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REVIEW

Advancing China's end tuberculosis strategy goals leveraged by active case finding and preventive therapy

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ABSTRACT

Tuberculosis remains a major public health issue in China, with 741,000 new cases in 2023. Despite significant strides in tuberculosis control, suboptimal case detection and low acceptance rate of tuberculosis preventive treatment hamper tuberculosis elimination. To meet the WHO's 2030 End Tuberculosis target, China's "National Tuberculosis Prevention and Control Program (2024–2030)" prioritizes active case finding and preventive treatment. Active case finding targets high-risk groups (people living with human immunodeficiency virus/acquired immunodeficiency syndrome, the elderly, individuals with diabetes and previously treated tuberculosis patients and close contacts of tuberculosis patients) using advanced screening methods. Implementation of active case finding should be performed in setting- ang region-specific manner. Tuberculosis preventive treatment focuses on latent tuberculosis infections with shorter, safer regimens. The effective implementation of tuberculosis preventive treatment requires integration into the comprehensive "Center for Disease Control and Prevention – Hospital – Primary Medical Institutions" framework. The "Zero-TB Communities" initiative integrates these strategies, aiming at fewer than 10 cases per 100,000 people. The framework of this initiative includes screening for active tuberculosis cases, drug resistant tuberculosis and latent tuberculosis infection, management

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of identified tuberculosis cases and tuberculosis preventive treatment, as long as social advocacy and mobilization. Through evidence-based interventions and multi-sector collaboration, China aims to accelerate tuberculosis control and contribute to global elimination efforts.

Key Words: tuberculosis; active case finding; preventive therapy; review

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Introduction

Tuberculosis (TB), a persistent global public health challenge, continues to pose substantial challenges particularly in China, which shoulders a significant proportion of the worldwide disease burden. According to recent World Health Organization (WHO) annually TB report, China has an estimated 741,000 new TB cases in 2023, accounting for 6.8% of global incidences and reflecting an incidence rate of 52 cases per 100,000 population[1]. This epidemiological profile is characterized by notable spatial and demographic disparities. Approximately 10% of Chinese counties (289 in total) exhibited high-incidence rates exceeding 80 cases per 100,000 population in 2023, predominantly concentrated in the western regions [1]. The disease burden disproportionately affects the elderly population compared to other age groups[2].

Despite significant strides in TB control measures in recent years, the ambitious goal of "ending the TB epidemic by 2030" set by the WHO remains elusive in the Chinese context. Key obstacles include suboptimal case detection and low uptake of TB preventive treatment (TPT). About 95% of TB patients diagnosed were identified through passive case finding [2]. This approach leaves approximately 20% of cases undiagnosed and results in significant diagnostic delays for half of the patients [2]. Additionally, the implementation of TPT remains inadequate, TPT acceptance rate is less than 60%, and the adoption of innovative diagnostic and treatment technologies is insufficient. Given the current rate of decline in TB incidence, achieving the 2030 targets seems unattainable without substantial interventions.

In response to these challenges, the National Bureau of Disease Prevention and Control, in collaboration with eight other governmental bodies, has formulated the "National TB Prevention and Control Program (2024–2030)"[3]. Central to the successful implementation of these strategies are active case finding and TPT. Active case finding, involving systematic screening of high-risk populations and quality strengthening of contact tracing and screening tests, is pivotal for early TB detection and reducing diagnostic lags. Simultaneously, TPT plays a crucial role in minimizing the risk of TB among vulnerable populations. Integrating these interventions into the Zero-TB communities initiative provides

[1] World Health Organization. Global tuberculosis report 2024. Accessed 21.07.2025. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2024
[2] Ibid.
[3] National Health Commission of the People's Republic of China. National Development and Reform Commission of the People's Republic of China. Ministry of Education of the People's Republic of China. et al. National TB Prevention and Control Plan (2024–2030). Accessed 21.07.2025. https://www.gov.cn/zhengce/zhengceku/202412/content_6991217.htm (In Chinese)

a comprehensive approach that has the potential to expedite the reduction of TB incidence in China.

