

## **BCG Statement**

### **Executive Summary**

Following a review of recent surveillance data of tuberculosis (TB), the Joint Committee on Vaccination and Immunisation (JCVI) is maintaining its advice that the targeted BCG vaccination programme announced in 2005 remains the most effective vaccination strategy for the UK.

The data shows that the disease remains most prevalent in certain groups within the population and in certain parts of the country. Rates of TB in other groups remain low and stable.

The JCVI believes that targeting the BCG programme to achieve high rates of coverage in particular ethnic groups and in parts of the country where TB rates are highest is the most effective vaccination strategy.

### **Background**

Tuberculosis (TB) is a leading cause of morbidity and mortality globally. It is estimated that nearly 2 million people die of the disease every year despite significant advances in the treatment of TB in the 20<sup>th</sup> Century. Of these deaths, 98% occur in the developing world and in particularly South Asia and sub-Saharan Africa.

The resurgence of TB in some parts of the UK has been associated with changing patterns in its epidemiology. Over the last 50 years, it has moved from a disease that occurred across all parts of the population to one occurring predominantly in specific population subgroups. Rates are higher in certain communities, mainly by virtue of their connections to higher-prevalence areas of the world. In other communities, endemic factors such as homelessness and alcohol misuse are important factors.

Tuberculosis infection may occur when an uninfected individual breathes in bacteria of the Mycobacterium tuberculosis complex which have been coughed out by an individual with tuberculosis disease affecting their lungs (pulmonary TB). Tuberculosis affecting other parts of the body is not infectious to others. Among individuals who have pulmonary TB, about 90% remain well or have only a relatively minor and transient illness. About 10% progress to active TB disease. The risk of progression is greatest in the first few years after infection but disease may develop at any time in their life due to the reactivation of dormant infection. As latent infection usually goes undetected, surveillance of TB is based on the occurrence of cases of active disease.

### **TB In the UK**

In the early 1950's, there were over 50,000 cases of TB per year in the UK. The disease occurred across all sectors of society, but most cases occurred in the younger adult population. This may have been linked to the more

crowded working environments, at that time which resulted in more people being exposed to the TB bacteria.

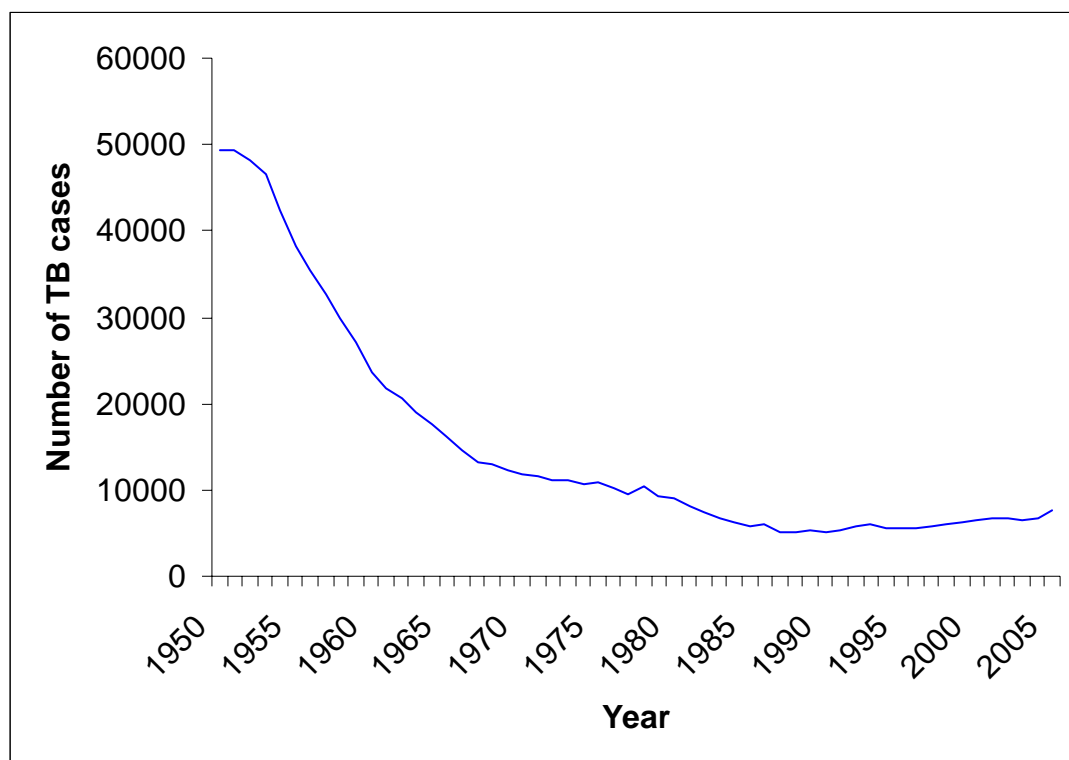
BCG vaccine was introduced in the UK in 1953. It was offered to all children aged 12 or 13 years of age in order to provide protection before leaving school.

