

<b>Cabinet Member Consultation</b>			
<b>Report title:</b>	<b>Incidence and Response to Tuberculosis in Wolverhampton</b>		
<b>Cabinet member(s) consulted</b>	<b>Consulting employee</b>	<b>Mode of consultation</b>	<b>Primary date of consultation</b>
Councillor Jasbir Jaspal	Riva Eardley	Email	18 December 2023
<b>Key comments arising from consultation (if applicable):</b>			

# Health Scrutiny

18/01/2024

<b>Report title</b>	Incidence and Response to Tuberculosis in Wolverhampton	
<b>Cabinet member with lead responsibility</b>	Councillor Jasbir Jaspal	
<b>Wards affected</b>	All	
<b>Accountable director</b>	John Denley	
<b>Originating service</b>	Public Health	
<b>Accountable employee(s)</b>	Ainee Khan <a href="mailto:Ainee.Khan@wolverhampton.gov.uk">Ainee.Khan@wolverhampton.gov.uk</a> Riva Eardley <a href="mailto:Riva.Eardley2@wolverhampton.gov.uk">Riva.Eardley2@wolverhampton.gov.uk</a>	
<b>Report to be/has been considered by</b>	Public Health SLT	9 Jan 2024

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## Recommendation(s) for action or decision:

The Scrutiny Board is recommended to recognise the challenges of being a higher TB incidence local authority area and support existing partnerships to continue to ensure fast identification, diagnosis and treatment of TB in Wolverhampton.

### 1.0 Purpose

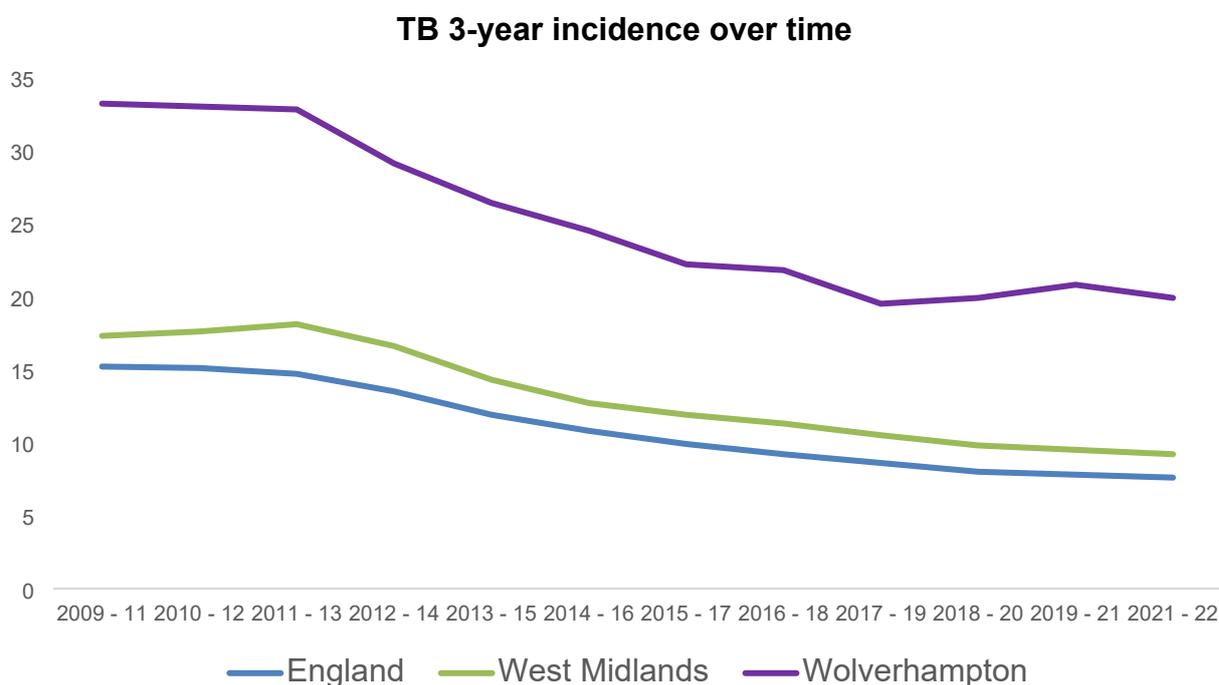
- 1.1 This briefing summarises the current situation in relation to the incidence and response to Tuberculosis (TB) in Wolverhampton.
- 1.2 To provide an update with recommendations related to the board giving recognition of the challenges faced in Wolverhampton.

