

SLOUGH BOROUGH COUNCIL

REPORT TO: Health Scrutiny Panel

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FOR INFORMATION & CONSIDERATION*

TUBERCULOSIS (TB) IN SLOUGH

1. Purpose of Report

The purpose of this report is to inform the Board of the following

- What TB is and how it is spread
- What happens to people infected with TB
- Why this is an important Public Health issue
- Current TB services in the Slough area
- How services could be improved
- Why continued funding is necessary for the continued well being and safety of the population

2. Recommendation(s)/Proposed Action

The committee is requested to note that;

- Many services in Slough are contributing to the; prevention, early identification and the effective treatment of Tuberculosis.
- Slough's incidence of TB has continued to rise to a peak of 56.7 per 100,000 compared to 15.1 in England. (Public Health Outcomes Framework 2010-2012)
- The treatment completion rates have continued to improve as 89% completed treatment in 2011 compared to 80% in 2007, as described by the 2013-2014 report into Health Protection Priorities in the Thames Valley. The Chief Medical Officer's target is 85%.

3.The Slough Wellbeing Strategy, the JSNA and the Corporate Plan

Tuberculosis (TB) was a key health issue in the 2011-2012 JSNA and remains so in the 2013 JSNA as TB rates remain high within Slough.

Slough Wellbeing Strategy Priorities

Increased access to TB screening is one of the aims of the Slough Joint Wellbeing Strategy 2013-2016. Meeting the population needs for identification and treatment of TB has wider implications for many public health priorities within the SWS including, but not limited to:

- Health – improving physical health of those with, or at risk of, TB
- Housing – improving housing among high risk groups, for example reducing transmission in high occupancy residences
- Economy and skills- enable skilled workers to return to the workplace after successful treatment without threat of transmitting disease to colleagues

Slough has the highest incidence of TB in the South East. This high incidence leads to a negative stigma about the health of the population, especially migrant communities. Reducing the rates of tuberculosis has the potential to improve the overall image of Slough, thus ensuring it remains a desirable place to work and live.

Other Implications

(a) Financial

There are no financial implications of proposed action. Funding for tuberculosis services is from local CCG's.

(b) Risk Management

Risk	Mitigating action	Opportunities
Untreated can lead to debilitating disease and/or death	1. Continued efforts in identifying and treating TB	2. New Entrants Screening Service 3. GP Education 4. Raising awareness in 2 ^o care
Multi-drug resistant TB	5. Early identification, isolation and appropriate treatment	6. Raising awareness amongst GP's to refer if no symptom improvement 7. Use of recommended drug regimes

4.Supporting Information

Facts and Figures

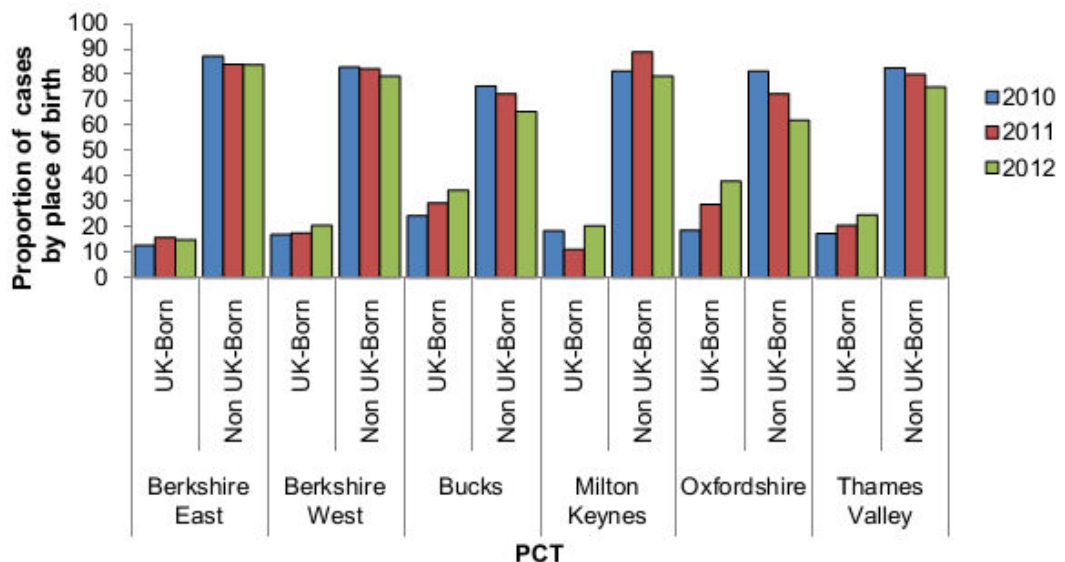
Tuberculosis is an infection caused by any of the four strains that comprise the Mycobacterium (M) tuberculosis complex, M. tuberculosis, M.bovis or M. africanum. The bacteria are oxygen dependent and characteristically resistant to acid preparations for microscopic identification. In most cases, TB is a disease of the lungs but it can infect almost any where else in the body including the brain (in the meninges where it can cause meningitis), bone and bowel. Rarely, it can spread all over the body (called military TB). Any person with symptoms from the tuberculosis bacteria is said to have 'active tuberculosis.'