In the 1960s, the BCG vaccination programme was extended to include selective immunisation of neonates born to recent entrants to the UK from countries with high rates of TB. This was due to the increased risk that these babies had of developing the disease.

Cases of TB in the UK fell from 50,000 per year in the 1950s to a low of 5,745 cases in 1987. During the 1990s, we saw small annual increases in the incidence of TB following the worldwide resurgence in the disease. Around 8,000 cases of TB are currently recorded each year in the UK. Figure 1 shows the number of TB cases in England and Wales from 1950 – 2005.

In 2005, BCG vaccination policy moved from a universal schools-based vaccination programme to a programme targeted on particular risk groups. This change in policy reflected the changing patterns in the epidemiology of the disease (see CMO letter 6 July 2005<sup>1</sup>).

Figure 1: Number of TB cases in England and Wales from 1950-2005



<sup>1</sup> [www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefmedicalofficerletters/DH\\_4114993](http://www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefmedicalofficerletters/DH_4114993)).

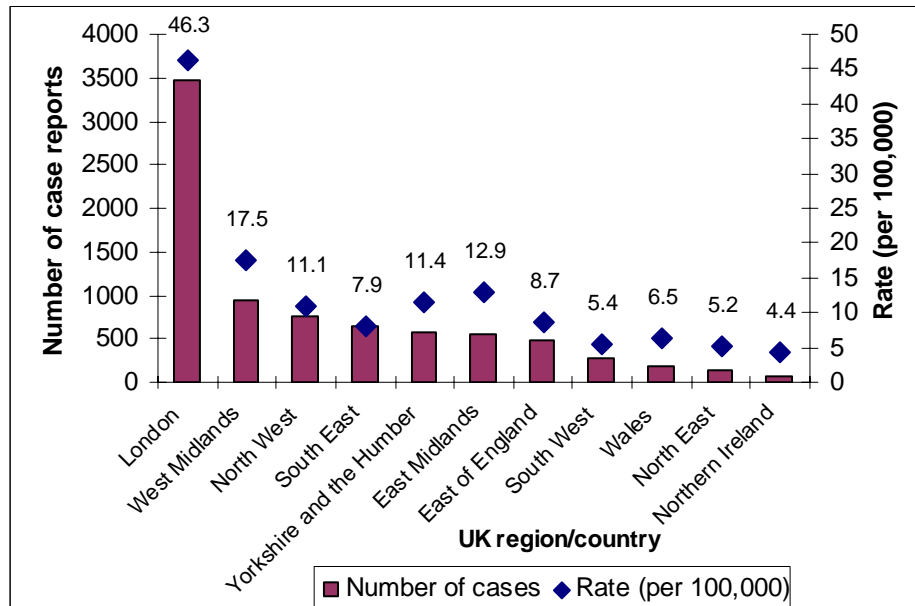
## TB Cases 2000 - 2005

Surveillance carried out by the Health Protection Agency on tuberculosis in England, Wales and Northern Ireland<sup>2</sup> found that:

