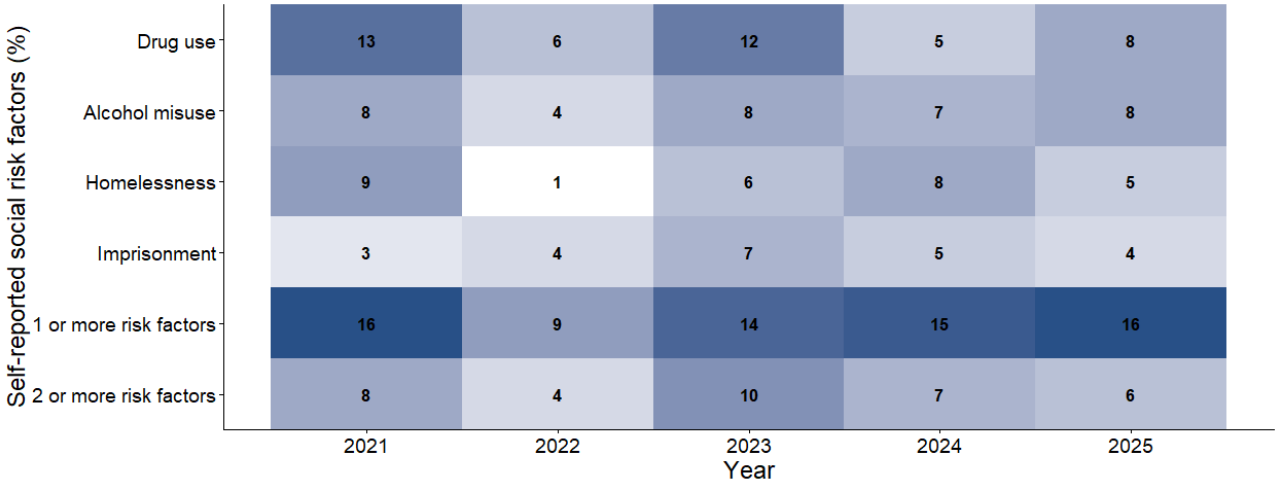
Source: NTBS, 2025

3.1.4 Social risk factors, deprivation and co-morbidities

Self-reported social risk factors

In 2025, overall, 16% of cases self-reported having at least one social risk factor, an increase from 2024 (Figure 8). The most common risk factors in the cohort were drug use and alcohol misuse, both at 8%. Two or more risk factors, indicative of more complex risk, were reported by 6%, marking a small decrease from the previous year.

Figure 8 Self-reported history of current social risk factors among TB patients in Wales 2021-2025