Symptoms of active pulmonary TB include; productive cough lasting three months or longer, weight loss, night sweats, chills, fever, and blood in sputum.

Latent TB refers to a patient who is infected with tuberculosis but shows no symptoms (remains asymptomatic). Infection will not be visible on chest x-ray, though patients will still test positive on skin and blood tests. Latent TB is not infectious but can further develop into active disease.

TB occurs mostly in residents who have been born in or visited overseas countries where TB is endemic. The latest results from 2010-13 from the Thames Valley Health Protection unit show the rate of TB is much higher in those born outside of the UK (Figure 1).

Figure 1; Country of origin of those infected with TB in Thames Valley PCTs.



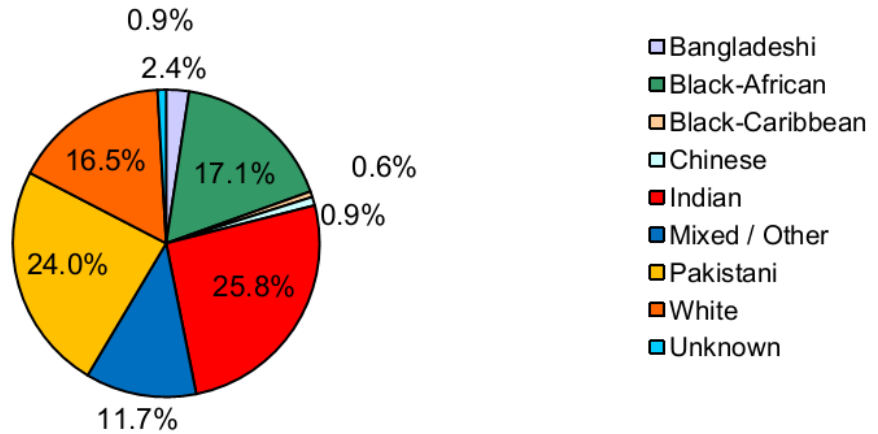
Source: ETS

*Provisional data for 2012

Slough has a high rate of immigration and many of the new entrants are arriving from countries where TB incidence is high (defined as >40 cases per 100,000 population). (See Appendix 1)

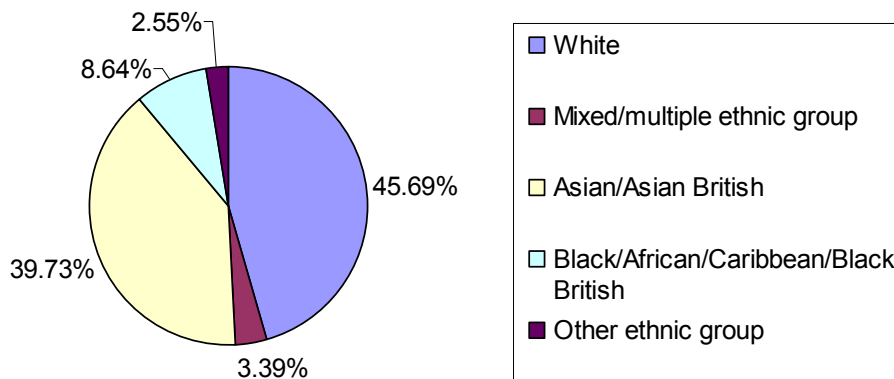
According to the 2011 census, 27.8% of the population was born outside the UK and EU and almost 10% were born in the EU. Figure 2 clearly shows the incidence of TB is higher in specific ethnic groups. Figure 3, from the latest Census data release demonstrates the main ethnic groups within Slough's population as a whole.