- 8113 TB cases were reported in 2005 (a rate of 14.7 per 100,000 of the population). This represents an increase of 11% in case numbers compared to 2004.
- The London region accounts for 43% of cases in 2005 and had the highest rate of disease – 46.3 per 100,000
- The rate of TB among the UK-born population remained relatively stable between 2000 and 2005
- The rate of disease in the non-UK born population increased each year between 2000 and 2005. In 2005, 78% of these cases had arrived in the UK two years or more prior to diagnosis

The continuing increase reinforces and highlights the importance of working towards the goals outlined in the CMO Tuberculosis Action Plan<sup>3</sup>. Treatment completion rates for example are around 78-79%, but remains below the 85% target set in the CMO's Plan.

Fig 2 illustrates the geographical variation in the incidence of TB in England and Wales, with London showing much higher rates than other parts of the country.



<sup>2</sup> Focus on Tuberculosis – Annual Surveillance report 2006  
([www.hpa.org.uk/publications/2006/tb\\_report/focus\\_on\\_tb.pdf](http://www.hpa.org.uk/publications/2006/tb_report/focus_on_tb.pdf))

<sup>3</sup> ([www.dh.gov.uk/en/Aboutus/MinistersandDepartmentleaders/Chiefmedicalofficer/DH\\_4103091](http://www.dh.gov.uk/en/Aboutus/MinistersandDepartmentleaders/Chiefmedicalofficer/DH_4103091))

Figure 3 shows the number of TB cases reported by UK region/country 2000 - 2005. The rate of cases in London has been significantly higher than other parts of the country for a number of years.

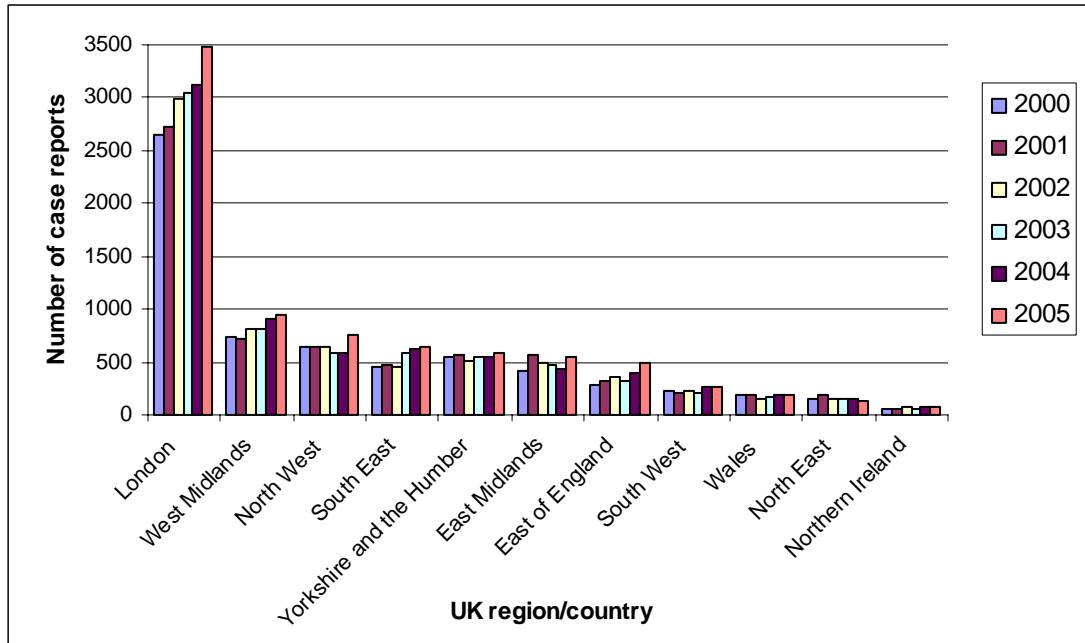
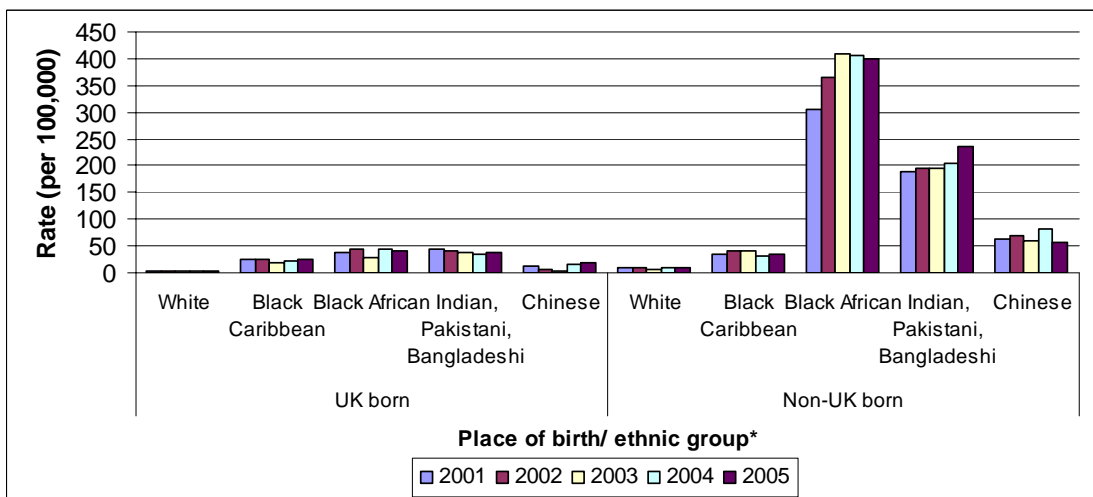