Community and facility-based active screening for enhanced tuberculosis case detection

Early detection of TB is an indispensable cornerstone in curbing the spread of this infectious epidemic. Nevertheless, a substantial global burden persists, with approximately 20% of TB cases remaining undiagnosed or unreported each year [2]. This significant diagnostic gap not only undermines individual treatment efficacy but also exacerbates the risk of community-level transmission. In high-burden regions, the implementation of active case finding (ACF) encounters multiple challenges, primarily stemming from scarce medical resources, low public awareness of TB, and limitations in detection methodologies. Despite China achieving an 82.7% detection rate in 2023, surpassing the global average of 75.9% [2], nearly one-fifth of its TB patients still evade identification. This situation underscores the urgent need for strategic enhancements in ACF, which should involve precise targeting of high-risk populations, adoption of innovative screening methods, and optimization of screening protocols, and improvement of screening quality.

Precision targeting of high-risk populations

The pool of undetected TB cases in China predominantly comprises asymptomatic individuals, necessitating a focused approach on specific high-risk cohorts [3]. Close contacts of TB patients, people living with human immunodeficiency virus/acquired immunodeficiency syndrome (PLWHA), the elderly, individuals with diabetes and previously treated TB patients within two years completion are identified as priority populations for ACF.

Empirical evidence indicates that active screening among close contacts of smear-positive and smear-negative TB patients yields detection rates of 3.6 and 1.3%, respectively [4]. These figures are significantly higher than the baseline detection rates in the general population. Moreover, the implementation of ACF strategies has been proven to boost patient detection by 2.5-fold and reduce mortality by 40%, highlighting the effectiveness of targeted screening efforts [4].

PLWHA face an 18-fold increased risk of developing TB compared to the general population, yet a 44% detection gap persists [2]. A systematic review revealed that TB accounts for 37.2% of deaths among PLWHA [5], emphasizing the urgency of improved screening for this vulnerable group.

Previously treated TB patients exhibit a 4-fold higher risk of reinfection and a 10.2-fold elevated likelihood of developing drug-resistant TB [6].

The elderly, characterized by age-related decline in immune function and physiological deterioration, have a TB prevalence rate 2–3 times higher than other age groups [7, 8], positioning them as a critical target for screening initiatives.

Setting-specific screening strategies

Institutional ACF should be systematically implemented among PLWHA, former TB patients, the elderly, and individuals with diabetes, while community-based screening initiatives should prioritize the close contacts of TB patients. High-density settings, including schools, correctional facilities, social welfare institutions, juvenile rescue and protection agencies, psychiatric hospitals, and industrial and mining enterprises, are designated as key screening sites due to their elevated

risk of TB transmission. For example, studies have shown that the TB incidence in correctional facilities is 23 times higher than in the general place [9]. In certain industrial and mining enterprises, where miners are exposed to silica, silicosis is prevalent. Silicosis patients face a relative risk of TB ranging from 2.8 to 39 times higher than the general population, and TB patients with silicosis have a 3-fold increased mortality risk [10]. Therefore, it is strongly recommended to incorporate TB examination as a mandatory component of enrollment physical examinations in these facilities and include TB screening in annual health assessments. Regions with sufficient resources and capabilities should consider implementing comprehensive infection screening protocols. Additionally, for high-risk individuals confirmed not to have active TB, TPT should be administered to further strengthen disease prevention efforts. The successful implementation of ACF in these key settings requires seamless coordination and collaboration across multiple departments, with particular attention paid to establishing standardized protocols for class suspension, work suspension, and the resumption of normal activities.

Region-specific screening guidelines

In China, approximately 10% of counties are classified as high-prevalence areas, reporting an incidence rate exceeding 80 cases per 100,000 population [1]. In these regions, it is essential to establish evidence-based protocols regarding target populations and screening frequencies. A comprehensive evaluation should be conducted after systematic screening implementation. Once the prevalence declines to moderate levels, a transition from community-wide general population screening to facility-based screening focused on high-risk populations should be considered. In high-incidence areas with resource constraints, facility-based ACF targeting high-risk groups represents a practical and viable alternative approach.

