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Japan Pre-Entry Tuberculosis Screening (JPETS): A new phase in tuberculosis control following Japan's transition in a low-incidence era

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Abstract: In December 2024, Japan's Pre-Entry Tuberculosis Screening (JPETS) program was introduced in coordination with the Ministry of Health, Labour and Welfare (MHLW), the Ministry of Foreign Affairs, and the Immigration Services Agency to mandate tuberculosis (TB) screening for mid- to long-term visa applicants and Certificate of Eligibility applicants from selected countries with a large number of foreign-born TB cases in Japan. To date, the target countries are located in Asia, accounting for a large proportion of foreign-born TB cases in Japan. These countries also have strong labor-migration ties with Japan. Based on a quality-assured screening process at designated Panel Clinics, JPETS aims to prevent the importation of TB, reduce the risk of its domestic transmission, and ultimately contribute to global TB control. Through robust international collaboration, JPETS also incorporates safeguards to ensure fair and equitable opportunities for migrants' social participation and well-being. This article outlines the historical background of Japan's TB control, the rationale, design, and anticipated impact of JPETS.

***Keywords*:** Japan, tuberculosis, migration, pre-entry screening, public health policy

1. Introduction

Tuberculosis (TB) remains one of the most significant global infectious diseases. Globally, about a quarter of people with TB remain undiagnosed and untreated, causing more deaths annually than that of HIV/AIDS and malaria combined (*1-4*). In Japan, TB was also the leading cause of death with an annual death rate of more than 200 per 100,000 population before World War II (*5*), and was then often referred to as a "fatal disease" or "kokumin-byo" (a Japanese term meaning "national disease"). In 2024, more than 10,000 TB cases were newly notified under the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases (hereafter referred to as the Infectious Diseases Control Law) as one of the most frequently notified infectious diseases in Japan, causing more than 1,500 deaths (*5*). The burden persists among older adults. Individuals aged 80 years and above account for over 40% of new TB cases, primarily due to the reactivation of latent infections acquired during the pre-war or post-war high-incidence era (*6*). Simultaneously, a growing number of foreign-born TB cases are registered, accounting for approximately one-fifth of all newly notified TB cases in 2024. These trends highlight the need for a new phase of TB control in Japan, alongside continued strengthening of existing domestic control measures.

2. Policy context of tuberculosis control in Japan before achieving low-incidence status

Although TB still poses a nationwide public health threat, the number of TB patients has steadily declined since the postwar era through a comprehensive strategy. In 1951, Japan established the original legal framework of its comprehensive prevention strategy (*7*) (Figure 1). Under the Law, all patients with TB were subject to compulsory isolation until they became non-contagious. The amendment also introduced annual TB checkups for all individuals living in Japan, as well as full coverage of medical costs during isolation and continued coverage of 95% of outpatient treatment costs after discharge, nationwide. These countermeasures, as

