EALING JSNA

'Focus on'

Tuberculosis

December 2019

The Joint Strategic Needs Assessment (JSNA) is a statutory document published by the London Borough of Ealing and NHS Ealing Clinical Commissioning Group, which describes the health and social care needs of the population. The JSNA contains topic and theme-based chapters, which are updated on a rolling basis. The 'Focus on' series provides succinct chapter summaries from the JSNA.

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Overview

About the disease

- Tuberculosis (TB) is an infectious disease caused by a bacterium, Mycobacterium tuberculosis. TB usually affects the lungs (pulmonary TB), but can affect other parts of the body, such as the lymph nodes (glands), the bones and the brain.
- TB is a **preventable and treatable disease** that disproportionately affects vulnerable and disadvantaged populations. Certain groups, such as migrants, ethnic minority groups, and those with social risk factors such as homelessness or a history of imprisonment are more affected.
- Infection with the TB bacteria may not always develop into TB (latent TB). Latent TB could develop into an active TB disease at a later date, particularly if your immune system becomes weakened. About 10% of latent TB infections becomes active if left untreated.
- When a person develops active TB disease, the symptoms (such as cough, fever, night sweats, or weight loss) may be mild for many months. This can lead to delays in seeking care and diagnosis, and may result in transmission of the bacteria to others.

Treatment

- When TB does develop, the vast majority of cases are curable with a six month course of antibiotics.
- Multidrug-resistant tuberculosis (MDR-TB) is a form of TB caused by bacteria that do not respond to at least 2 of the most powerful, first-line anti-TB drugs.
- Extensively drug-resistant TB (XDR-TB) is a form of multidrug-resistant TB which is resistant to at least 4 of the most powerful, first-line anti-TB drugs. The remaining treatment options are significantly reduced and are less effective and have more side effects.
- The length of treatment and side effects can lead to problems and delays in completing the treatment.

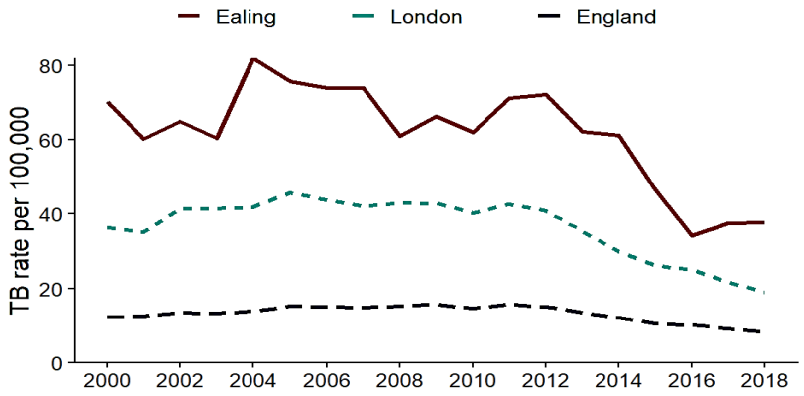
TB Control

- The Collaborative TB Strategy for England 2015-2020 outlines key areas for action.
- Following implementation of the strategy, seven TB Control Boards (TBCBs) were established to support the local delivery of the strategy.
- The London Borough of Ealing is part of the North West London Network. There are quarterly **TB network meetings** and **regular cohort reviews** (including a multi-drug resistance cohort review)**.** Any clinical and operational items can be taken to London Clinical Leadership Group(CLG) by network leads. There is a regional TB Control Board (London) which works closely with the CLG and TB leads from PHE national and NHS England. TB control boards also oversees the delivery of actions set by the national collaborative TB strategy for England.