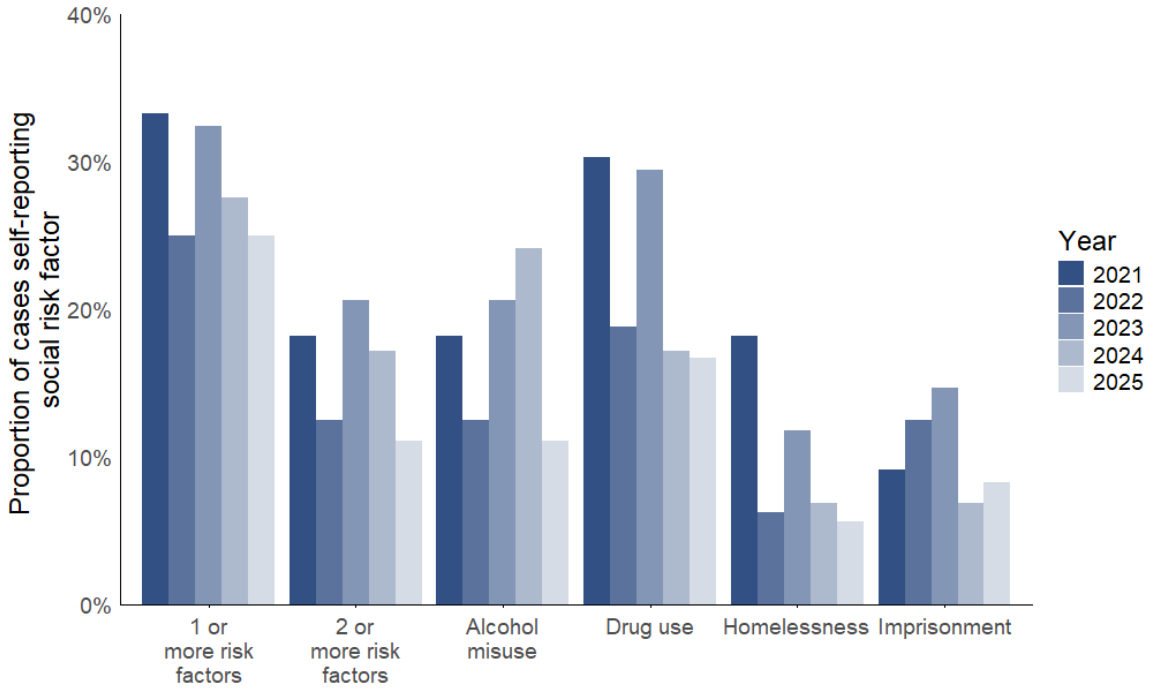


Source: NTBS, 2025

However, rates of social risk factors vary substantially between UK and non-UK born patients as shown in Figures 9 and 10.

In 2025, 25% of UK-born cases reported having at least one risk factor, and 11.1% had two or more. The factors with the greatest proportion were drug use (16.7%), alcohol misuse (11.1%) and imprisonment (8.3%).

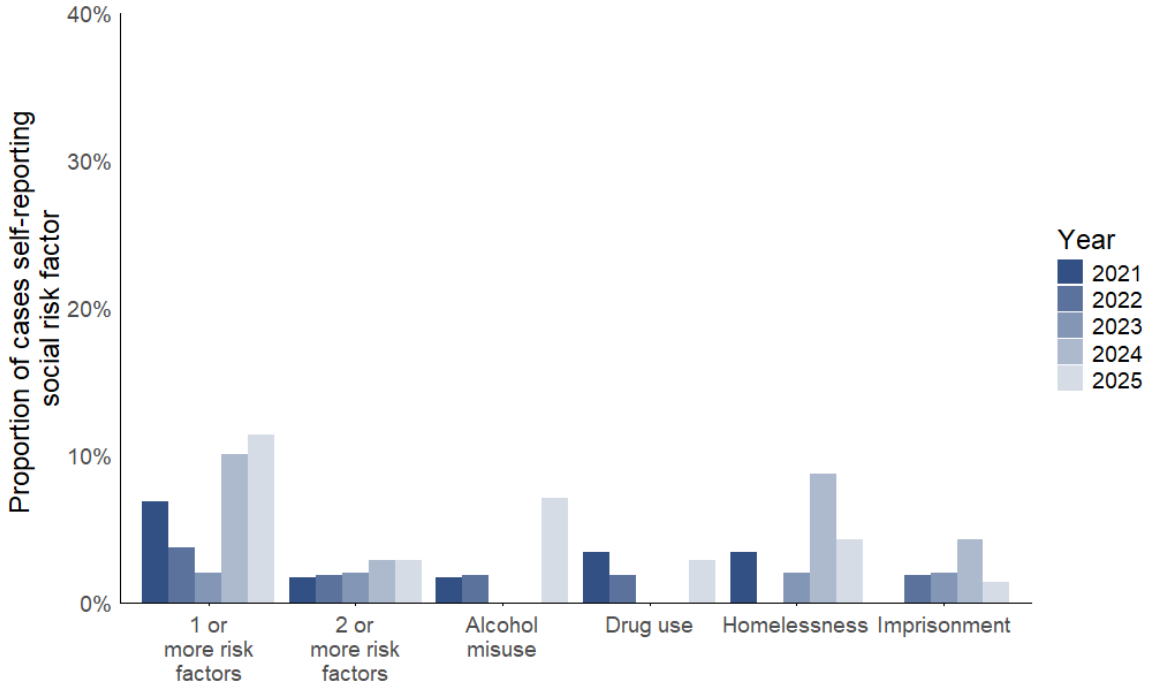
Figure 9 History of current self-reported social risk factors among UK-born TB patients in Wales, 2021-2025



Source: NTBS, 2025

Of the cases born outside of the UK reported in 2025, 11.4% reported at least one risk factor and 2.9% having two or more. Within this population, alcohol misuse and homelessness were the most frequently reported social risk factors.