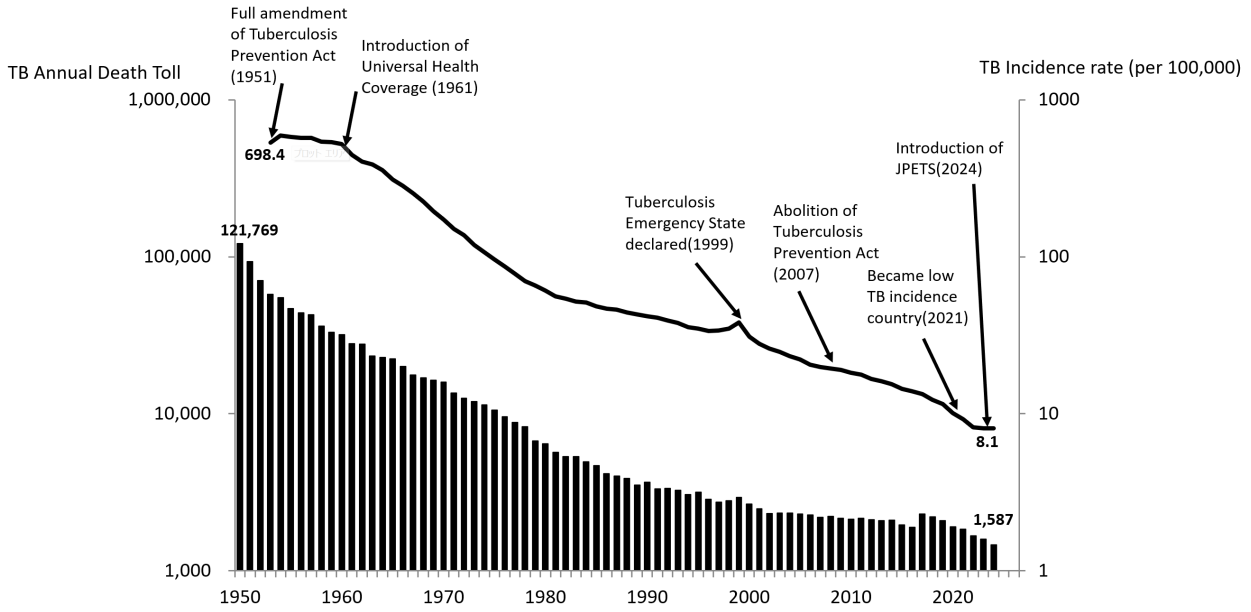

Figure 1. Trends in tuberculosis (TB) incidence and mortality rate in Japan. Since the postwar period, both the incidence and mortality rate of TB in Japan have steadily declined. Prior to the establishment of universal health coverage in 1961, patients with infectious TB were subjected to mandatory isolation, with the government covering all medical costs during hospitalization and most outpatient expenses thereafter. In 2007, the Tuberculosis Prevention Law was repealed and incorporated into the Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases. Since 2021, Japan has maintained its status as a low-incidence country (fewer than 10 cases per 100,000 population).

well as the establishment of universal health coverage (UHC) by public health insurance in 1961, played a critical role in early detection and continue to serve as a safety net today. Consequently, annual TB cases began to decrease, which contributed to transition of Japan's countermeasures toward a more target-specific strategy.

Current annual TB checkups are primarily targeted at high-risk groups, such as inmates, individuals aged 80 years or older, and those deemed to have an elevated risk in local epidemiological contexts including healthcare workers, schoolteachers and residents in social welfare facilities. In addition, students entering upper secondary schools, specialized training colleges, or higher education institutions are required to undergo TB screening as part of the comprehensive medical examination upon school enrollment (*8*).

Japan has also maintained universal Bacillus Calmette–Guérin (BCG) vaccination as part of its regular immunization schedule since 1951 (*9*); however, its current target population is infants, mainly to protect them from severe forms of TB such as miliary TB and tuberculous meningitis.

In 2007, the Tuberculosis Prevention Law was repealed and integrated into the Infectious Diseases Control Law to reinforce comprehensive and multisectoral measures within a broader framework. Under the current legal framework, isolation of active TB patients follows a two-step process designed to protect their human rights. Newly notified active TB patients first receive an administrative recommendation for isolation, accompanied by an appropriate explanation from the public health center to ensure that their rights are respected. Isolation becomes a legal requirement only when a patient does not comply with the recommendation.

In the same period, Japanese Directly Observed Treatment, Short Course (DOTS) program, characterized by its comprehensive patient-centered approach, was introduced in the early 2000s. The Japanese DOTS model has played a critical role in ensuring coherent support for treatment adherence both in the community and in hospitals. Following the amendment of the Law in 2014, the Japanese DOTS evolved into a community-wide support model that incorporated not only multisectoral local healthcare providers, but also non-healthcare personnel trained as DOTS supporters under the initiative of public health centers.

3. The growing challenge of foreign-born TB in Japan

While domestic TB control has achieved remarkable progress, Japan now faces a growing challenge—the rising number of foreign-born TB cases. Approximately 2,000 foreign-born cases were newly notified in 2024, representing 19.7% of all newly notified TB cases, an increase of 361 cases (3.7 percentage points) from the previous year (*5*). Notably, this rise is concentrated among younger generations: those aged 20–39 accounted for around 60% of newly notified foreign-born TB cases. Among individuals aged 20–29, the number of foreign-born TB cases increased by 31.3% compared with the previous year, and the proportion of foreign-born TB

cases in that age group reached 90% (*5*).