Setting the scene

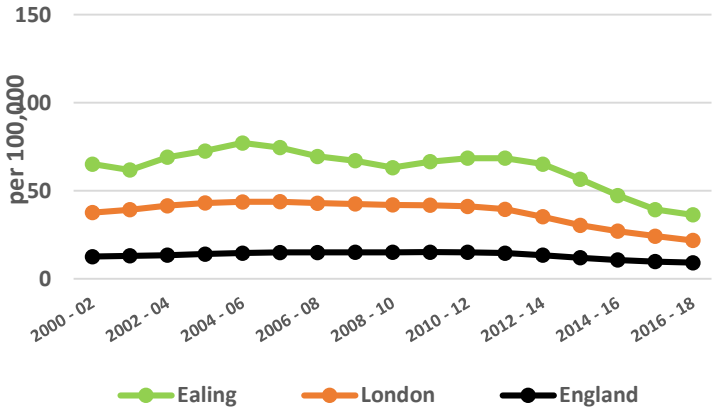
TB incidence (annual rate) 2000 - 2018

- Public Health England publish an annual TB review for London. London has the highest incidence of TB in England, accounting for 36% of all people with TB in 2018.
- In Ealing, as with London and England, there has been a decline in the incidence of TB over time. In 2018, the London Borough of Newham has the highest level of TB (47 per 100,000, 165 cases). **The second highest rate in London (2018) was Ealing** (37.7 per 100,000, 129 cases). Brent has the third highest rate following a sharp decrease (from 46 to 33 per 100,000, 110 cases), from 2017 to 2018.
- In Ealing, there was a small rise in the rate between 2016 (34.2 per 100,00) and 2017 (37.6 per 100,000). In 2018, the rate has remained similar to 2017.



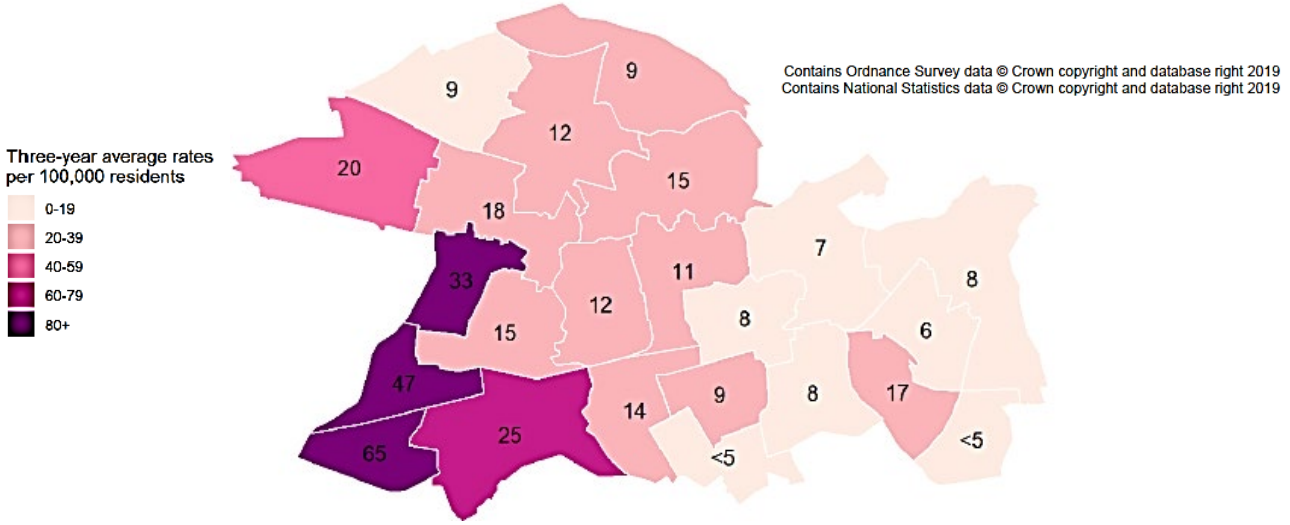
TB incidence (3 year average) 2000 - 2018

- Given the small numbers of cases each year, the 3 year average rates and trends over time provide a more accurate picture.



Three-year notification number and average TB incidence rate by ward 2016-2018

- High overall rates of TB in boroughs, could be attributed to a relatively small number of very high incidence middle super output areas. In Ealing, Public Health England mapping data highlights that the area were the **TB incidence is highest is Southall**.