Figure 10 History of current self-reported social risk factors among non-UK born TB patients in Wales, 2021-2025

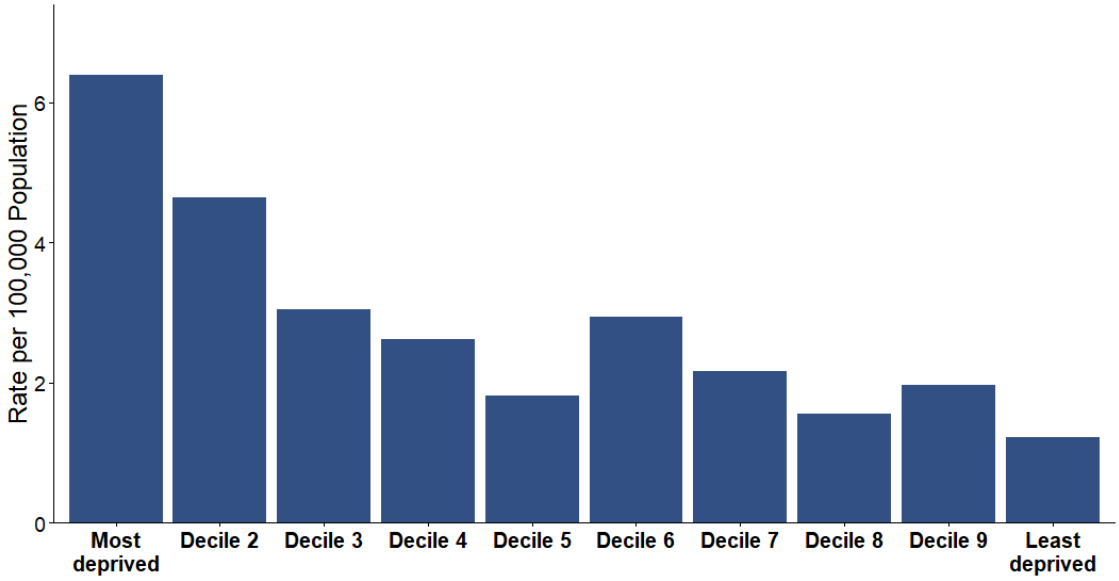


Source: NTBS, 2025

Deprivation

TB disease is more frequently reported in the most deprived communities in Wales (Figure 11). The rate of TB has been highest in the most deprived decile[5] for the past ten years. In 2025, the rate in the most deprived decile was 8.2 per 100,000 population and 2.6 per 100,000 population in the least deprived decile.

Figure 11 5-year average rate of TB in Wales per 100,000 population by deprivation decile, 2021-2025



Source: NTBS, 2025

[5] As measured using the Welsh Index of Multiple Deprivation (WIMD). Further information can be found at: https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation

Co-morbidities

Where co-morbidity status was known for those notified in 2025, 9% of cases had diabetes (Table 5). The next most frequent co-morbidities within the five-year-period were immunosuppression (6%) and chronic liver disease (3%).

Table 5 Percentage of TB cases in Wales with co-morbidities, 2021-2025

Comorbidity	5-Year Average (% of total cases)
Diabetes	9%
Hepatitis B Virus	1%
Hepatitis C Virus	2%
Chronic Liver Disease	3%
Chronic Renal Disease	1%
Immunosuppression*	6%

[1] Immunosuppression includes those with certain diseases, chronic inflammatory conditions, those on biological therapy and transplant recipients

Source: NTBS, 2025

4 Diagnosis, microbiology and drug resistance

4.1 Diagnosis and site of infection

Pulmonary TB (with or without extra-pulmonary disease) accounted for 56% of cases in 2025 and of these, 21.7% also had extra pulmonary disease.