Figure 2. Tuberculosis cases by ethnic group, Thames Valley 2011



Source: Enhanced TB Surveillance System (ETS), TVHPU
*Provisional data for 2011

Figure 3. Ethnic Groups within the Slough Population, 2011 (Data from Nomis, 2011 census data)



While this diversity plays a major role in Slough's rich cultural community, the high risk countries these residents are emigrating from increase the TB burden. Therefore, immunisation of newborn children, TB screening of new entrants, identification of and timely treatment of people with active disease remain a high priority for Slough Borough Council.

TB services in Slough

Immunisation of newborn children in high risk areas

Preventing infection of TB in early childhood in high risk children is a key public health issue. Neonates deemed high risk by the Health Visitors will receive the BCG vaccination. High risk neonates are defined by NICE as those born in an area with high incidence of TB, with one or more parents or grandparents who are from a high incidence country or a family history of TB in the last five years. NICE also recommends that GP's consider vaccinating all neonates should they be born within a particularly high incidence area such as Slough. All newborns at risk are vaccinated at Wexham Park Hospital.

TB screening

GP's are encouraged to opportunistically screen older children who would have qualified for the neonatal BCG vaccination but have recently immigrated or not been previously vaccinated in the UK prior to guidance change.

TB screening for new entrants service at Upton Hospital

The New Entrants Screening Service is based at Upton Hospital and is responsible for all New Entrants to East Berkshire. New Entrants are referred in to the service from the Home Office at the ports of entry, GP's and self referrals. NESS aims to offer a comprehensive service for new immigrants to Slough that includes screening for Tuberculosis. Ongoing research is underway to better inform Slough Borough Council how New Entrant Screening Services are being run, how effective they are and how we can redesign the service to reflect increased demands.. The service uses a choice of screening methods according to the results of a risk assessment.

TB treatment services

The King Edward VIIth Hospital in Windsor has a dedicated Tuberculosis service which is a service offered by Wexham Park respiratory teams. The team is comprised of three Nurse Practitioners and a named TB consultant whose role it is to cover patients in the hospital, community and through home visits. The majority of their case load is confirmed cases of Tuberculosis and less of screening, although at times when a child in a school is thought to be infected they will conduct contact tracing and risk assessments in conjunction with the Public Health England communicable disease team at Chilton in Oxford. The Nurse Practitioners take referrals directly from the New Entrants Screening Service at Upton Hospital.

Antibiotic Treatment of TB

Treatment of *active* TB is an arduous task requiring a minimum 6 months of antibiotic treatment; two months of isoniazid, rifampicin, ethambutol, and pyrazinamide followed by 4 months of isoniazid and rifampicin alone. These antibiotics are not without side-effects.

Symptoms of treatment include interactions with other drugs (rifampicin, specifically, can alter the liver's metabolism of other medications), liver damage, damage to eyes (liver function and visual acuity are monitored during treatment) as well as nausea, chills and bone pain. Rifampicin characteristically causes red discoloration of sweat, urine and tears. Because of the large side effect profile of each drug, concordance (the name given to how well a patient keeps on taking their prescribed drugs) needs close follow up with a named TB nurse and Health Visitor.