Technological innovations in screening modalities

Current TB screening methodologies primarily include symptom-based assessment, chest imaging examinations, C-reactive protein testing, and molecular diagnostics. Symptom screening, which involves identifying long-term (chronic) cough, cough of any duration, or other TB symptoms, offers simplicity in implementation but suffers from limited sensitivity and specificity[4]. As such, it necessitates integration with complementary screening approaches for accurate diagnosis. Chest X-ray examination, the predominant technical modality for TB screening, exhibits high sensitivity. For large-scale population screening initiatives, integrating chest X-ray with computer-aided detection technology is recommended to optimize diagnostic efficiency and accuracy[5]. C-reactive protein testing, predominantly utilized in PLWHA, demonstrates superior accuracy compared to symptom screening, with optimal sensitivity achieved at a threshold of 5 mg/L. WHO advocates for the use of rapid molecular diagnostic techniques, such as the Xpert MTB/RIF® and sputum Truenat® platforms, as the initial diagnostic tools for TB. These advanced methods significantly enhance both the sensitivity and specificity of TB diagnosis, enabling the rapid detection of TB and rifampicin resistance[6].

[4] World Health Organization. WHO consolidated guidelines on tuberculosis: module 2: Screening. Systematic screening for tuberculosis disease. Geneva: World Health Organization, 2021. Accessed: 21.07.2025. https://iris.who.int/bitstream/handle/10665/340255/9789240022676-eng.pdf?sequence=1

[5] Ibid.

[6] Ibid.

Scale up tuberculosis preventive treatment through preventive treatment clinics

Latent tuberculosis infection (LTBI) is characterized by a sustained immune response to Mycobacterium tuberculosis antigens, without clinical symptoms or radiological signs of active disease. Approximately 20% of the global population are infected with Mycobacterium tuberculosis, with 5–10% of these individuals progressing to active tuberculosis during their lifetime, mostly within the first five years after infection [11]. This vast reservoir of latently infected individuals serves as a continuous source of new TB cases. TPT for high-risk LTBI populations is a crucial intervention endorsed by the WHO to achieve the strategic goal of "ending the TB epidemic". At the second United Nations High – level Meeting in 2023, a global commitment was made to administer TPT to at least 45 million individuals from 2023 to 2027[7]. Aligned with this global initiative, China's "National TB Prevention and Control Plan (2024–2030)" stipulates that the TPT coverage rate for close contacts of TB patients should reach 80% by 2030[8].

Identification of tuberculosis preventive treatment targets via tuberculosis incidence risk assessment

Although TPT is one of the cornerstones of the WHO's End TB Strategy, the efficacy of current preventive regimens varies from 60 to 90% [1]. Thus, the implementation of TPT demands a meticulous risk-benefit assessment. Defining appropriate TPT target populations requires considering multiple determinants, including the risk of disease progression in vulnerable groups, local TB epidemiology, disease burden, and available resources.

From an individual protection perspective, TPT should primarily target those at a heightened risk of progressing from LTBI to active TB. This includes individuals with recent *Mycobacterium tuberculosis* infections and those with compromised immune systems. From a community – level incidence reduction standpoint, the proportion of the target population receiving TPT is also a critical factor. In line with these principles, China has precisely defined high-risk groups for TB, which include close contacts of TB patients, people living with PLWHA, and individuals with immunosuppressive conditions, reflecting a targeted approach to disease surveillance and control. PLWHA face an 18-fold increased risk of developing TB compared to the general population. A systematic review has demonstrated that TPT reduces the overall TB risk in PLWHA by 33%, and this protective effect increases to 64% in TST positive individuals. Additionally, TPT reduces all-cause mortality by 35%, with the protective effects persisting beyond five years. Household and non-household contacts of TB patients, regardless of age, have a significantly higher risk of developing active TB than the general population, justifying TPT recommendation regardless of the local TB burden [12].