Table 6 Number and percentage of TB cases in Wales by site of disease, 2021-2025

Site of Disease*	2021	2022	2023	2024	2025
Pulmonary**	57 (63%)	40 (57%)	48 (57%)	63 (64%)	60 (56%)
Extra-thoracic lymph nodes	10 (11%)	17 (24%)	23 (27%)	21 (21%)	29 (27%)
Intra-thoracic lymph nodes	10 (11%)	Less than 5	Less than 5	10 (10%)	10 (9%)
Pleural	8 (9%)	7 (10%)	Less than 5	6 (6%)	7 (7%)
Gastrointestinal	Less than 5	Less than 5	7 (8%)	6 (6%)	Less than 5
CNS-meningitis	Less than 5	0 (0%)	0 (0%)	Less than 5	Less than 5
CNS-other	Less than 5	Less than 5	0 (0%)	0 (0%)	Less than 5
Bone-spine	6 (7%)	Less than 5	Less than 5	Less than 5	Less than 5
Bone-other	Less than 5	Less than 5	Less than 5	Less than 5	Less than 5
Genitourinary	Less than 5	Less than 5	Less than 5	Less than 5	0 (0%)
Laryngeal	Less than 5	0 (0%)	Less than 5	0 (0%)	0 (0%)
Cryptic	Less than 5	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Other extra pulmonary	19 (21%)	12 (17%)	21 (25%)	29 (30%)	29 (27%)
Total cases	**91**	**70**	**84**	**98**	**107**

*Patients may have disease at more than one site
**Pulmonary TB includes miliary TB in accordance with the WHO's recommendation and international reporting definitions[7]

Source: NTBS, 2025

In 2025, 76% of all cases were culture confirmed, and 92% of pulmonary cases (with or without extra pulmonary disease) were culture confirmed. This remains above the European Centre for Disease Prevention and Control (ECDC) target of 80% for culture confirmation of pulmonary tuberculosis 6.

Among 81 culture-confirmed cases:

- 86.4% were due to *M. tuberculosis*
- 2.5% were due to *M. bovis*
- 2.5% were due to *M. africanum*
- The remaining 7.6% were not reported

Since 2021, there have been 10 cases of *M. bovis*. The majority were male and the largest proportion of cases were reported in those aged 25 to 34 years old, those of white ethnicity, and those born in the UK. Three cases reported exposure to potential animal reservoirs and two reported having occupational exposure. One case reported consumption of unpasteurised milk, a potential source of *M. bovis.*

6 European Centre for Disease Prevention and Control (ECDC).- https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/101111_SPR_Progressing_towards_TB_elimination.pdf

Table 7 Number and percentage of TB cases in Wales with bacteriological confirmation, 2021-2025

Bacteriological Results	2021	2022	2023	2024	2025
Culture confirmed[1]	70 (77%)	53 (76%)	65 (77%)	81 (83%)	81 (76%)
Culture confirmed pulmonary cases[2]	55 (96%)	35 (88%)	41 (85%)	52 (83%)	55 (92%)
Pulmonary cases with sputum[2]	30 (53%)	27 (68%)	23 (48%)	36 (57%)	40 (67%)
Positive sputum smear pulmonary cases[3]	22 (73%)	15 (56%)	13 (57%)	19 (53%)	21 (52%)

[1]Denominator for percentage is total number of TB cases
[2]Denominator for percentage is total number of pulmonary TB cases
[3]Denominator for percentage is number of pulmonary cases with sputum smear taken

Source: NTBS, 2025

Table 8 Number and percentage of TB cases in Wales with previous diagnosis, 2021-2025

Previous Diagnosis	2021	2022	2023	2024	2025
Yes	6 (7%)	Less than 5	Less than 5	Less than 5	Less than 5
No	74 (81%)	34 (49%)	59 (70%)	80 (82%)	62 (58%)
Not reported	11 (12%)	33 (47%)	22 (26%)	14 (14%)	42 (39%)
Total cases	**91**	**70**	**84**	**98**	**107**

Source: NTBS, 2025

Where reported, 66.7% of cases in 2025 with a previous diagnosis had received treatment for their previous episode.