Treatment for *latent* TB is recommended for

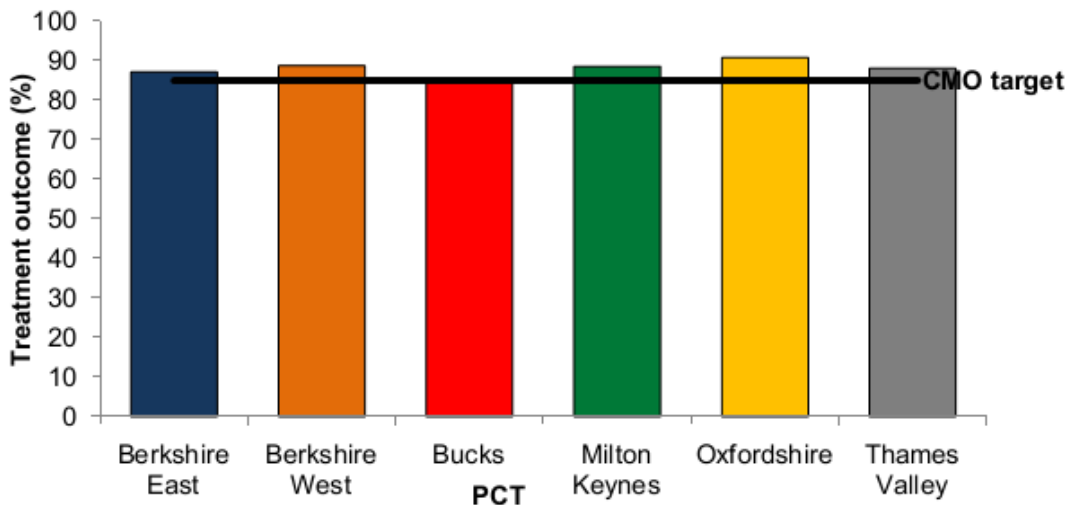
- Those under 35 years old
- HIV positive patients
- Healthcare workers
- Those with a chest x-ray indicative of active TB in that past who has not before received treatment

A specialist consultant may treat others on an individual case basis (i.e immunosuppressed patients) but with increasing age, the risk of permanent liver damage from the drugs increases and therefore risks often outweigh the benefits. However, should a patient diagnosed with latent TB subsequently develop active disease, treatment is a must. Treatment regimes for latent TB vary but are based on 3 to 6 months of isoniazid +/- rifampicin. As these patients are asymptomatic and the medications they are now taking have a severe side effect burden, concordance is a key issue that should be followed up individually.

Treatment outcomes in Slough

Treatment completion rates have increased in the last few years in Slough. The average rates from 2007-2011 remain above the CMO's target of 85% as demonstrated by Figure 4.

Figure 4. Tuberculosis treatment completion rate at 12 months by PCT, Thames Valley, (2007-2011 average).



Source: ETS

5. Comments of Other Committees / Priority Delivery Groups (PDGs)

This paper will be presented to both the Overview and Scrutiny Panel and the Wellbeing Board.

6. Conclusion

Tuberculosis prevention, identification and treatment should remain a high priority in the interest of maintaining good health. Whilst current treatment outcomes exceed national averages another public health outcome measure is 'early deaths from conditions amenable to healthcare' in which TB as one of the contributing diseases. Slough CCG is tasked with improving this measure and improving the TB service would improve this outcome in the longer term.

The panel is requested to note the actions underway to audit the New Entrants Screening Service against NICE Guidance and further updates will be supplied when required..

7. Appendices Attached

1. WHO Estimates of tuberculosis incidence by rate, 2011

8. Background Papers

1. National Institute for Health and Care Excellence (2013) [Clinical diagnosis and management of tuberculosis, and measures for its prevention and control]. [CG0117]. London: National Institute for Health and Care Excellence.
2. Migrant Health Guide: Tuberculosis. Public Health England Online. http://www.hpa.org.uk/MigrantHealthGuide/HealthTopics/InfectiousDiseases/Tuberculosis/#prevention_and_control
3. National Institute for Health and Care Excellence (2012). [Identifying and managing tuberculosis among hard-to-reach groups. Nice Public Health Guidance [ph37]. London: National Institute for Health and Care Excellence
4. The Green Book: Chapter 32 Tuberculosis. 2013. Public Health England. Available online <https://www.gov.uk/government/publications/tuberculosis-the-green-book-chapter-32>
5. Tunbridge, Anne. Screening International Migrants for Infection. Paper presented to NICE Programme Development Group on Identifying and Managing Tuberculosis among hard-to-reach-groups. Manchester. November 2010. Available for download from <http://guidance.nice.org.uk/PH37/SupportingEvidence/ExpertTestimonyPapers/pdf/English>