Research, development and promotion of short-course treatment regimens

Currently, the recommended TPT regimens in China mainly consist of the 6- to 9-month isoniazid monotherapy regimen (6–9H),

[7] World Health Organization. The second United Nations high-level meeting on TB: new global pledge to end the TB epidemic. Geneva: World Health Organization, 2023. Accessed 21.07.2025. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2023/featured-topics/un-declaration-on-tb

[8] National Health Commission of the People's Republic of China. National Development and Reform Commission of the People's Republic of China. Ministry of Education of the People's Republic of China et al. National TB Prevention and Control Plan (2024–2030). Accessed 21.07.2025. https://www.gov.cn/zhengce/zhengceku/202412/content_6991217.htm (In Chinese)

the 3-month isoniazid and rifapentine combined intermittent regimen (3HP), the 3-month isoniazid and rifampicin combined regimen (3HR), the 4-month rifampicin monotherapy regimen (4R), and the immunotherapy regimen[9]. Studies have shown that the protective efficacy of these TPT regimens ranges from approximately 60 to 90%[10].

The acceptance rate of LTBI individuals towards TPT regimens is highly correlated with treatment duration. The acceptance rates for the 3HP and 6H regimens are only 76.3 and 63.9% respectively [13], with corresponding compliance rates of 89.2 and 61.5% [14]. Notably, research has indicated that the 3HP regimen has significantly reduced hepatotoxicity [15], suggesting that the continued promotion of short-course regimens should be a priority to improve acceptance and compliance among LTBI patients. Although randomized trials have confirmed the effectiveness and safety of the 1HP regimen compared to the 9H regimen, it has not been included in national guidelines due to insufficient research evidence in the Chinese context[11]. Currently, several Chinese researchers are conducting relevant investigations in this area.

Standardized establishment of tuberculosis preventive treatment clinics

The "National TB Prevention and Control Plan (2024–2030)" recommends that local regions establish TPT clinics based on their specific conditions and available resources[12]. From a systems-based perspective, the effective implementation of TPT requires integration into the comprehensive "Center for Disease Control and Prevention – Hospital – Primary Medical Institutions" TB prevention and control service framework.

Through optimized resource allocation and enhanced information-sharing mechanisms, both active case-finding and TPT initiatives can be strengthened. Within this framework, TPT clinics enable Centers for Disease Control and Prevention to perform their core functions of providing technical guidance, quality control, and outcome evaluation. At the same time, the role of primary medical institutions in TB infection screening and TPT supervision should be clearly defined and supported. TPT should be incorporated into health management projects within the basic public health services framework, establishing a precision – intervention model based on risk stratification using comprehensive health records. This approach should be integrated into the pilot deployment for public health practicing physicians, leveraging their expertise to identify TPT candidates, enhance diagnostic and treatment competencies, and implement standardized management protocols.

The construction of "Zero-tuberculosis communities initiative": integrating tuberculosis case management, active case finding and preventive treatment

The construction of "Zero-TB Communities" initiative stands as an exemplary practice that effectively integrates TB case management, active case finding and preventive treatment strategies, serving as a cornerstone for TB control and elimination efforts. In accordance with

[9] Guidelines for preventive treatment of tuberculosis in China [M]. Beijing, China, Chinese Center for Disease Control and Prevention, 2021. Accessed 21.07.2025.

[10] World Health Organization. Appendix to the guidelines on the management of latent tuberculosis infection. Evidence to decision framework. Accessed 21.07.2025. https://iris.who.int/bitstream/handle/10665/158915/WHO_HTM_TB_2015.01_eng.pdf;sequence=1

[11] Guidelines for preventive treatment of tuberculosis in China [M]. Beijing, China, Chinese Center for Disease Control and Prevention, 2021. Accessed 21.07.2025.

[12] National Health Commission of the People's Republic of China. National Development and Reform Commission of the People's Republic of China. Ministry of Education of the People's Republic of China et al. National TB Prevention and Control Plan (2024–2030). Accessed 21.07.2025. https://www.gov.cn/zhengce/zhengceku/202412/content_6991217.htm (In Chinese)

the WHO's pre-elimination threshold criteria applicable to China, Zero-TB Communities are defined as specific geographical or institutional entities—including townships, streets, educational institutions, military units, long-term care facilities, large-scale enterprises, and public institutions—characterized by an annual TB incidence rate among permanent residents of less than 10 cases per 100,000 population. This initiative encapsulates a comprehensive, multi-faceted public health approach designed to substantially mitigate TB transmission dynamics and reduce disease incidence at the community level.