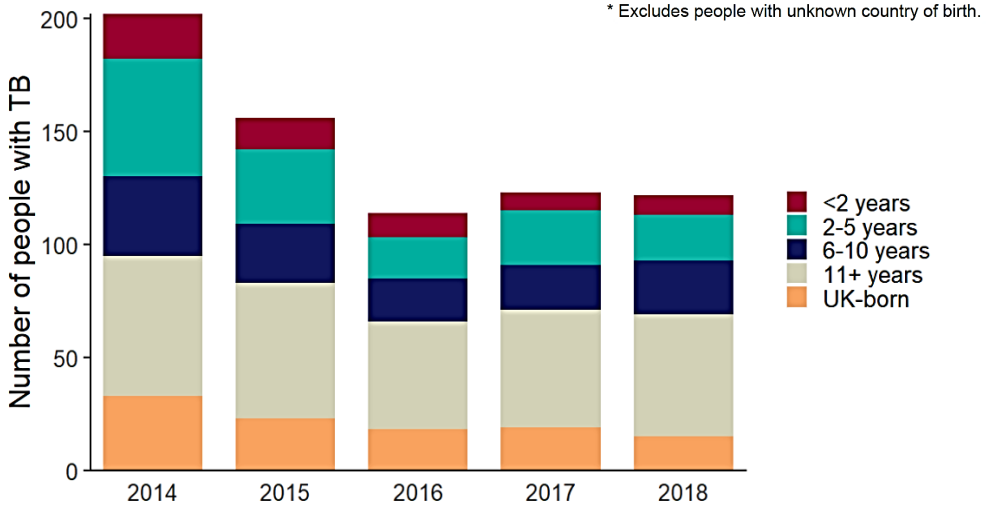


Highlights of Public Health England's profile for Ealing (2018):

The impact of country of birth

- The majority (82%) of people with TB in Ealing were born outside the UK, however **the majority had been in the UK a long time** prior to TB notification. This mirrors the London and national pattern.
- In 2018, among Ealing residents with TB who were born abroad, 8% were diagnosed within 2 years of entry (13% London wide), and 19% between 2 to 5 years after entry (18% in London). 73% were diagnosed over 5 years of entry.
- In Ealing, the **most common county of birth was India (37%),** followed by the United Kingdom 12%), Somalia (11%) and Pakistan (5%). The most common countries of birth London wide were India, Pakistan, Somalia and Bangladesh. The fifth most common country of birth was Romania.
- In Ealing, of those who are UK-born residents with TB , 26% were of Indian ethnicity, 21% were white, and 21% were black African. Of those born outside the UK, 44% were of Indian ethnicity and 25% were of mixed/other ethnicity.

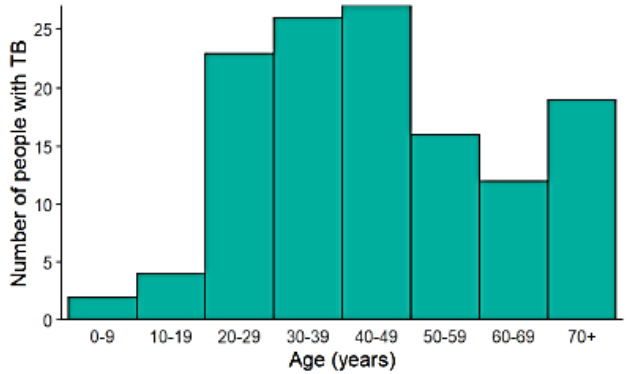
UK born or time since entry to UK* (if non-UK born 2014-2018)



TB cases by age group

The median age of a patient in 2018 was 43

- In Ealing, the most common age group for TB was between 40-49.



Social risk factors

16% of Ealing residents with TB had a social risk factor – higher than the 13.3% across London

- An increasing proportion of adults with TB had a **social risk factor** which is defined as homelessness, prison history, drug or alcohol misuse.

Type of TB and method of confirmation

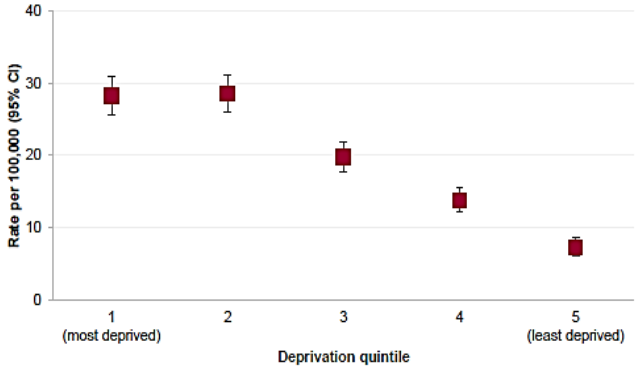
- Pulmonary cases accounted for 52%. This is similar to the London average.
- Of the 129 cases in Ealing, 59% were culture confirmed. This compared to the London average of 61%. Those without a culture had either an alternative positive laboratory result or no microbiological results available (the notification being on clinical or radiological grounds only).

