Brent Joint Strategic Needs Assessment (JSNA)
February 2015
*Tuberculosis*

**Key messages**

- The rate of tuberculosis (TB) in Brent in 2013 was *89 per 100,000 of the population*
- The rate of pulmonary (lung) TB in Brent in 2013 was *38 per 100,000 of the population*
- In total, there were 279 cases of TB in Brent in 2013 and 119 cases of pulmonary TB
- There was an overall decline of around 10% in the numbers of TB cases in Brent reported in 2013 compared to 2012
- During the period 2002 to 2013, the TB rate in Brent was much more varied compared to the London average
- After Newham, Brent had the second highest rates of TB in London in 2013
- TB patients in Brent were most commonly males and most often of the age group 20 to 39 years
- The highest rates of TB were reported among the Indian, Black-African and Pakistani ethnic groups and the lowest rates were among Bangladeshi, Chinese and Black-Other groups in 2013
- Some of the main social risk factors associated with TB include homelessness, imprisonment and substance misuse. Seven percent of cases of TB in Brent in 2013 were associated with a social risk factor.

**Cause and prevalence of TB**

Human TB is caused by infection with bacteria of the *Mycobacterium tuberculosis* complex and may affect any part of the body. London has the highest TB rate of any capital city in Western Europe and 21 of its boroughs have been rated ‘high’ by the World Health Organization in the past five years¹. Brent saw an overall decline in numbers and rates between 2012 and 2013 of approximately 10% (figure 1). Although this decrease is encouraging, TB rates in Brent do still remain significantly higher than London and that of the rest of the UK.

![Figure 1: Time series chart showing TB rates. Source: PHE, Brent TB profile, 2013](image)

¹ London Health Programmes (2011) Case for Change. TB services in London
TB prevalence by London local authority of residence

There are significant inequalities which exist throughout England in terms of the geographical and socioeconomic distribution of TB cases (figure 2). The highest concentrations of TB in England are found in the main urban centres. Rates of TB in London, Leicester, Birmingham, Luton, Manchester and Coventry are more than three times the national average\(^2\).


Figure 3 identifies the TB rate by London local authority of residence in 2013. The highest numbers and rates of TB were reported in Newham and Brent in 2013. In Brent, the rate was \textit{89 per 100,000 of the population}, which equates to 279 cases. The London rate was \textit{36 per 100,000 of the population}, which equates to 2,985 cases.

TB prevalence throughout Brent

Figure 4 identifies the areas where there were higher rates of TB in London by Lower Super Output Area (LSOA). In Brent, the highest rates (>150 per 100,000 of the population) were in parts of Alperton, Wembley Central and Tokyngton. The lowest rates (<40 per 100,000 of the population) were in Stonebridge, Barnhill, Dollis Hill, Dudden Hill and Brondesbury Park. The demographic profile of these wards will partly influence TB rates.
The highest rates of TB were reported among the Indian, Black-African and Pakistani ethnic groups and the lowest rates were among Bangladeshi, Chinese and Black-Other groups (figure 5).
TB Diagnoses

TB patients were most commonly males and most often of the age group 20 to 39 years. More than 90% of those diagnosed with TB in Brent were born abroad with 20% having entered the country in the last 2 years (figure 6). This suggests that the majority of TB cases reported in Brent were a reactivation of infection acquired in high prevalence countries, in particular India\(^3\).

\(^3\) PHE, Brent TB profile (2013)
Patients in Brent had shorter delays to diagnosis than elsewhere in London (figure 7). In Brent, the median delay time for all TB cases was 54 days. In London, the median delay time was 70 days. Delays in diagnosis may be due to delays in the time taken for people to seek help for TB symptoms as well as time taken for medical personnel to diagnose TB. Delays in presentation and diagnosis may lead to difficulties with treatment and may also result in an increased risk of TB transmission.