This demographic pattern reflects broader migration trends in Japan. The number of migrant workers has been increasing steadily, having reached approximately 2.3 million as of October 2024 (*10*). Among residence status categories, the "Technical Intern Training Program" category ranks third after "Permanent Resident" and "Engineer/Specialist in Humanities/ International Services" (*11*). This program was designed to transfer skills and knowledge accumulated in Japan to developing regions by accepting trainees for a period of on-the-job training, which contributes to human resource development and international cooperation.

Two-thirds of technical interns were in their 20s in 2024 (*12*). In terms of nationality, Viet Nam had the largest number of workers (24.8% of the total in 2024), followed by the Philippines, Nepal, and Indonesia. Southeast Asian nationals together account for almost half of all migrant workers in Japan (*10*). In parallel, the number of international students has grown sharply—from 60,601 in 1990 to 294,198 in 2024 (*13*). These migration dynamics have substantially reshaped Japan's TB epidemiology.

Many migrants with TB infection may face challenges such as maintaining employment or continuing their studies during TB treatment (*14*). Ensuring their TB-free status upon entry to Japan is not only a public health measure but also supports their social and economic stability. In light of this, the MHLW has been encouraging employers to conduct regular health checkups for workers and technical interns who are at high risk of TB infection.

Thus, under Japan's national roadmap toward realization of a society of harmonious coexistence with foreign nationals, the proportion of TB cases among non-Japanese residents is expected to rise. Therefore, additional preventive measures targeting non-Japanese individuals have been anticipated.

4. What is JPETS?

Given these challenges, the Japan Pre-Entry Tuberculosis Screening (JPETS) program was introduced in December 2024, under the coordination of the MHLW, the Ministry of Foreign Affairs and the Immigration Services Agency. JPETS mandates TB screening for applicants from target countries who intend to stay in Japan for three months or longer as part of the visa or CoE application process.

Similar to Japan, in many low TB-incidence countries the health status of migrants influences TB epidemiology through the importation of cases. Several countries have implemented mandatory pre-migration TB screening and subsequently reported reductions in TB cases diagnosed after arrival (*15*). For example, in the United States, where approximately 77% of TB cases occurred among non-US-born persons in 2024 (*16*), implementation of a culture-based screening algorithm coincided with a decline in TB cases diagnosed among foreign-born persons within the first year after arrival (*17*). Notably, approximately 70% of TB cases among migrants were diagnosed within two years following entry into Japan (*18*), suggesting that many cases may have been present but undetected at the time of migration. Such screening programs therefore enable earlier detection and treatment of infectious cases prior to travel, thereby reducing the likelihood of transmission after arrival. These precedents suggest that TB screening programs targeting migrants may be warranted to address the rising number of foreign-born TB cases. Japan's adoption of JPETS represents both a continuation of these international trends and a tailored response to its unique migration and epidemiological context.

JPETS currently targets nationals of countries that account for a large proportion of TB cases reported in Japan. The program applies to those who intend to stay in Japan for longer than three months as mid-to-long-term residents (excluding re-entry permit holders). As of November 2025, the targeted nationalities are those of the Philippines, Viet Nam, and Nepal. According to the Statistics of TB in Japan 2024, by the Japanese Anti-Tuberculosis Association, the Philippines, Viet Nam, and Nepal together contributed to roughly half of foreign-born newly notified TB cases in Japan (*18*). If documentation from a government authority confirms that the applicant's current residence is outside these countries, they are exempt from screening.

Applicants who are already subject to medical examinations (including chest X-rays for TB testing) under existing official schemes are temporarily exempt from this screening. Examples include participants in specific programs sponsored by the Japanese Government, trainees and students under programs coordinated by Japan International Cooperation Agency (JICA), government-funded students, nurses and care workers who have been admitted under Economic Partnership Agreements, and individuals entering under the status of Specified Skilled Worker and related categories. Detailed information is provided on the MHLW website (*19*).

A TB Clearance Certificate is issued only by designated clinics (Panel Clinics, or PCs) in the target countries to applicants who are certified as free of active TB, following a standardized protocol including a clinical interview, physical examination, and chest X-ray. The certificate must be submitted at the time of application for a CoE (issued by the Immigration Services Agency) or for a visa (issued by Japanese embassies) (Figure 2).

