



The World Health Organization excludes *Mycobacterium tuberculosis* from the 2017 priority pathogens list

To the Editor: On 27 February 2017 the World Health Organization (WHO) published the first priority pathogens list (PPL) for research and development of new antibiotics, which according to the WHO identifies 'the most important resistant bacteria at a global level for which there is an urgent need for new treatments'. Selection criteria for prioritisation included: all-cause mortality, healthcare and community burden, prevalence of resistance, 10-year trend of resistance, transmissibility, preventability in hospital and community settings, and treatability and current pipeline, thereby making the exclusion of *Mycobacterium tuberculosis* from the PPL inconceivable, justifiably provoking the international medical and scientific fraternity. Drug-resistant tuberculosis (DR-TB) is a major global epidemic, with 0.5 million cases occurring each year.^[1] Extensively DR-TB (XDR-TB), in particular, is of major concern, with poor treatment success rates of <40% in most patient populations, and mortality rates of 50 - 80%.^[2-6]

The exclusion of *M. tuberculosis* from the PPL creates the impression that DR-TB is not a public health threat, undoubtedly preventing prioritisation of TB research by policy-makers. This is not negotiable. It is noteworthy that the WHO finally dedicated resources to identify a PPL. However, central to the integrity of the report is surely the inclusion of *M. tuberculosis* as a key priority pathogen. The drug development pipeline for anti-TB drugs is narrow. Existing drugs are associated with serious adverse effects, such as irreversible ototoxicity, nephrotoxicity, debilitating nausea and psychosis. After five decades, two new anti-TB drugs, bedaquiline and delamanid, were developed, with an accelerated approval of bedaquiline.

DR-TB remains an ongoing global health threat, with high levels of mortality and persistent limited treatment options. Other new options include pretomanid, and older repurposed drugs such as clofazimine. The combination of bedaquiline, pretomanid and linezolid was recently shown to be very effective in the NIX-TB clinical trial, reinforcing the positive impact of research. Seventy-two patients were recruited from April 2015; 65% of these patients had XDR-TB, while the remaining patients had multidrug-resistant TB (MDR-TB) and were either not responding to treatment or could not tolerate the side-effects. Just over half were HIV-positive. Forty patients have completed the 6-month trial and 31 have had their 6-monthly follow-up examination. Of these 31 patients, only one relapsed.^[7]

The release of the WHO PPL coincides with the report 'Mortality and causes of death in South Africa, 2015: Findings from death notification', which highlights that 'tuberculosis was the leading cause of death in both males and females in 2015, in South Africa'.^[8]

Exclusion of TB in the WHO PPL negates acceleration of research and development efforts in DR-TB treatment. This is a violation of fundamental human rights, and will likely impede access to effective drugs for this deadly disease.

By adopting the decision to exclude TB in the PPL, the WHO runs the risk of being viewed as purveyors of ill-informed science. We therefore urgently call on the WHO to facilitate a timely review of the impact of *M. tuberculosis* resistance globally, which certainly warrants its inclusion in the global PPL.

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