Figure 4: illustrates TB rates among different ethnic groups. Rates in Black African groups, and in Indian, Pakistan and Bangladeshi groups remained higher than other groups in both UK and Non-UK born.



## JCVI Consideration

In light of the new TB surveillance, JCVI reviewed its advice on BCG in early 2007.

The Committee agreed that there was no substantial change in the epidemiology of the disease or the population sub groups most affected, and the incidence of disease remained low to the population overall. Therefore, the Committee confirmed that its advice remained unchanged – the routine BCG school vaccination programme should not currently be reintroduced.

There are few data on the protection afforded by BCG vaccine when it is given to adults (aged 16 and over), and virtually no data for persons aged 35 years and over. BCG is not usually recommended for people aged over 16 years, unless the risk of exposure is great (eg healthcare or laboratory workers at occupational risk or where vaccination is indicated for travel).

The Committee advised that its current advice for a targeted at risk based programme (as presented in the CMO letter 6 July 2005) remained appropriate. It recommended that focus should be on those at greatest risk of exposure, who are:

- all infants (aged 0 to 12 months) living in areas of the UK where the annual incidence of TB is 40/100,000 or greater
- all infants (aged 0 to 12 months) with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater
- previously unvaccinated children aged one to five years with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater. These children should be identified at suitable opportunities, and can normally be vaccinated without tuberculin testing
- previously unvaccinated, tuberculin-negative children aged from six to under 16 years of age with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater. These children should be identified at suitable opportunities, tuberculin tested and vaccinated if negative (see section on tuberculin testing prior to BCG vaccination)
- previously unvaccinated tuberculin-negative contacts of cases of respiratory TB (following recommended contact management advice – see National Institute for Health and Clinical Excellence (NICE), 2006)
- previously unvaccinated, tuberculin-negative new entrants under 16 years of age who were born in or who have lived for a prolonged period (at least three months) in a country with an annual TB incidence of

40/100,000 or greater.