### 2.0 Background

- 2.1 TB is a serious infectious disease, caused by an airborne bacterium, mycobacterium tuberculosis complex. It is both preventable and curable but still represents a significant

global public health issue. TB has been identified as a national priority, and accordingly, the UK Health Security Agency (UKHSA) and NHS England and Improvement (NHSE/I) jointly published the TB Action Plan 2021-2026. The plan places central focus on protecting susceptible people from acquiring TB infection and developing active disease, detecting and controlling TB disease, and monitoring and interrupting transmission<sup>i</sup>.

- 2.2 England is a low TB incidence country (as defined by the World Health Organisation (WHO)) with a 3-year average of 7.7 cases per 100,000 population between 2020-22<sup>ii</sup>. This equates to an average of 4,304 average cases per year. There is significant variation in notification rates between regions; with highest rates observed in London and the lowest in the Northeast and Southwest.
- 2.3 Wolverhampton has the highest incident rate in the West Midlands, with a three-year average incidence rate of 19.9 per 100,000 (2020-22). This equates to an average of 53 new cases per year.
- 2.4 Both nationally and locally incidence rates have decreased since a peak in 2019 (15.2 per 100,000 in England and 33.2 per 100,000 in Wolverhampton). The rate of decline has slowed over recent years and a slight increase in 2019-2021 was followed by a further decline in 2020-2022 (see below graph)<sup>ii</sup>.



## 2.5 TB Infection and TB Disease

- 2.5.1 Not everyone infected with TB bacteria has TB disease. This is because TB bacteria can live in the body without causing sickness; this is known as latent TB infection (LTBI). People with LTBI are not infectious (unable to spread TB bacteria on to others) and will usually be asymptomatic and feel well. It is

estimated that one-third of the world's population is infected with LTBI and, of those, only about 10% will become active (develop TB disease) at some point in their lifetime. However, for people with weak immune systems e.g., those with HIV, the risk of developing TB disease is much greater.

- 2.5.2 TB bacteria become “active” if the immune system can't stop them from multiplying and cause TB disease. People with TB disease will develop symptoms and become sick. They may also be able to pass on the infection to those who they have regular, close contact with. While TB disease is curable with antibiotics, it remains a leading cause of death worldwide with an estimated 37% of cases undetected.

## 2.6 Types of TB Disease

- 2.6.1 Most cases of TB disease affect the lungs in one or more locations. This is known as pulmonary TB. Typical symptoms include a bad cough that lasts more than three weeks, chest pain, coughing up blood or sputum, fatigue, weight loss, loss of appetite, fever / chills and night sweats.
- 2.6.2 Extrapulmonary TB (EPTB) is TB that affects other organs outside of the lungs (e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, bones, meninges etc.) and accounts for 15–25% of all cases. EPTB is typically more difficult to diagnose than pulmonary TB. The symptoms and signs generally relate specifically to the affected organ system.
- 2.6.3 Rare and severe presentations of TB include miliary TB, which often includes both pulmonary and extrapulmonary sites. It occurs when large quantities of bacteria travel through the bloodstream and spread throughout the body. It represents about 1% of all cases and can be difficult to diagnose because its presentation varies based on the affected body system.

## 2.7 Risk of TB among different groups

- 2.7.1 Anyone can get TB. However, men are four times more likely than women to become infected and higher rates are seen in the working age population than other age groups. Some groups are more at risk including those who have had contact with someone with TB disease, those with weakened immune systems and those who have come to the UK from countries where TB is more common.
- 2.7.2 Countries with high incidence (40 per 100,000) or very high incidence (150 per 100,000) as per WHO definitions include Eastern bloc countries, Sub-Saharan Africa and Asia. The UK government requires people resident in a country with high TB prevalence applying for a UK visa for more than six months undergo pre-entry screening in their country of origin<sup>iii</sup>.
- 2.7.3 There are four main social risk factors (SRF) known to increase the risk of TB which include current alcohol misuse, current or a history of drug misuse,

homelessness and imprisonment. As well as being at increased risk, those with one or more SRF are 2.3 times more likely to be lost to follow up and twice as likely to die from TB compared to those without SRF.