What influences this topic?

Deprivation

In 2018, more than half of all people with TB were resident in the 2 most deprived quintiles of London. Incidence rates were highest in these 2 quintiles (28 and 29 per 100,000, respectively). The rate progressively decreased along with decreasing deprivation, reaching 7.3 per 100,000 in the least deprived quintile. TB alert (2018) highlight how poor nutrition and an inadequate diet weaken the immune system and increase the chances of infection and developing active TB. Overcrowded and poorly ventilated home and work environments make TB transmission more likely. Access to health services is also a contributing factor.

TB cases rate by deprivation, London 2018



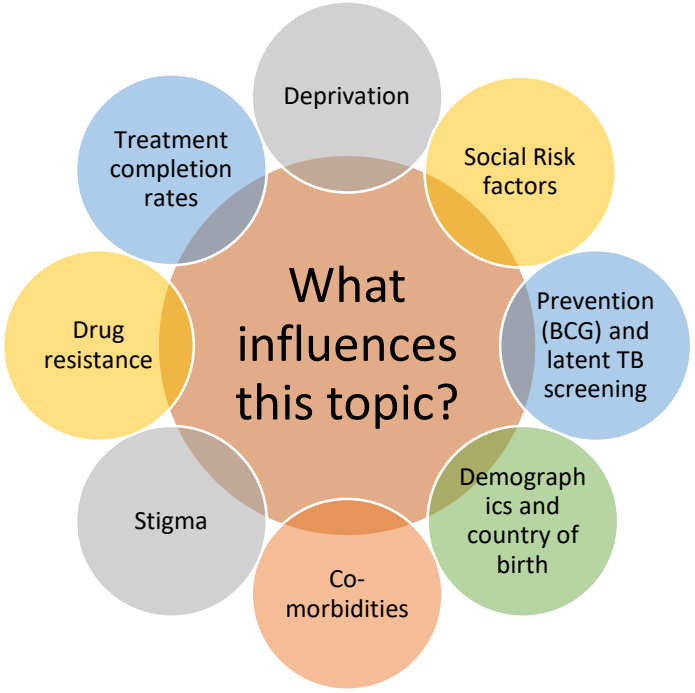
Treatment Completion

TB treatment is effective however it is not quick or easy. The length of treatment and side effects from the drugs pose huge problems to tackling the disease.

Country of origin

There is a higher rate of TB in those born or have lived in a country with a high incidence of TB. The majority of active TB cases diagnosed in England are a result of reactivation of LTBI.

TB in children born in the UK indicates likely recent transmission as children have a limited time during which they could have become infected, and in most cases progress to disease within 12 months. Therefore, the rate of TB in children (<15 years) born in the UK is a proxy for recent transmission within England. In 2018, this rate was 1.2 per 100,000 (95% CI 1.0-1.4). There has been a 64.7% reduction in this rate between its peak of 3.4 per 100,000 (95% CI 3.0-3.8) in 2007 to 2008 and the rate in 2018. Number however are small and therefore not available for analysis on a local level.

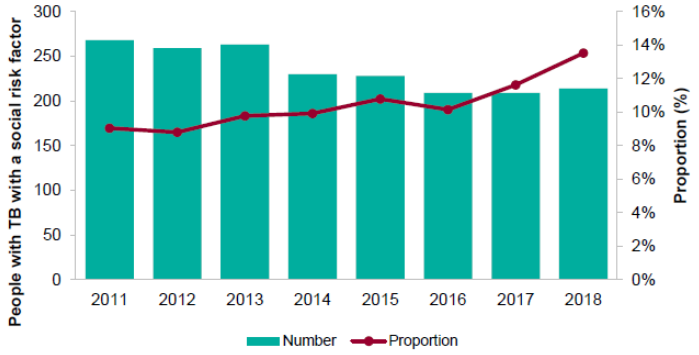


Social risk factors

These include alcohol misuse, history of homelessness, imprisonment or drug misuse and mental health problems. In 2018, 14% of people with TB in London, who were aged over 15 years old had at least one social risk factor. Of those with at least one social risk factor, 33% experienced multiple risk factors.

The prevalence of risk factors has increased since 2011, especially in the past 2 years.

Social risk factors among people with TB, London, 2011-2018 (PHE)



Further influences

Co-morbidities

In 2018, 22% (370/1,691) of people with TB in London were recorded as having at least one co-morbidity.