<table>
<thead>
<tr>
<th>TB INCIDENCE</th>
<th>ALL TB CASES</th>
<th>PULMONARY TB</th>
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<tbody>
<tr>
<td></td>
<td>Brent</td>
<td>London (LA</td>
</tr>
<tr>
<td>Number</td>
<td>279</td>
<td>2985</td>
</tr>
<tr>
<td>Rate per 100,000 population</td>
<td>69</td>
<td>56 (5-107)</td>
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<table>
<thead>
<tr>
<th>MICROBIOLOGY</th>
<th>ALL TB CASES</th>
<th>PULMONARY TB</th>
</tr>
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<tbody>
<tr>
<td>% with sputum smear result</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>% culture confirmed</td>
<td>63%</td>
<td>59% (40-100%)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCIAL RISK FACTORS</th>
<th>ALL TB CASES</th>
<th>PULMONARY TB</th>
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<tbody>
<tr>
<td>% patients with social risk factors</td>
<td>7%</td>
<td>9% (0-27%)</td>
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<table>
<thead>
<tr>
<th>DELAY TO DIAGNOSIS</th>
<th>ALL TB CASES</th>
<th>PULMONARY TB</th>
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<tbody>
<tr>
<td>Median days (Interquartile range)</td>
<td>54 (28-91)</td>
<td>70 (35-135)</td>
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Figure 6: UK born or time since UK entry, 2013. Source: PHE, Brent TB profile, 2013

Figure 7: Key TB facts. Source: PHE, TB profile, 2013
Deprivation and TB diagnoses

National evidence suggests that there is a strong correlation between TB rates and levels of deprivation with 70% of cases occurring among residents in the two most deprived quintiles in the country⁴ (figure 8).

![Figure 8: Number of TB case reports by deprivation quintile of area of residence (IMD 2010), UK 2013.](image)

Social risk factors and TB

Seven per cent of all TB cases in Brent were associated with social risk factors. Some of the main social risk factors associated with TB include imprisonment, substance misuse and homelessness. For example, people who are homeless are more vulnerable to TB and are at a greater risk of having highly infectious or drug resistant strains of the disease. They are less likely to continue with treatment⁵.

Evidence suggests that rates of TB are significantly associated with overcrowding⁶. Overcrowding and poor housing standards are common in some parts of Brent. As such, these conditions are likely to further permit TB transmission among the local population.

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⁴ PHE, Tuberculosis in the UK. 2014 report.
Treatment completion

Figure 9 summarises TB treatment completed in 12 months comparing Brent and the London average in 2012. Levels of patient treatment in Brent (87%) are similar to the London average (86%).

<table>
<thead>
<tr>
<th>Treatment Completed in 12 months*</th>
<th>Brent % (n)</th>
<th>London % (LA range)</th>
</tr>
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<tbody>
<tr>
<td>Patients (excluding CNS, spine, miliary or cryptic disseminated TB)</td>
<td>67% (237)</td>
<td>86% (73-100%)</td>
</tr>
<tr>
<td>Patients with CNS, spine, miliary or cryptic disseminated TB**</td>
<td>57% (17)</td>
<td>49% (0-100%)</td>
</tr>
<tr>
<td>LOST TO FOLLOW UP</td>
<td>5% (13)</td>
<td>4% (0-10%)</td>
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* at 12 months for TB cases reported in 2012 excluding those with rifampicin resistance
** patients with these forms of disease may have planned treatment for 12 months or longer

Figure 9: TB treatment completion. Source: PHE TB profile, 2013

Drug resistance

Brent patients had slightly higher levels of drug resistance than the London average (figure 10). Findings show that 10% were isoniazid resistant and 3% had multi drug resistant TB.

Provision of neonatal BCG vaccination

The BCG programme aims to protect new born babies who are at risk of developing TB. It is recommended that the BCG vaccination is offered to all infants in areas where the TB rate is at least 40 cases per 100,000 of the population. Across London, provision of neonatal BCG varied to some degree in 2011/12. Coverage is relatively high in Brent (83%) compared to elsewhere in London. However, it should be noted that the quality of the data has made it

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7 Public Health England, Green Book on Immunisation
difficult to fully ascertain the relative success of BCG policy in each borough. The average coverage rate across London was 72%, ranging from 95% to 24%.

**HIV testing amongst TB patients**

Approximately 2% to 10% of TB cases in the UK are people who are co-infected with HIV\(^8\). HIV testing amongst TB patients continues to have excellent coverage across London for both offering and uptake\(^9\).

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\(^9\) PHE, 2013, Tuberculosis in London: Annual review (2013 data)