4.2 Multi-drug (MDR) and extensively drug resistant (XDR) cases

MDR TB is defined as resistant to both rifampicin and isoniazid, two front line anti-biotics used to treat TB. In 2021, the WHO created new definitions of pre-XDR and XDR[7]:

- Pre-XDR: TB strains fulfilling MDR definition with additional resistance to any fluoroquinolone
- XDR: TB strains fulfilling MDR definition with additional resistance to any fluoroquinolone and at least one Group A drug.

The WHO report that in 2025 there was a decrease (7%) in the number of people treated for MDR-TB globally compared to 2024[8]. Data are not yet available for 2025.

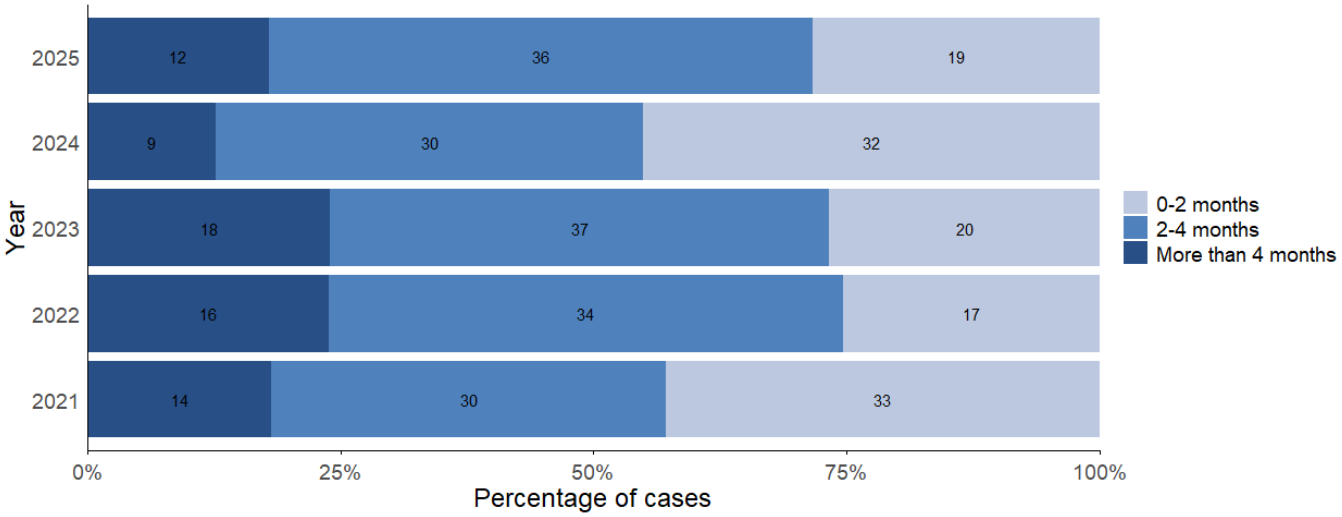
In the last 5 years, 3 pre-XDR and 6 MDR cases have been reported via NTBS, however, another 5 cases were either not rifampicin resistant (MDR marker) or not reported as MDR on NTBS but have received MDR treatment.

[7] World Health Organisation (WHO) - https://www.who.int/news/item/27-01-2021-who-announces-updated-definitions-of-extensively-drug-resistant-tuberculosis
[8] World Health Organisation (WHO) - 2.4 Drug-resistant TB treatment

5 Treatment and outcomes

5.1 Symptom onset to treatment initiation

Figure 12 Time between symptom onset and start of treatment for TB cases in Wales, 2021-2025



Source: NTBS, 2025

In 2025:

- Of symptomatic cases, the proportion starting treatment less than two months after symptom onset decreased from 45.1% in 2024 to 28.4% in 2025
- 12% of pulmonary cases started treatment over four months after symptom onset, an increase from 2024 (Table 9).

There may be several factors influencing this delay from symptom onset to treatment start including healthcare seeking behaviour or delays in the clinical pathway. Delays in seeking care, particularly amongst smear positive pulmonary cases represent a potential risk of transmission to others.