The prevalence of co-morbidities increased with age, with only one reported among children under 15 years, up to 46% for people aged 65 years and older. People born abroad were more likely to have diabetes (15%) and chronic renal disease (3.8%). People with social risk factors were more likely to have hepatitis C and chronic liver disease

Co-morbidity	n	%	Total
Diabetes	213	13%	1645
Hepatitis B	27	2%	1589
Hepatitis C	22	1%	1586
Chronic Liver Disease	27	2%	1640
Chronic Renal Disease	53	3%	1641
Immunosuppression (inc. HIV)	109	7%	1634

HIV

The latest available information on TB-HIV co-infection for notified adults 15 years and older, estimated that 2.9% (48) of people with TB in London in 2018 were co-infected with HIV (PHE,2018). People living with HIV are around 30 times more likely to develop TB than HIV negative people (TB alert, 2019)

Diabetes

Diabetes suppresses an individuals immune response. It is estimated that diabetes triples a persons risk of developing TB (WHO, 2018). In London, 13% of those with TB also had Diabetes (PHE, 2018). Ealing has the 5th highest rate of Diabetes in London (8.2%, PHE, 2018). Diabetes is two to four times more likely in people of South Asian descent and African-Caribbean or Black African descent (Diabetes UK, 2019). Ealing and specifically Southall has a higher proportion of people of South Asian, African-Caribbean or Black African descent.

Drug Resistance

Increasing isoniazid resistance is of concern, although multi-drug resistant disease remains at low levels. This highlights the importance of obtaining culture confirmation. Rates however remain low. In 2018 in London, only 61% of all people with TB had a culture result.

Stigma and Misinformation

It is common for people with TB to suffer discrimination as a result of stigma. TB is often associated with factors that can themselves create stigma: HIV, poverty, drug and alcohol misuse, homelessness etc. In some cultures there are also a variety of beliefs around TB. Fear of discrimination can mean people with TB symptoms delay seeking help, making it much more likely that they will become seriously ill and infect others. (TB alert, 2019). Misinformation around TB include that it is incurable or that treatment is expensive and out of pocket.

What works? – NICE guidelines

Prevention

- The National Institute for Clinical Excellence (NICE) outline 4 key areas for prevention
- **Raising and sustaining awareness of TB** - it is recommended that TB education programmes be identified, supported and promoted. This includes among professionals and high risk groups.
- **Providing information for the public of TB** - Message should be consistent and up to date. Educational material should be in a format and language that target groups can understand
- **BCG vaccination** (in line with the Department of Health Green book) – there is an eligibility criteria for receiving the BCG vaccination and it is not universally provided. International studies of the effectiveness of BCG vaccine have given widely varying results, ranging from no protection to between 70 to 80% protection (green book BCG). Effectiveness of the BCG vaccine wanes over time.
- **Preventing infection in specific settings** (e.g. health care settings)

Latent TB screening

- NICE guidelines also outline the evidence for latent TB screening – It is not feasible or cost-effective to screen the entire population for LTBI but NICE recommends screening for specific high-risk groups in the UK which include: close contacts of patients with TB, healthcare workers, migrants from countries where TB in common, people who are immunosuppressed.
- The national Latent TB Infection (LTBI) testing and treatment programme is 1 of 10 key activities in the NHS England/PHE Collaborative TB Strategy for England, 2015-20 that aims to reduce TB in England. The strategy recommends systematic LTBI testing and treatment for 16-35 year olds who recently arrived in the UK from high incidence countries(rate ≥150/100 000). There is evidence that this is cost-effective for the NHS.

Pre-entry screening for migrant

- Currently NICE recommends pre-entry screening for migrants to the UK which includes a CXR. This will detect active TB but not latent TB.

TB Active case finding

- This is usually targeted at high risk groups which include: Professionals at risk of TB (e.g. healthcare workers), close contacts of patients with active TB people with social risk factors (homeless people, people with drugs/alcohol problems, prisoners); immigrants from countries where TB is common.
- Mobile digital XR units are used in certain areas. In London there is the find and treat service. Both the National Institute for Health and Clinical Excellence and the Health Protection Agency have independently evaluated the service and demonstrated Find & Treat to be highly cost effective and potentially cost saving.