- 2.7.4 There are significant inequalities in the rate of TB and a strong link with social deprivation. The most deprived 10% of the population have a rate of more than 7 times higher than that of the least deprived, and people born outside of the UK have a rate 13 times higher than those born in the UK<sup>iv</sup>.

## 2.8 Prevention, Diagnosis, Treatment & Management

- 2.8.1 TB is preventable, even in those who have been exposed to someone who is infected. In Wolverhampton, the community TB service offers LTBI testing for new entrants from very high-risk countries, and anyone exposed to an active case of TB. Screening is via a skin test (Mantoux) or blood test (Interferon-gamma release assay (IGRA)).

- 2.8.2 Treatments for latent TB are determined based on the person's clinical circumstances. Treatment choices include:

- three months isoniazid (with pyridoxine) and rifampicin, typically given to people younger than 35 at low risk of hepatotoxicity.
- six months isoniazid (with pyridoxine), typically given when rifamycin drug interactions may be a concern (e.g., people with HIV or transplant recipients).

- 2.8.3 For a patient with suspected active pulmonary TB, investigations include a chest X-ray and three spontaneously produced sputum samples. If active extrapulmonary TB is suspected, investigations include a chest X-ray and a spontaneously produced sputum sample, together with other investigations depending on the site of disease<sup>iii</sup>.

- 2.8.4 A person diagnosed with active TB disease needs treatment for at least six months. Standard treatment involves quadruple antibiotic therapy; usually six months of isoniazid (with pyridoxine) and rifampicin, accompanied in the first two months by pyrazinamide and ethambutol. Treatment success is defined by completion of therapy with negative follow-up sputum smears. Provided that a patient adheres to treatment, TB can almost always be cured. If the full course is not completed there is a risk of developing drug-resistant TB, which is more difficult to treat<sup>iii</sup>.

- 2.8.5 Treatment of multidrug-resistant (MDR) TB is more complex than standard treatment, usually involving treatment for 18–24 months with at least six drugs, to which the bacterium is likely to be sensitive. People with drug resistant TB are likely to be infectious for longer periods, and treatment is often less effective and poorly tolerated due to increased side effects. Latest data shows resistance to antibiotics used to treat TB remains stable in England, with 1.6% of

individuals having rifampicin resistant or MDR TB and 5.9% mono-resistant to isoniazid<sup>iii</sup>.

2.8.6 Care of patients with TB is co-ordinated through the local multidisciplinary TB team. The team supports patients to successfully complete treatment by monitoring adherence, observing clinical response, and identifying adverse effects. Following an individual risk assessment, packages of care may include some, or all, of the following elements:

- Contact tracing.
- Enhanced case management for those considered to be at high risk of poor adherence to treatment (for example, SRFs, MDR TB, significant memory or cognitive problems, HIV, needing assistance to take medication etc.). This could include 'directly observed therapy' (DOT) or 'video observed therapy' (VOT) where the person is observed to swallow each dose of medication either face to face or via video link.
- Health and social care plan to support wrap around care.
- Infection control measures.
- Education about TB.
- Co-ordinated discharge planning.
- Liaison with other clinical teams, such as HIV, respiratory, infectious disease, and public health.<sup>iii</sup>

### 3.0 Discussion

3.1 While Wolverhampton is a relatively high incidence area, service provision is of a high standard and overall outcomes for people with TB are positive. For example, in 2022:

- the proportion of culture confirmed TB notifications with drug susceptibility testing reported (first four agents) was 100% in Wolverhampton (compared to 97% in England).
- the proportion of drug sensitive TB notifications that had completed a full course of treatment within 12 months was 86% in Wolverhampton (compared to 84% in England).
- 100% of TB patients were offered HIV testing compared to 98% in England.

3.2 The City of Wolverhampton Council Plan details ambition for residents to live longer, healthier lives through quality care; and healthy, inclusive communities. Identifying and treating people with TB, as well as preventing onward transmission, is a key priority that aligns to the Local Authority's Public Health vision for 2030<sup>v</sup>. Supporting awareness and earlier identification and treatment of TB contributes to improving life expectancy and reducing health inequalities.