One distinctive feature of JPETS is its structured quality assurance mechanism. Prior to designation by the Japanese government, PCs are subject to rigorous audits conducted by the Centre for JPETS Quality Assessment (CJPQA), which is commissioned to the Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association. Beyond accreditation, CJPQA also plays

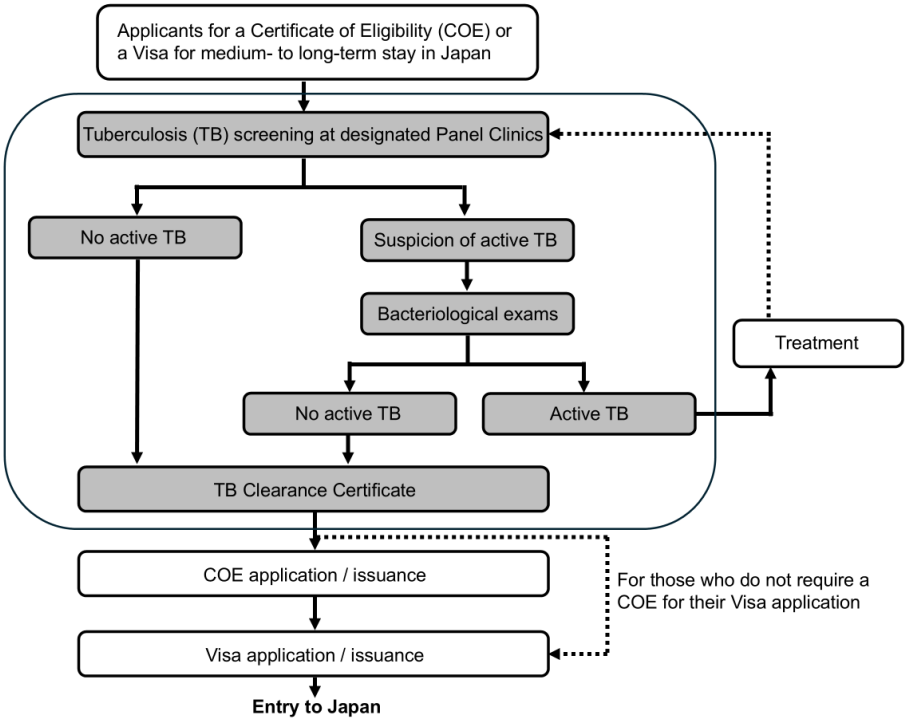

Figure 2. Screening flow of Pre-Entry Tuberculosis Screening (JPETS). Applicants will undergo a medical examination and chest X-ray (or sputum test at the doctor's discretion if there are concerns) at Panel Clinics located in the target countries for screening. A TB Clearance Certificate will be issued by the Panel Clinic when the applicant does not have active TB. Applicants are required to submit the TB Clearance Certificate when applying for a Certificate of Eligibility or, where applicable, when applying directly for a visa at a Japanese diplomatic mission abroad.

an active role in maintaining diagnostic quality and strengthening the capacity of PCs and PLs through training and technical guidance. This framework helps ensure standardized radiological interpretation and bacteriological testing, and contributes to improving the quality of TB care in the target countries. Such a technically supported quality assurance system represents a key advantage of JPETS compared with existing pre-entry screening programs implemented in other countries. These audits follow detailed technical instructions publicly available on the MHLW website, thereby ensuring transparency and uniformity. Adequate clinic capacity is estimated and maintained based on multiple factors, including geographical and demographic data, annual volume of migrants, and average processing time per applicant. As migration flows change, the overall capacity of PCs will be maintained accordingly.

If abnormalities are detected, additional tests such as sputum smear, culture, and/or World Health Organization (WHO)-recommended Nucleic Acid Amplification Tests will be performed. PCs are advised to take responsibility for specimen collection, which should be performed either outdoors or in a designated collection room with adequate negative air pressure to ensure safety. Staff are required to wear N95 respirators during specimen handling to minimize the risk of airborne transmission, and specimens are promptly transported to the laboratories (Panel Laboratories, or PLs). PCs are required to ensure access to these tests either in-house, through collaboration with affiliated PLs, or through outsourcing.