The operational framework of Zero-TB Communities is systematically structured around the principle of "three screenings (screening for active TB cases, drug resistance TB cases, LTBI), two managements (manage for TB cases and TPT cases), and one mobilization (social advocacy and mobilization)", which collectively form an integrated and synergistic system for TB control [1].

Three screenings

1. Active case finding: Systematically implement screening programs in high TB-incidence regions and among high-risk groups (e.g., close contacts of TB patients, PLWHA, the elderly, and immunocompromised individuals). Targeted screening enhances early TB detection, enabling timely intervention and preventing progression.
2. Comprehensive TB infection testing: Conduct systematic testing for LTBI in high-risk individuals [16]. Early LTBI identification is critical for initiating preventive treatment to block progression to active TB.
3. Enhanced drug-resistant TB screening: To address the threat of drug-resistant TB, specialized protocols should be implemented to rapidly identify multidrug-resistant TB. Timely detection of resistant cases is critical for initiating tailored treatment, minimizing community transmission of resistant strains.

Two managements

1. Standardized treatment management: For individuals diagnosed with active TB, including those with drug-resistant forms of the disease, immediate access to standardized anti-TB treatment protocols is ensured, complemented by comprehensive case management [17]. This approach rigorously monitors treatment adherence, minimizes treatment interruptions, and shortens the infectious period of patients, thereby effectively curbing the onward transmission of the TB pathogen.
2. Preventive treatment management: Individuals identified with LTBI are enrolled in carefully monitored TPT programs [16]. Rigorous surveillance of TPT ensures treatment completion, which is crucial for preventing the development of active TB, particularly among vulnerable and high-risk populations.

One mobilization

1. Governmental advocacy and public health education: This component focuses on engaging all levels of government to prioritize TB control and allocate adequate resources specifically for developing and implementing Zero-TB Community programs. Concurrently, comprehensive public health education campaigns are launched to enhance community-wide awareness regarding TB prevention

strategies, the significance of early detection, and the importance of treatment compliance. Cultivating a health-conscious society, these initiatives mobilize individual responsibility and community engagement to accelerate TB elimination.

Conclusion

In summary, the rollout of the "National TB Prevention and Control Program (2024–2030)" inaugurates a transformative phase in China's TB control paradigm. Building on the empirically validated success of initiatives such as Zero-TB Communities, this Plan serves as a strategic roadmap, guiding local authorities to leverage technological innovation, ground their practices in scientific evidence, and optimize TB prevention strategies. By continuously refining intervention methodologies, implementing holistic control measures, and enhancing service delivery across the care spectrum, China strengthens its multi-pronged defense against TB. The integrated strategies of targeted case finding, comprehensive preventive treatment, and community-based interventions – central to the Plan – have already demonstrated significant efficacy in curbing TB incidence. As these evidence-based approaches are further bolstered, China is set to accelerate the decline of the TB epidemic, enhance population health, and contribute substantially to the "Healthy China" initiative. This comprehensive approach not only aligns with global efforts to end TB strategy goals but also underscores China's commitment to sustainable, high-quality development for public health advancement.