Table 9 Pulmonary TB cases with a time over four months between symptom onset and start of treatment in Wales, 2021-2025

Symptom onset to treatment start	2021	2022	2023	2024	2025
More than 4 months	7 (12%)	9 (22%)	10 (21%)	Less than 5	7 (12%)

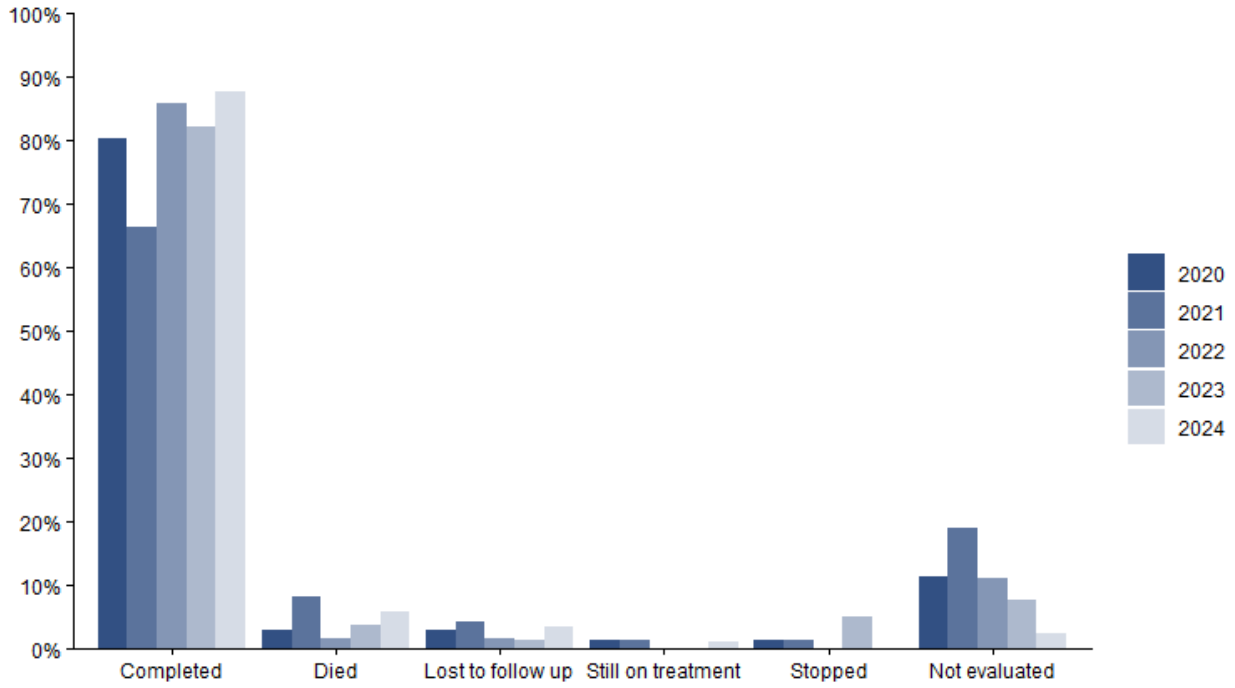
Source: NTBS, 2025

5.2 Treatment outcomes

Treatment outcome data for the drug sensitive cohort is routinely reported according to the year of notification. Outcome data for 2025 are not yet complete due to the duration of treatment.

Outcome data are available for 88 (89.8%) cases newly diagnosed in 2024[9]. The proportion of drug sensitive cases with expected treatment duration of less than 12 months and who had completed treatment increased from 82% to 88% from the previous year.

Figure 13 TB treatment outcome at 12 months for drug sensitive cases with expected treatment duration greater than 12 months, Wales, 2020-2024



Source: NTBS, 2025

[9] 10 cases excluded due to initial and amplified rifampicin resistance and MDR-TB treated cases and those with CNS, spinal, miliary or cryptic disseminated TB.

Tables 10 to 13 show treatment outcome by age group, sex profile, health board of residence and site of disease respectively.

