# Eliminating Tuberculosis in Low Burden Countries

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As countries approach tuberculosis (TB) elimination goals, disease is expected to become increasingly concentrated amongst vulnerable individuals, posing both challenges and opportunities for improving interventions to achieve elimination. This issue of IJTLD sees the launch of a State of the Art Series entitled "Tuberculosis in Low Burden Countries". The series will explore pre-elimination challenges faced by low TB-burden countries and covers TB epidemiology, prevention and control, focussing on population groups at the highest risk of infection and disease.

During the 20th and 21st centuries, dramatic progress has been made in TB control in what are now low-burden countries (those with <10 incident cases/100,000/year [1]). In England, the TB notification and mortality rates were estimated at 215 and 181 per 100,000, respectively, in 1901, versus 12 and 0.7 per 100,000 in 2000 [2]. Although TB showed some resurgence during the 2000s, incidence is again declining with the most recent data (2015) showing a notification rate in the United Kingdom of 10.5 per 100,000 [3]. These reductions in morbidity and mortality in the UK, which have been observed in other low-burden settings, have been attributed to multiple interventions and societal changes, including improvements in diagnosis, improved effectiveness and availability of treatments, provision of BCG vaccination, social reforms and improved living conditions [4].

Despite these achievements, TB control remains a challenge due to both the biology of the infection and changes in the host population. The ability of *Mycobacterium tuberculosis* to establish latency, remaining viable within the lung without causing symptoms but able to subsequently reactivate and cause disease, means that actions targeted solely at treating active disease are unlikely to eliminate the disease. Due to increases in international travel and migration, TB notifications in low-burden countries increasingly reflect infections acquired abroad, e.g. approximately two thirds of TB cases notified in the USA in 2016 were born outside the country [5]. Migrants constitute a heterogeneous group, but may face particular barriers to diagnosis and treatment, including difficulties accessing healthcare or fear of health or immigration authorities. These vulnerabilities may be shared by other groups, such as homeless people, who also face a disproportionately high risk of TB and poorer health access due to financial, administrative or social barriers. Interventions to improve prevention, diagnosis and treatment in these groups will be critical in controlling TB in low-burden countries.

Co-morbidities also influence TB risk. The importance of HIV is well-recognised, and recently attention towards non-communicable conditions such as diabetes and immunosuppressive treatment has increased. Understanding how such conditions influence TB infection, disease and outcomes is increasingly important as life expectancies rise and lifestyles change, with associated increases in the prevalence of communicable and non-communicable chronic conditions.

These aspects of the changing landscape of TB epidemiology in low-burden countries will be explored in this State of the Art Series. The papers will describe challenges, and solutions, to TB control in countries currently approaching elimination, providing an overview relevant to these countries now and to inform future strategies in countries currently experiencing a high burden of TB.

*References*


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