6. Cocksedge Malcolm. Nurse Led Triage. Paper presented to NICE Programme Development Group on Identifying and Managing Tuberculosis among hard-to-reach-groups. Manchester. November 2010. Available for download from <http://guidance.nice.org.uk/PH37/SupportingEvidence/ExpertTestimonyPapers/pdf/English>
7. National Institute for Health and Care Excellence (2013). Screening for latent tuberculosis in a person who is a new entrant from a high-incidence country. NICE Pathway. Available online <http://pathways.nice.org.uk/pathways/tuberculosis/screening-for-latent-tuberculosis-in-new-entrants-from-a-high-incidence-country#content=view-node%3Anodes-new-entrant-from-high-incidence-country>
8. ¹ National Institute for Health and Care Excellence (2013). Managing active tuberculosis. NICE Pathway. Available online <http://pathways.nice.org.uk/pathways/tuberculosis/managing-active-tuberculosis#content=view-node:nodes-treating-respiratory-tuberculosis>
9. NHS Choices. 2012. Tuberculosis (TB)-Treatment. <http://www.nhs.uk/Conditions/Tuberculosis/Pages/Treatment.aspx>
10. Health Protection Priorities in the Thames Valley 2013-14. PHE England..

For extra reading on Tuberculosis and it's implications on health world wide :

WHO Fact Sheet. October 2013. Available online at <http://www.who.int/mediacentre/factsheets/fs104/en/index.html>

Appendix 1 World Health Organization (WHO) estimates of tuberculosis incidence by rate, 2011 (sorted by rate)

These WHO estimates are also available [sorted by country](#).

Definition of high incidence

With reference to the National Institute for Health and Clinical Excellence (NICE) recommendations for BCG vaccination and screening in England and Wales, countries/territories with an estimated incidence rate of 40 per 100,000 or greater are considered to have a high incidence of tuberculosis.

International incidence of tuberculosis

Country/Territory	WHO Region	Estimated number of cases	Estimated rate per 100,000 population
Swaziland	Africa	16000	1317
South Africa	Africa	500000	993
Namibia	Africa	17000	723
Sierra Leone	Africa	43000	723
Lesotho	Africa	14000	632
Djibouti	Eastern Mediterranean	5600	620
Zimbabwe	Africa	77000	603
Mozambique	Africa	130000	548
Marshall Islands	Western Pacific	290	536
Timor-Leste	South-East Asia	5700	498
Botswana	Africa	9200	455
Gabon	Africa	6900	450
Zambia	Africa	60000	444
Cambodia	Western Pacific	61000	424
Central African Republic	Africa	18000	400
Congo	Africa	16000	387
Myanmar	South-East Asia	180000	381
Kiribati	Western Pacific	360	356
Papua New Guinea	Western Pacific	24000	346
Democratic People's Republic of Korea	South-East Asia	84000	345
Mauritania	Africa	12000	334
Democratic Republic of the Congo	Africa	220000	327
Angola	Africa	61000	310
Liberia	Africa	12000	299
Kenya	Africa	120000	288
Somalia	Eastern Mediterranean	27000	286
Gambia	Africa	4900	279