References

1. Xu C, Zhao Y. Commit, invest and deliver: towards achieving end tuberculosis strategy goals through active case finding and preventive treatment in China. *China CDC Wkly*. 2025;7(13):407-412. doi:10.46234/ccdcw2025.068
2. Li T, Du X, Kang J, et al. Patient, diagnosis, and treatment delays among tuberculosis patients before and during COVID-19 epidemic – China, 2018–2022. *China CDC Wkly.* 2023;5(12):259-265. doi:10.46234/ccdcw2023.047
3. Frascella B, Richards AS, Sossen B, et al. Subclinical tuberculosis disease – a review and analysis of prevalence surveys to inform definitions, burden, associations, and screening methodology. *Clin Infect Dis*. 2021;73(3):e830–e841. doi:10.1093/cid/ciaa1402
4. Fox GJ, Nhung NV, Sy DN, et al. Household-contact investigation for detection of tuberculosis in Vietnam. *N Engl J Med.* 2018;378(3):221–229. doi:10.1056/NEJMoa1700209
5. Gupta RK, Lucas SB, Fielding KL, Lawn SD. Prevalence of tuberculosis in post-mortem studies of HIV-infected adults and children in resource-limited settings: a systematic review and meta-analysis. *AIDS.* 2015;29(15):1987–2002. doi:10.1097/QAD.0000000000000802
6. Liu Q, Chen Q, Guo Y, et al. Feasibility of eliminating tuberculosis by shortening the diagnostic delay: A retrospective analysis and modelling study in China during the pre-COVID-19 era. *Heliyon.* 2024;10(15):e35016. doi:10.1016/j.heliyon.2024.e35016
7. Donald PR, Marais BJ, Barry CE 3rd. Age and the epidemiology and pathogenesis of tuberculosis. *Lancet.* 2010;375(9729):1852–1854. doi:10.1016/S0140-6736(10)60580-6
8. Pratt RH, Winston CA, Kammerer JS, Armstrong LR. Tuberculosis in older adults in the United States, 1993–2008. *J Am Geriatr Soc.* 2011;59(5):851-857. doi:10.1111/j.1532-5415.2011.03369.x
9. Baussano I, Williams BG, Nunn P, et al. Tuberculosis incidence in prisons: a systematic review. *PLoS Med.* 2010;7(12):e1000381. doi:10.1371/journal.pmed.1000381

10. Barboza CEG, Winter DH, Seiscento M, et al. Tuberculosis and silicosis: epidemiology, diagnosis and chemoprophylaxis. *J bras pneumol.* 2008;34(11):959–966. (In Portuguese). doi:10.1590/S1806-37132008001100012
11. Joint Statement of the American Thoracic Society (ATS) and the Centers for Disease Control and Prevention (CDC). Targeted tuberculin testing and treatment of latent tuberculosis infection. *Am J Respir Crit Care Med*. 2000;161(4 Pt 2):S221–S247. doi:10.1164/ajrccm.161.supplement_3.ats600
12. Xu C, Zhang W, Zhao Y, Conduct Community- and Facility-Based Active Screening to Enhance Tuberculosis Cases Detection. *Chin J Infect Dis.* 2025, 43(03):129–134. (In Chinese). doi: 10.3760/cma.j.cn311365-20250303-00067
13. Zu XW, Yao YX, Gong DH. Acceptability of 6-month prophylactic isoniazid therapy in latently infected close contacts of tuberculosis patients. *Chin J Public Health.* 2020;36(3):369–374. (In Chinese). doi:10.11847/zgggws1127769
14. Yao X, Wu CG, Gong DH, et al. Analysis of treatment completeness and its influencing factors of 12-week preventive therapy among close contacts of pulmonary tuberculosis patients. *CJATB.* 2021;43(3):233–239. (In Chinese). doi:10.3969/j.issn.1000-6621.2021.03.008
15. Martinson NA, Barnes GL, Moulton LH, et al. New regimens to prevent tuberculosis in adults with HIV infection. *N Engl J Med.* 2011;365(1):11–20. doi:10.1056/NEJMoa1005136
16. Caruso E, Mangan JM, Maiuri A, Bouwkamp B, DeLuca N. Tuberculosis testing and latent tuberculosis infection treatment practices among health care providers – United States, 2020–2022. *MMWR Morb Mortal Wkly Rep*. 2023;72(44):1183–1189. doi:10.15585/mmwr.mm7244a2
17. Wang YT, Chee CB, Hsu LY, et al. Ministry of Health clinical practice guidelines: prevention, diagnosis and management of tuberculosis. *Singapore Med J*. 2016;57(3):118–125. doi:10.11622/smedj.2016051