TB treatment

- NICE also outline best practice guidance for active TB treatment including multi drug resistance TB

TB and socially excluded groups

- PHE along with other agencies have produced guidance for patients in socially excluded groups including homelessness and substance misuse

What works? – Local Government Association and Public Health England

Guidance titled Tackling TB: Local Governments Public Health Role (2018) has been produced by the Local Government Association and Public Health England in consultation with local authority representatives. It provides recommendations on how local authorities can tackle TB:

- **Ensure a joined-up, multi-agency approach to TB patient care and support** by fully involving council departments, such as social care, housing and benefits and other statutory agencies such as the NHS to ensure care and support includes social needs ie housing, subsistence and social care.
- **Encourage local health and social service commissioners to prioritise the delivery of appropriate clinical and public health services for TB,** (especially in areas where TB rates are highest) and drive improvements in early diagnosis and completion of treatment, both key to reducing TB rates in England. Consider using pooled budgets to help patients complete treatment.
- **Promote local leadership of TB at all levels** – such as local leadership through elected members, strategic leadership through the director of public health and health and wellbeing boards and health protection boards and health leadership via CCGs, wider NHS partners and public health teams.
- **Encourage NHS commissioners, local authorities, housing departments and hostel accommodation providers to agree a process for providing accommodation** for TB patients who are vulnerable or homeless or otherwise ineligible for funded accommodation for the duration of their treatment.
- **Support where possible an individual's social needs** through use of local authority assistance tools eg crisis grants and hardship loans, to provide flexible solutions for TB patients on a case by case basis. This support, and that of a social worker, can improve treatment completion rates.
- Invite a **local TB nurse to raise awareness** of TB among local authority staff.
- **Ensure information about TB is cascaded into key local authority teams** eg children's services, adult services, housing and benefits and Citizen's Advice;

What works? – Local Government Association and Public Health England cont…

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- **Facilitate appropriate access to information and advice** on TB, its symptoms, diagnosis and treatment for under-served populations such as the homeless, drug/alcohol users or new migrants.
- **Promote registration with GPs for new migrants, vulnerable or marginalised people** to aid early diagnosis of medical problems.
- **Work, via the DPH, with CCGs and NHS England to ensure that screening, immunisation and treatment services reach out to diverse populations** and are accessible to the deprived or marginalised.
- **Consider how third sector organisations can help improve access to TB services and patient support**, and encourage and empower the voice of people affected by TB.
- Include TB in the local authority's Joint Strategic Needs Assessment (JSNA) and the joint health and wellbeing strategies (JHWS); ensure TB is on the agenda of the health and wellbeing board (HWB) and the sustainability and transformation partnerships (STPs).
- **Encourage multi-agency working on TB via the HWB and health protection board** (where they exist). These boards have a role in partnership working, including with NHS commissioners, to ensure that effective local TB control is achieved. This could include identifying if indicators such as treatment completion rates or key performance indicators (KPIs) determined by the local TB Control Board, are being met.
- Consider undertaking a scrutiny committee review of TB in areas of high incidence.

Strategy and Key reports

Collaborative TB strategy

The Collaborative TB strategy for England 2015-2020 outlines 10 key areas for action:

- **Improve access to services and ensure early diagnosis**
- **Provide universal access to high-quality diagnostics**
- **Improve treatment and care services**
- **Ensure comprehensive contact tracing**
- **Improve BCG vaccination uptake**
- **Reduce drug-resistant TB**
- **Tackle TB in under-served populations**
- **Systematically implement new entrant LTBI screening**
- **Strengthen surveillance and monitoring**
- **Ensure an appropriate workforce to deliver TB control.**

Key reports

Public Health England TB annual report 2019 – this provides an overview of the data on TB notifications made to the Enhanced Tuberculosis Surveillance system (ETS) in England to the end of 2018.

TB in London Annual Review (2018 data) – this provides an overview of London specific TB notifications

Assets and services

Primary prevention services

- **TB community awareness -** Ealing Local Authority commission West London NHS Trust to provide the TB community awareness service which funds a full time staff member (TB advisor) to provides community outreach and education to community groups and professionals. This involves outreach in different faith settings, education centres, libraries, NHS and other community settings. 707 professionals have been trained since January 2018.
- **BCG vaccination** – this is commissioned by NHSE. There were 5 local authorities, all in London, that offered a universal BCG vaccination programme in 2018 to 2019. Changes are expected to this programme from September 2020.