Table 10 TB treatment completion at 12 months by age group[1] for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024

Year	5-14	15-24	25-34	35-44	45-54	55-64	65+
2020	6 (-%)	9 (100%)	13 (72%)	10 (67%)	11 (69%)	10 (75%)	0
2021	5 (100%)	Less than 5 (43%)	16 (59%)	9 (56%)	7 (44%)	8 (45%)	Less than 5 (67%)
2022	Less than 5 (-%)	Less than 5 (100%)	14 (74%)	12 (80%)	11 (79%)	11 (60%)	0
2023	8 (67%)	5 (62%)	13 (81%)	14 (78%)	13 (93%)	8 (80%)	Less than 5 (73%)
2024	7 (75%)	20 (91%)	11 (69%)	19 (79%)	10 (77%)	6 (70%)	Less than 5 (75%)

Source: NTBS, 2025

Table 11 TB treatment completion at 12 months by sex for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024

Sex	2020	2021	2022	2023	2024
Female	20 (80%)	24 (71%)	29 (88%)	31 (84%)	21 (84%)
Male	37 (80%)	25 (62%)	25 (83%)	33 (80%)	56 (89%)

Source: NTBS, 2025

Table 12 TB treatment outcome at 12 months by Health Board of residence for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2020-2024

LHB	2020	2021	2022	2023	2024
Aneurin Bevan UHB	15 (88%)	12 (71%)	18 (100%)	21 (88%)	12 (86%)
Betsi Cadwaladr UHB	7 (78%)	13 (76%)	7 (88%)	Less than 5 (40%)	11 (92%)
Cardiff and Vale UHB	22 (96%)	15 (94%)	15 (94%)	18 (86%)	26 (96%)
Cwm Taf Morgannwg UHB	7 (100%)	5 (71%)	8 (89%)	Less than 5 (100%)	6 (75%)
Hywel Dda UHB	Less than 5 (100%)	Less than 5 (40%)	Less than 5 (100%)	5 (83%)	7 (88%)
Powys THB	Less than 5 (33%)	0	0	Less than 5 (75%)	0
Resident Outside of Wales	Less than 5 (50%)	Less than 5 (100%)	Less than 5 (100%)	5 (100%)	Less than 5 (100%)
Swansea Bay UHB	Less than 5 (25%)	0	Less than 5 (25%)	9 (75%)	11 (73%)

Source: NTBS, 2025

Table 13 TB treatment outcome at 12 months by site of disease for drug sensitive cases with expected treatment duration less than 12 months, Wales, 2024[a]

Site of disease	Completed	Died	Lost to follow-up	Still on treatment	Stopped	Not evaluated	Total
Pulmonary only	40 (85%)	Less than 5	Less than 5	0	0	0	47
Pulmonary, with or without EP	46 (85%)	Less than 10	Less than 5	0	0	0	54
Extra-pulmonary only	31 (100%)	0	0	0	0	0	31
Extra-thoracic lymph nodes	17 (100%)	0	0	0	0	0	17
Intra-thoracic lymph nodes	9 (100%)	0	0	0	0	0	9
Pleural	Less than 5	Less than 5	0	0	0	0	5
All other EP sites	8 (100%)	0	0	0	0	0	8
Total[b]	**77 (91%)**	**Less than 10**	**Less than 5**	**0**	**0**	**0**	**85**

[a]Excludes initial and amplified to rifampicin resistant TB and MDR-TB treated cases and those with CNS, spinal, miliary or cryptic disseminated TB
[b]All other extra-pulmonary sites includes gastrointestinal, genitourinary, laryngeal, other and unknown extra-pulmonary disease

Source: NTBS, 2025

Of the 54 cases with a reported treatment outcome and pulmonary disease with or without extra-pulmonary disease, 46 (85%) completed treatment. No cases treated in 2024 were still on treatment after 12 months and lost to follow-up were less than 5.

5.2.1 TB related mortality

In the 5 years, 2020-2024, the proportion of deaths in TB cases has remained relatively low, with highs of 10% in 2021, as shown in Table 14.

Table 14 All drug sensitive and severe TB cases reported to have died at last recorded outcome, Wales, 2020-2024

Year	Cases reported	Total deaths	TB caused or contributed to death	TB incidental to death	Unknown	Post mortem
2020	79	Less than 5	Less than 5	Less than 5	Less than 5	Less than 5
2021	91	9 (10%)	Less than 5	6 (11%)	Less than 5	Less than 5
2022	70	Less than 5	Less than 5	Less than 5	Less than 5	Less than 5
2023	84	Less than 5	Less than 5	Less than 5	Less than 5	Less than 5
2024	98	Less than 5	Less than 5	Less than 5	Less than 5	Less than 5

Source: NTBS, 2025

6 TB prevention and control

Information on pre-entry screening of UK migrants is not routinely available.

