World TB Day 2025 Theme “Yes! We Can End TB: Commit, Invest, Deliver” can be made a reality through concerted global efforts to advance diagnosis, treatment and research of tuberculosis infection and disease

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World TB Day 2025 Theme "Yes! We Can End TB: Commit, Invest, Deliver" can be made a reality through concerted global efforts to advance diagnosis, treatment and research of tuberculosis infection and disease

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World TB Day is observed annually on March 24th to raise awareness of tuberculosis (TB), a preventable and treatable disease [1]. Despite being treatable for over 65 years, there are approximately 10.8 million new TB cases annually, predominantly in low- and middle-income countries. Drug-resistant TB significantly contributes to deaths, impacting an estimated 400,000 individuals each year. TB-HIV coinfection remains a major concern, with an estimated 660,000 individuals affected by the dual infection. TB is an important cause of maternal, child and adolescent morbidity and mortality.

After three years during which COVID-19 was the predominant cause of death from infectious diseases, TB regained this position in 2023, causing an estimated 1.25 million deaths. The World Health Organization (WHO) and STOP TB Partnership have designated "Yes! We Can End TB: Commit, Invest, Deliver" as the theme for the 2025 World TB Day [2].

"Commit" refers to the pledge of heads of states and governments to eradicate TB disease at the 2023 United Nations High-Level Meeting (HLM). However, this commitment will remain unachievable without concrete actions, funding, national strategies, and policies. "Invest" refers to adequately financing TB responses through various investments and funding channels. The recent decision by the United States (US) government to terminate activities of US Agency for International Development (USAID) has shocked the global community and is viewed as a significant barrier to achieving the United Nations General Assembly (UNGA) and WHO End TB targets [3]. This calls for a structured action of generating new funding sources from the national governments and the private sectors [3]. "Deliver" refers to transforming commitments into tangible benefits for people affected by TB, including scaling up evidence-based interventions, active case finding, early diagnosis, preventive treatment, and quality care for drug-resistant TB.

This special IJID themed section for World TB Day includes latest reviews covering important aspects of TB as regards its elimination – preventive therapy for MDR patients [4], issues relating to TB in young people [5,6], HIV-TB coinfection [7], host directed therapy (HDT) focusing on the treatment of TB with diabetes comorbidity [8], and TB infection (TBI) testing [9]. Recent findings indicate that nearly 50% of TB cases do not present with or report symptoms, resulting in undiagnosed and potentially infectious TB [10]. Symptom-agnostic screening methods, such as chest X-rays, have increased the detection of asymptomatic TB. Despite increased implementation of such screening strategies, current efforts are insufficient to significantly impact transmission rates and population-level prevalence. A substantial expansion of symptom-agnostic screening across global communities is essential to improve treatment coverage and break the transmission cycle.

Control of TB disease implies also effective diagnosis of TBI and offering preventive therapy to decrease the risk of disease progress [1]. Tests to diagnose TBI include interferon-ɣ release assays (IGRAs) and skin tests approved by the WHO, as well as experimental tests [10]. These tests focus on host response detected by measuring T or B cell response or pathogen detection measuring M. tuberculosis DNA or proteins or peptides [11,12].

Experimental tests show potential in achieving the End TB goals, but further investigation and randomized clinical trials are required.

The prevention of MDR-TB is analyzed, with model estimates suggesting that MDR-TB may infect up to three in every 1,000 people globally [4]. The WHO recommended quinolone-based TB preventive therapy (TPT) for selected high-risk cases. Recent trials indicated that levofloxacin provides 60% protection when compared to placebo. The WHO recommended levofloxacin for contacts exposed to MDR/RR-TB. However, due to the expansion of levofloxacin resistance among MDR strains and its current contraindication during pregnancy, alternative regimens are required and are fully discussed.

Almost two million children and adolescents develop TB each year [1]. It also remains a significant cause of mortality in young people, particularly young children aged 0-4 years [1]. Children are commonly misdiagnosed or diagnosed too late, leading to long-term complications or death. Adolescents can be challenging to engage in care as they typically fall between pediatric and adult care models [6]. TB during pregnancy poses significant risks to both the mother and infant; however, antenatal screening for timely treatment initiation is frequently inadequate. Recent research efforts aim to address these challenges through the development of more accessible TB management aids, shorter effective drug regimens, child-friendly drug formulations, strategies for active case finding to expand treatment coverage, including asymptomatic cases, and more options for preventive therapy [6].

HIV contributes significantly to the high TB incidence in many countries, especially in the WHO Africa region [1]. HIV-TB has a high mortality rate, with approximately 24% of the 660,000 individuals with TB and HIV dying in 2023 [1]. Recent advancements in the prevention, screening, diagnosis, and management of HIV-TB include the timely initiation of antiretroviral therapy and the significant expansion of TB preventive therapy. On the diagnostic front, the use of sputum Xpert Ultra and urine Determine^{TM} TB LAM Antigen assay is associated with improved survival rates for patients with HIV-TB [1]. However, gaps in knowledge regarding the natural history of TB disease in people with HIV (PWH), optimal methods for diagnosing TB and TB drug resistance, and post-TB disease in PWH remain.

HDT is discussed as a tool to improve TB control in adjunction to antimicrobial therapy [13], particularly in people with TB-diabetes comorbidity [8,14] reducing the inflammatory response is a key goal of HDT to lessen immunopathology, but careful consideration must be given to ensure that the inflammatory response is not excessively suppressed to allow recovery. HDT for people with TB-diabetes comorbidity may reduce immunopathology and post-TB lung disease, enhance microbiological cure and treatment outcomes, and contribute to global TB elimination efforts [15].

In conclusion, to achieve TB elimination [15], increased investments are required through accelerating the promising new TB vaccines pipeline, implementation of prevention of TB disease using symptom-agnostic screening methods, screening for TBI using standardized old and new diagnostic tests for TBI detection, implementation of non-sputum diagnostic

tests for TB disease and for the identification of progressors toward TB disease to better target those needing therapy.

The global community needs to generate funding for long-term sustainability in TB control. This situation should prompt a shift away from donor dependency [3], strengthen local and regional ownership, and encourage innovative funding and treatment solutions. By collaborating, utilizing existing partnerships, and advocating for policy change, the global community can develop more resilient and sustainable TB control strategies. The UN High-Level Meeting on TB in 2025 should prioritize renewed political and financial commitments.

Conflict of Interest

None of the authors reports any conflict of interest.

Ethical Approval statement

Not applicable

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