

# Migrants screened for active tuberculosis pose negligible risk of spreading infection but can still get disease later

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Tuberculosis (TB) incidence in the UK has declined over the past 4 years, with fewer numbers of new migrants diagnosed with the disease. A new study, published in *The Lancet* finds that migrants arriving on visas to the UK from countries at high risk of TB and who were pre-screened for TB, pose a negligible risk of onwards infection, despite being at increased risk of developing TB themselves. The findings suggest that the UK's current pre-entry screening programme, now in place in 101 countries, as well as ongoing monitoring and treatment will be important in continuing the downward trend of TB incidence in the UK.

Latest data on the incidence of TB in England show that the number of cases has declined over the past 4 years to 5,758 cases (10.5 per 100,000 people) in 2015, from its peak of 8,280 cases (15.6 per 100,000) in 2011. Similar to other countries with low incidence of TB, most cases identified in the UK are in the non UK-born population (73% in 2015). Recent data suggest there has been a decline in the number of cases occurring in new migrants with more than half of non-UK born cases (60%) occurring among those who have lived in the UK for over 6 years.

A new study, led by University College London (UK), analysed data from over 500,000 migrants arriving in the UK - mainly on student or settlement visas - between 2006 and 2012 who were pre-screened for TB as part of a pilot pre-entry screening programme. Countries included in

the pilot programme were Bangladesh, Burkina Faso, Cambodia, Cote D'Ivoire, Eritrea, Ghana, Kenya, Laos, Niger, Pakistan, Somalia, Sudan, Tanzania, Thailand, and Togo. Before this, testing for TB was done on arrival in the UK, and since 2012, the programme has been expanded to 101 countries.

Under the programme, visa applicants who are intending to stay in the UK for more than 6 months are screened for active TB in their country of origin. Pre-screening tests involve a chest radiograph and sputum testing in cases of suspected active TB. Culture testing was also rolled-out across sites during the pilot. Visa applications are processed only after a certificate confirming clearance of active TB has been issued.

519,955 people arrived in the UK post-screening as part of the pilot. Of these, a total of 1873 cases of TB were identified in England, Wales, and Northern Ireland over the 7 years of the study (mean follow up was 2.45 years). The risk of TB infection was greatest at 4 years post-arrival, suggesting that ongoing monitoring and good access to healthcare will be important in further reducing the incidence of TB in the UK.

During the later years of the pilot (2010-2013), molecular data on TB cases were collected in the UK, allowing the research team to estimate the number of cases identified post-arrival that were assumed to be due to reactivation of latent TB (ie, dormant with no current symptoms). Out of 318,983 migrants who arrived over this period, 301 cases of TB were identified as probably due to reactivation of latent infection acquired abroad. Using these molecular data it was estimated that only 35 TB cases identified in screened migrants were likely to have caused onward transmission of TB within the UK.

"In the UK, rates of TB have declined by about a third since 2011 and the relatively small number of cases we see every year are mostly from people born outside the country. For the first time, our study provides

insights into the type of TB that people develop after arrival, and shows that only a very small number of TB cases (35) out of more than 300,000 migrants screened appear to have caused onward transmission. The risk to public health is therefore negligible," says Dr Rob Aldridge, lead author from University College London. "Pre-screening for TB is primarily designed to detect active TB. Screening for latent TB is possible and may further reduce the incidence of TB in the UK especially in groups at highest risk, but it will be important to analyse its cost-effectiveness."

The researchers found that people who had travelled from countries with very high incidences of TB (over 350 per 100,000 people), people who reported being in close contact to someone with TB, and people who had a positive chest radiograph (but negative sputum samples) were at greatest risk of developing TB post-arrival. The findings suggest that programmes to detect latent TB as part of pre-screening programmes may be effective, especially if they are targeted towards people at greatest risk, but that cost-effectiveness analyses should be conducted.

Dr Dominik Zenner, co-author and Head of TB Screening at Public Health England (UK) adds: "The study provides further evidence about TB reactivation - where TB bacteria can sleep in the body, often for many years, without making you ill. This is called latent TB and is key to explaining many of the new TB cases in the UK. That's why the current national roll out of latent TB screening is an important part of the national TB strategy."

The authors say that the study is representative of migrants who intend to stay in the UK for over 6 months, and does not necessarily cover people who stay for shorter periods, undocumented migrants, or asylum seekers. Although undocumented migrants and asylum seekers are particularly vulnerable, the authors note that their comparatively small numbers (compared with documented migrants) mean they account for a low

number of cases. They add that no data were available on socioeconomic status, health (e.g. HIV, smoking, drug, or alcohol abuse), or history of imprisonment, all of which increase the risk of TB.

Writing in a linked Comment, Dr Sally Hargreaves, Dr Laura Nellums, and Professor Jon S. Friedland from Imperial College London, London (UK), note that the UK is one of a few European countries screening individuals before they migrate and say the findings may have wider implications for policies around Europe. They add: "Underlying all these new developments in the field of migrant health care, therefore, is the crucial need for innovative strategies to improve migrants' access to host health systems, which will ensure timely screening for not only tuberculosis, but also other common infections that disproportionately affect migrants, as well as delivery of vaccinations and affordable health care and treatment."

**More information:** *The Lancet*, [www.thelancet.com/journals/lan ...](http://www.thelancet.com/journals/lan...)  
[\(16\)31008-X/fulltext](http://www.thelancet.com/journals/lan...)

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