Secondary prevention services

- **Latent Tuberculosis Infection Testing and Screening –** Funding for the latent TB screening program is provided by NHS England via CCGs. Ealing CCG provide the service in Ealing through primary care. The Interferon-Gamma Release Assays (IGRA) blood test is taken for patients who meet the eligible criteria. Patients who test positive for latent TB are referred to the TB team at Ealing hospital.
- **General practice** – In addition to latent TB screening, GPs diagnose suspected active TB and refer to the TB team as appropriate.
- **Health Protection** – Contact tracing -each case of infectious TB, paediatric (<18yrs) cases, MDR/XDR TB, other difficult to manage or non-compliant cases, as well as cases where there is evidence of extensive transmission to close contacts; should be reported to the North West London Health Protection Team who are responsible for undertaking a risk assessment, active case finding and further input if required.
- **RISE drugs and alcohol service** – during the initial assessment at RISE, there is a respiratory assessment which includes questions to screen for TB.
- **Find and Treat** - specialist outreach team that work alongside over 200 NHS and third sector front-line services to tackle TB among homeless people, drug or alcohol users, vulnerable migrants and people who have been in prison. They are a multidisciplinary and include former TB patients who work as peer advocates, TB nurse specialists, social and outreach workers, radiographers and expert technicians.

Tertiary prevention/Treatment

- **Local TB team based at Ealing Hospital (London North West trust)** this includes TB specialist nurses and Infectious Disease consultants.
- **Local Community Outreach worker** who works with the TB team based at Ealing hospital. This includes providing directly observed therapy (DOT) for patients who require additional support.
- **Housing** –Individual circumstances will dictate whether patients with TB are entitled to any benefits (public funds), should they not be able to work, or are homeless. This includes those who are unregistered EU nationals, those who have stayed beyond the expiry of their visa and those asylum seekers whose application has been denied and their appeals exhausted. The funding for patients with no recourse to public funds (NRPF) is provided by NHSE, Ealing CCG. The process works by TB services completing an application which is reviewed by the London panel and, once approved, a funding request is made to local CCG. Newham CCG provide administrative support in dealing with all NRPF applications in London
- The **pay and sleep** hostel have strong links with the local TB team for patients with no recourse to public funds.

Targets and outcomes

Outcome Measure (data from Public Health England)	Ealing	London	England
% of drug sensitive TB cases who had completed a full course of treatment by 12 months (2017)	**86.2% (n=100)**	85.9%	84.7%
Patients with TB offered an HIV test (2018)	**98.4% (n=124)**	96.8%	98.5%
Patients who started treatment within 2 months (2018)	**47.6% (n=30)**	41.3%	40.6%
Patients who started treatment within 4 months (2018)	**71.4% (n=45)**	74.6%	70.8%
Percentage of **pulmonary** TB that were culture confirmed (2018) * The percentage of culture confirmed **pulmonary** TB is higher than extra-pulmonary TB	**70.1% (n=47)**	75.4%	74%
Percentage of culture confirmed TB with drug sensitivity reported for the first 4 line agents (2018)	**93.4% (n=71)**	97.4%	97.3%

BCG vaccination uptake

The BCG program is risk based and is currently offered to all neonates in high risk boroughs. In these boroughs, outcome data has been collected for children who received a dose of BCG vaccine at any time by their first birthday as a percentage of all children whose first birthday falls within the period. However, data is of variable quality. Estimates of low coverage may therefore in part reflect poor data quality. Nationally, the BCG vaccination program is currently under review and there are likely to be changes from September 2020.

Latent TB screening and treatment completion rate

There are a total of 75 GP practices in Ealing (19 of which are in Southall).
In 2018/19, 12 Ealing GP practices had a contract with the CCG to provide Latent TB screening (6 of which were in Southall). A total of 36 practices completed screenings
In 2018, **684 patients were screened, of whom 94 were positive for latent TB (13.7%)**. The target rates for the number of patients screened for latent TB from April 2019-2020 is 660 patients.
Data provided by the TB team at Ealing hospital show high treatment completion rates for latent TB. Reasons for not completing treatment included loss to follow up (despite proactive outreach), side effects and diagnosis of active TB.

13.7%

Of those screened in 2018 were positive for latent TB

92.1%

Of those that then started treatment successfully completed it

Year	Started on Treatment	Completed Treatment	% completed
2017	46	43	**93.5%**
2018	38	35	**92.1%**
2019 (YTD)	26	24	**92.3%**

What do stakeholders think?