The provision of the Bacillus Calmette-Guérin (BCG) vaccine in the NHS vaccination schedule in Wales was ceased in 2005; t is only offered to children who are at high risk of coming into contact with someone with TB [10]. The BCG vaccine is effective in protecting young children against severe forms of TB, such as meningitis, but does not prevent primary infection and reactivation of TB infection [11] (previously known as latent infection).

Table 15 Percentage of cases who have received BCG vaccinations and percentage of cases with known status, 2021-2025

Age Group	2021	2022	2023	2024	2025
0-4	0% (100%)	0% (100%)	67% (75%)	0% (0%)	0% (0%)
5-14	100% (100%)	-	0% (0%)	75% (100%)	100% (40%)
15-24	33% (43%)	100% (33%)	67% (38%)	73% (50%)	33% (43%)
25-34	77% (81%)	90% (53%)	100% (56%)	50% (25%)	88% (59%)
35-44	88% (50%)	75% (27%)	67% (33%)	100% (33%)	88% (36%)
45-54	100% (69%)	80% (36%)	62% (57%)	100% (31%)	89% (53%)
55-64	100% (45%)	67% (60%)	83% (60%)	0% (10%)	75% (31%)
65+	71% (58%)	75% (31%)	57% (64%)	50% (25%)	86% (54%)

Source: NTBS, 2025

Of those with a known BCG vaccination status, 84% of cases in 2025 had been vaccinated previously, an increase from 2024 (76.5%). The highest rates of vaccination were in the 5 to 14 and 45 to 54 year old age groups, where 100% and 89% with known status were vaccinated respectively.

[10] public Health Wales (PHW) https://phw.nhs.wales/topics/immunisation-and-vaccines/bcg-tb-vaccine/
[11] World Health Organisation (WHO) https://www.who.int/teams/health-product-policy-and-standards/standards-and-specifications/norms-and-standards/vaccines-quality/bcg

7 Whole genome sequencing

Whole genome sequencing (WGS) of tuberculosis isolates was introduced to Wales in 2019 in order to carry out species typing, resistance typing and cluster analysis. Wales has a TB Cluster Peer Review panel that meets bi-monthly to consider management of clusters and further public health actions.

A genomically linked cluster is defined as "2 or more persons with a diagnosis of active TB that have organisms isolated with less than a 12 SNP difference". 12 SNP difference refers to single nucleotide polymorphisms (SNPs), a mutation at a single position in the DNA sequence. Whole-genome SNP comparison is performed to identify SNPs that differ between isolates in a genotype-matched cluster. While a 12 SNP difference can be defined as the upper threshold of genomic relatedness between epidemiologically related hosts, lower limits must be assessed on an individual situation or outbreak basis.

Since the introduction of WGS and cluster analysis in Wales in 2019, a total of 42 clusters of TB have been identified.

In 2025, 4 new genomically linked clusters were identified. Of the 107 cases notified in 2025, 15 individuals were linked to clusters and were distributed across 10 clusters. Of these cases:

- The majority of cases were *Mycobacterium tuberculosis*
- None were considered multi-drug resistant (MDR)
- The majority of cases (80%) were pulmonary with or without extra-pulmonary disease, with 5/12 (42%) having a positive sputum smear result
- 47% of clustered TB cases were observed in Aneurin Bevan University Health Board

Reporting of clusters identified with WGS is undertaken by Public Health Wales Communicable Disease Surveillance Centre to support Health Protection control measures. These reports are to support public health management of clusters and have a restricted distribution.

[12] UKHSA Mycobacterium tuberculosis whole-genome sequencing and cluster investigation handbook. Available at: https://www.gov.uk/government/publications/tb-strain-typing-and-cluster-investigation-handbook/mycobacterium-tuberculosis-whole-genome-sequencing-and-cluster-investigation-handbook