

# [News story: New study shows positive impact of genetic code on TB treatment](#)



Public Health England (PHE) scientists have been part of a UK-wide collaboration which found that our understanding of tuberculosis (TB) genetic code is now detailed enough to predict a person's response to TB treatments. With rapid DNA sequencing technologies available, it will be possible to give the correct drugs to more patients, improving cure rates and helping to stop the spread of drug-resistant strains.

This study was led by the international [CRyPTIC consortium](#) based at the University of Oxford and facilitated by the UK government's 100,000 Genomes Project in partnership with PHE. It is by far the largest of its kind, covering over 10,000 TB genomes from 16 equal partner countries around the globe.

Professor Derrick Crook, Director of the National Infection Service at PHE, said:

We are delighted by the results of this study which suggest that we will be able to treat patients with the right treatments more quickly. This is particularly important in an infection like TB where we know that many people who have the infection may be homeless or not have good access to the health system. Being able to choose the most effective drugs when starting treatment should lead to a quicker reduction in the infection being passed on to others.

This comes after [new data published yesterday, Tuesday 25 September 2018, by PHE](#) revealed that the number of people in England diagnosed with tuberculosis is at its lowest level since 1990, raising the hope that it will soon be consigned to the history books.

## **Background**

1. The paper, 'Prediction of susceptibility to first-line tuberculosis

drugs by DNA sequencing', was published on Wednesday 26 September by the New England Journal of Medicine, and its findings announced at the [United Nations General Assembly high-level meeting on tuberculosis](#).

2. This international research was led by the University of Oxford and supported in the UK by the Department of Health and Social Care through the National Institute for Health Research, Public Health England and the 100,000 Genomes Project. The research also received support from the EMBL's European Bioinformatics Institute (EMBL-EBI), the Medical Research Council, the Wellcome Trust, and the Bill and Melinda Gates Foundation. The University of Leeds, Imperial College London, and the London School of Hygiene & Tropical Medicine were involved in the research.
3. Tuberculosis remains the world's biggest infectious disease killer, claiming 1.7 million lives in 2016. The number of drug-resistant cases is rising, meaning new strategies and interventions are urgently needed if the World Health Organization's (WHO) target to end the global TB epidemic by 2035 is to be met.
4. PHE's [TB in England 2017 annual report](#) is available online.

Published 26 September 2018