Stigma is a significant barrier to seeking support and treatment in Ealing. Myths including - TB is incurable and treatment is expensive. TB is seen to bring shame on the family.

The TB advisor is highly valued and has built significant links with the community in Southall. Stakeholders believe that further awareness raising and work with the local community would continue to assist in dispelling the myths surrounding TB.

There could be additional outreach work and support in Indian languages (e.g Hindi, Punjabi, Gujarati)

The increase in social risk factors has lead to increased demand on the TB team based at Ealing hospital. Despite the rate of TB reducing the workload remain heavy due to patients with complex needs.

There is unexplained variation in the number of **latent TB tests** sent by different GP practices. Clarification of the appropriate referral pathway and process would assist the TB team in receiving referrals promptly.

Elderly patients with TB often require a significant amount of support due to co-morbidities and medication interaction. This can be resource intensive for the TB team.

Training has been offered to departments within the council however due to time pressures there are barriers to the uptake of this training.

There are misconceptions amongst both stakeholders and the community regarding latent TB. The term is often not understood and it is confused with contact tracing.

The TB team feel confident of where to signpost patients who require additional social support

Stakeholder question whether there is scope to strengthen the use of community and voluntary sector in raising TB awareness

There are positive examples of cross sector working i.e between the TB team and the alcohol community outreach worker

Co-ordination both between and within between different agencies could be strengthened including within public health.

Unsecure immigration status is a barrier to accessing services

Patients are sometimes unaware of the reason for referral to the TB team following a positive test for latent TB.

Lack of registration with a GP is a barrier to care

Services, including RISE, are keen to engage and increase the awareness of TB among their staff.

Gaps and unmet needs

The incidence of TB is significantly higher in Southall than other areas of Ealing.

There is poor health literacy in relation to TB.

There is a need to improve the awareness amongst health professionals and local community about latent TB screening.

Within Southall there is unexplained variation between GP practices for the number of latent TB tests that are taken.

Further support is required to support GP surgery registration of people who are homeless and unregistered.

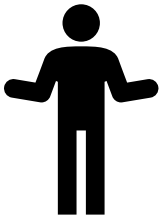
There is a need to combat the high level of stigma that surrounds TB. Outreach work and support in Indian languages would be helpful.

There are barriers to providing TB awareness training to staff within council departments (i.e housing team, social services, education)

Integrating TB awareness with services that deal with poverty and deprivation e.g food banks, citizens advice, job centre, homeless hostels

There is scope to review services to ensure TB is integrated where appropriate e.g services commissioned by public health.

Many patients with TB also have diabetes and other co-morbidities. There is an opportunity to consider integrating TB awareness training alongside condition-specific training.



Recommendations

High Priority Recommendations	Action by
Reducing stigma and increased awareness around TB • WLHT TB advisor to continue to promote TB awareness, including by social media and to consider expansion by training local volunteers as TB champions • Explore opportunities to integrate TB awareness with other health messages and programs in Southall. This includes partners in the voluntary sector, NHS and LA e.g. Southall diabetes project, Let's go Southall, Southall Community Alliance • Consider how to promote TB messages on GP screens, especially in Southall. • Frontline staff to continue to encourage socially excluded groups (.e.g. new immigrants, homeless people) to register with GPs *The above should be provided in a culturally sensitive manner and in the appropriate languages	WLHT and LA commissioners
Training for professionals • Ensure training and refresher training is provide for frontline staff, targeting those working with vulnerable populations in high prevalence wards such as Southall e.g GPs, pharmacists, staff in social care and housing, RISE, St Mungos etc. • Explore opportunities to embed to training for LA, NHS and Voluntary sector staff (e.g. mandatory training for frontline staff in high prevalence wards). *Ensuring consistent messaging and avoiding duplication between agencies	WLHT
Raise awareness of TB and related health inequalities with Primary Care Networks especially in Southall	Public Health
Improve the understanding and uptake of the latent TB screening by GP practices • To further explore and understand the variation between the number of latent TB tests sent by different GP practices. • Direct communications with GP practices to encourage uptake of the latent TB screening program, especially within Southall.	CCG
Multi-agency annual review at health protection forum and take to ensure TB is considered in the future health and wellbeing strategy	All Partners

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