The Challenge

Tuberculosis (TB) is a serious condition caused by bacteria spread through the air as small particles that come from the coughs, sneezes or saliva of a person infected with active disease. Although treatable through antibiotics, TB can be fatal and can cause significant health problems for the infected person. Preventing TB has a number of specific challenges. Even though a person may be infected, symptoms can take years to develop, and managing TB in mobile populations can be difficult as treatment takes anything from several months to years.

In the UK, migrants who are applying to stay in the country for longer than 6 months who come from countries where there are high rates of TB are screened before they enter the UK.

The Research

Working with Public Health England and Imperial College London, researchers from the Farr Institute in London identified data on over half a million migrants from 15 countries screened before they entered the UK so they could look at how effective the screening programme was in identifying cases of tuberculosis.

Analysing these data was not straightforward because there was no identifier (such as the unique NHS number we have in the UK) that could be used to link the data from the screening performed outside the UK to the UK TB register, which records cases of TB as they develop.

Researchers therefore validated a new method, based on a probability of match to a case, to match data for individuals across two datasets.

The Results

This method, called the “Enhanced Matching System” led researchers to discover that although migrants had an increased personal risk of developing TB, there were actually very low rates of onward transmission of the disease to others.

The Impact

The study resulted in an important message that the disease prevention system used here in the UK is effective. Importantly, it also highlighted that common views in the media about migrants spreading TB were incorrect. The fact that migrants have higher ongoing personal risk led to doctors offering additional blood tests that can more effectively identify who is infected with TB but who might not be aware they are infected because they are not showing any symptoms yet (known as latent TB).

For more information about tuberculosis visit:
www.nhs.uk/Conditions/tuberculosis/

Enquiries to Natalie Fitzpatrick, Data Facilitator, The Farr Institute of Health Informatics Research, n.fitzpatrick@ucl.ac.uk