International incidence of tuberculosis

Country/Territory	WHO Region	Estimated number of cases	Estimated rate per 100,000 population
Philippines	Western Pacific	260000	270
Ethiopia	Africa	220000	258
Cameroon	Africa	49000	243
Guinea-Bissau	Africa	3700	238
Madagascar	Africa	51000	238
Pakistan	Eastern Mediterranean	410000	231
Tuvalu	Western Pacific	22	228
Bangladesh	South-East Asia	340000	225
Mongolia	Western Pacific	6200	223
Haiti	The Americas	22000	220
Lao People's Democratic Republic	Western Pacific	13000	213
Equatorial Guinea	Africa	1500	202
Micronesia (Federated States of)	Western Pacific	220	200
Viet Nam	Western Pacific	180000	199
Tajikistan	Europe	13000	193
Uganda	Africa	67000	193
Bhutan	South-East Asia	1400	192
Côte d'Ivoire	Africa	38000	191
Malawi	Africa	29000	191
Afghanistan	Eastern Mediterranean	61000	189
Indonesia	South-East Asia	450000	187
Guinea	Africa	19000	183
India	South-East Asia	2200000	181
Greenland	Europe	100	178
United Republic of Tanzania	Africa	78000	169
Nepal	South-East Asia	50000	163
Republic of Moldova	Europe	5700	161
Palau	Western Pacific	32	153
Chad	Africa	17000	151
South Sudan	Eastern Mediterranean	15000	146
Cape Verde	Africa	730	145
Burundi	Africa	12000	139
Senegal	Africa	17000	136
Bolivia (Plurinational State of)	The Americas	13000	131
Kazakhstan	Europe	21000	129
Kyrgyzstan	Europe	6900	128
Georgia	Europe	5400	125
Thailand	South-East Asia	86000	124

International incidence of tuberculosis

Country/Territory	WHO Region	Estimated number of cases	Estimated rate per 100,000 population
Nigeria	Africa	19000	118
Sudan	Eastern Mediterranean	40000	117
Azerbaijan	Europe	11000	113
Guyana	The Americas	830	110
Niger	Africa	17000	108
Morocco	Eastern Mediterranean	33000	103
Solomon Islands	Western Pacific	570	103
Peru	The Americas	30000	101
Romania	Europe	22000	101
Uzbekistan	Europe	28000	101
Republic of Korea	Western Pacific	48000	100
Eritrea	Africa	5200	97
Russian Federation	Europe	140000	97
Rwanda	Africa	10000	94
Sao Tome and Principe	Africa	160	94
Algeria	Africa	32000	90
Ukraine	Europe	40000	89
Malaysia	Western Pacific	23000	81
Ghana	Africa	20000	79
China, Hong Kong SAR	Western Pacific	5500	78
China	Western Pacific	1000000	75
Turkmenistan	Europe	3800	74
China, Macao SAR	Western Pacific	410	73
Togo	Africa	4500	73
Belarus	Europe	6700	70
Benin	Africa	6300	70
Brunei Darussalam	Western Pacific	280	70
Vanuatu	Western Pacific	160	67
Sri Lanka	South-East Asia	14000	66
Dominican Republic	The Americas	6500	65
Guam	Western Pacific	120	65
Ecuador	The Americas	9100	62
Mali	Africa	9800	62
Guatemala	The Americas	9000	61
Northern Mariana Islands	Western Pacific	37	60
Lithuania	Europe	1900	59
Burkina Faso	Africa	9700	57
Armenia	Europe	1700	55
Bosnia and Herzegovina	Europe	1800	49
Panama	The Americas	1700	48
Iraq	Eastern Mediterranean	15000	45
Paraguay	The Americas	3000	45

International incidence of tuberculosis

Country/Territory	WHO Region	Estimated number of cases	Estimated rate per 100,000 population
Suriname	The Americas	230	44
Yemen	Eastern Mediterranean	11000	44
Honduras	The Americas	3400	43
Brazil	The Americas	83000	42
Latvia	Europe	930	42
Belize	The Americas	130	40
Libyan	Eastern Mediterranean	2600	40
Nicaragua	The Americas	2400	40
Niue	Western Pacific	<1	40

Note: Data presented here are an extract of data available for download from the WHO website. Only 'best estimate' figures of incidence are included here. Uncertainty bounds for these estimates are included in data downloadable from the WHO website and should be referred to if further interpretation of the figures is required. Details of the methods used for the estimation of incidence can be found in the WHO ['Global tuberculosis report 2012'](#) [external link].

Sources: [WHO TB burden estimates](#) [external link] and ['Global tuberculosis report 2012'](#) [external link]. Accessed 02/12/2012.

Prepared by: TB Section, Health Protection Services - Colindale

Please note. The above table has been amended to show only the countries that are considered to have high incidence.

Estimated TB incidence rates, 2012