3.3 Maintaining the long-term downward trend in TB incidence will not be without its challenges. The diversity of the local population (in terms of both nationality and ethnicity)

means there are naturally greater levels of international travel to and from high and very high incidence countries. In addition, general levels of deprivation mean that other known SRFs for TB continue to be prevalent throughout the city.

- 3.4 Partnership working across the system is essential to help minimise incidence and ensure all residents at risk of LTBI and active TB are identified, diagnosed and treated at the earliest opportunity. In order to reduce the impact and burden of TB, partners have a responsibility to contribute to raise further awareness of symptoms and increase knowledge about referral pathways available to local communities. TB services actively engage with organisations that work closely with residents from high-risk communities and provide education and resources to support symptom awareness. CWC is working in collaboration with NHS and system colleagues to further strengthen partnership arrangements relating to TB to enable local services to continue to meet the challenges identified in this report.

#### **4.0 Questions for Scrutiny to consider**

- 4.1 There are no specific questions for the Health Scrutiny Board to consider.

#### **5.0 Financial implications**

- 5.1 There are no financial implications arising from the recommendations of this report; there will be no impact on the Council's net budget. [NC/08012024/A]

#### **6.0 Legal implications**

- 6.1 There are no legal implications arising from the recommendations of this report. [TC/0812023/A]

#### **7.0 Equalities implications**

- 7.1 Public Health completed an equalities impact assessment for the TB nursing service during the last commissioning cycle. Reducing inequalities and minimising the impact of communicable diseases is core to public health. The TB services will be available free to all patients registered with a Wolverhampton GP and all residents across the city.

TB can affect anyone of any age, gender, disability, race, sexual orientation, gender-reassignment, marital or pregnancy status. Data show that people of working age and those born outside the UK are at increased risk. The TB service is a universal service, designed to meet the needs of all individuals affected by TB in Wolverhampton. The service reinforces prevention, identification and treatment of TB and therefore has a positive impact on service users across all equality categories.

The service aims to reduce inequalities in risk of TB between those born outside the UK and those born in the UK, by offering targeted testing for Latent TB Infection (LTBI) to new entrants from very high incidence countries and BCG vaccination to children from high incidence countries.

## **8.1 Climate change and environmental implications**

8.1 There are no climate change and environmental implications arising from the recommendations of this report.

## **9.0 Health and Wellbeing Implications**

9.1 All health and wellbeing implications are discussed in the body of the report.

## **10.0 Human resources implications**

10.1 There are no human resource implications arising from the recommendations of this report.

## **11.0 Corporate landlord implications**

11.1 There are no implications for the council's property portfolio arising from the recommendations of this report.

## **12.0 Covid Implications**

12.1 There are no Covid implications arising from the recommendations of this report.

## **13.0 Schedule of background papers**

13.1 None.

## **References**

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<sup>i</sup> UK Health Security Agency, 2021, Tuberculosis (TB): action plan for England, 2021 to 2026, <https://www.gov.uk/government/publications/tuberculosis-tb-action-plan-for-england>, (accessed 13 December 2023)

<sup>ii</sup> UKHSA, 2023, Tuberculosis (TB) notifications reported to enhanced TB surveillance systems: UK, 2000 to 2022, online: <https://www.gov.uk/government/statistics/tuberculosis-tb-notifications-reported-to-enhanced-tb-surveillance-systems-uk-2000-to-2022> (accessed 4 December 2023).

<sup>iii</sup> NICE, 2023, Clinical knowledge summaries: Tuberculosis, online: <https://cks.nice.org.uk/topics/tuberculosis/> (accessed 14 December 2023).

<sup>iv</sup> Public Health England, 2019, Tackling tuberculosis in under-served populations, online: <https://www.gov.uk/government/publications/tackling-tuberculosis-in-under-served-populations> (accessed 13 December 2023)

<sup>v</sup> City of Wolverhampton Council, 2018, The vision for Public Health 2030; longer healthier lives, online: [https://www.wolverhampton.gov.uk/sites/default/files/pdf/The\\_vision\\_for\\_Public\\_Health\\_2030.pdf](https://www.wolverhampton.gov.uk/sites/default/files/pdf/The_vision_for_Public_Health_2030.pdf) (accessed 15 December 2023)