PLs are required to submit their standard operating procedures to the CJPQA and are advised to handle specimens in accordance with mycobacteriology laboratory manuals (*20*) and to regularly assess their quality in alignment with guidelines from the WHO (*21*). Individuals with active TB must complete standard treatment in accordance with the respective national TB guidelines before a TB Clearance Certificate can be issued.

The International Organization for Migration (IOM) manages the JPETS Information Management System (J-IMS), which ensures secure and standardized data collection. Documents including the TB Clearance Certificate and Chest X-ray Report will be directly issued through J-IMS. In terms of capacity building, CJPQA and IOM provide training programs for staff at PCs.

5. Monitoring and evaluation of JPETS

JPETS is expected to reduce importation of TB, strengthen domestic TB control and support the health of migrants by enabling proactive diagnosis and treatment before travel. Nevertheless, the impact of pre-entry screening programs may vary depending on migration patterns and domestic TB epidemiology, and continuous monitoring will therefore be essential.

One of the key anticipated outcomes is the number

of TB cases detected through this rigorous screening. Given the rising proportion of migrants among TB cases in Japan, this screening program will play a role in addressing this trend.

Another indicator will track newly notified active TB cases among migrants who arrived within the previous two years. As previously described, a substantial proportion of foreign-born TB cases are identified in Japan within two years of their arrival, supporting relevance of the timeframe to promote early detection (*18*).

Post-entry follow-up may present challenges because personal data collected through JPETS is not directly linked to national surveillance databases due to data security and privacy considerations. Instead, evaluation will rely on aggregated program data and national surveillance trends to assess population-level impact. Additionally, each applicant receives their screening records in electronic format, which can later assist healthcare providers if TB develops after entry. Migrants often encounter cultural and linguistic barriers, especially in the early phase after settlement, which potentially affect their health-seeking behavior. To mitigate such risks and promote awareness of TB, multilingual materials including videos are available for JPETS applicants, focusing on the significance of timely detection, infection control and TB care after migration. While Japan does not operate a follow-up program specifically within the JPETS framework, the national guidelines strongly encourage local authorities to take comprehensive countermeasures targeting populations at higher risk of TB such as TB-focused regular checkups (*22*) and to subsidize associated costs as much as possible. JPETS will also be periodically updated to improve diagnostic effectiveness in light of ongoing developments in tuberculosis diagnostic technologies, while maintaining operational feasibility and programmatic sustainability.

6. Way forward

Japan's comprehensive approach to TB control has served as a reference model for other countries. In this phase, JPETS represents a strategic convergence of public health, migration governance, and international collaboration. The program is aligned with global TB elimination frameworks, including the End TB Strategy and the UN Political Declaration on TB (*23,24*).

Japan's transition to a low TB-incidence setting underscores the necessity of maintaining seamless TB control strategies by integrating pre-entry screening with ongoing domestic strategies for individuals living in Japan such as rigorous surveillance and timely diagnosis, infection control and care (*25*). The introduction of JPETS will not justify any compromise on these countermeasures.

As part of its risk communication efforts, the MHLW conducts public awareness activities, notably during Tuberculosis and Respiratory Infection Prevention Week (September 24–30). During this period, multilingual posters and brochures are distributed through local authorities to a wide range of populations including migrant communities to promote comprehensive strategies.

The MHLW remains committed to ensuring continuity of care for migrants, while respecting their human rights, as stipulated in the Infectious Diseases Control Act. Recognizing the social determinants of health that affect migrants, the MHLW will continue to promote their well-being and safeguard fair and equitable opportunities for social participation, in line with principles of Sustainable Development Goals (*26*).

7. Conclusion

The JPETS program marks an advancement in Japan's tuberculosis control strategy, integrating domestic public health protection with equitable support for migrants who are at high risk of TB. Success will depend on continuous evaluation, maintenance of the quality of care and capacity at the PCs in line with migration trends, and sustained collaboration with partner organizations.

As an example of cross-border TB control in a high and a low incidence setting, JPETS illustrates how migration policy and infectious disease control can be harmonized to strengthen both national health security and global TB elimination efforts, while safeguarding fair and equitable opportunities for migrants. Thus, Japan's TB control will continue to evolve under the UHC framework, while adapting to changing epidemiological and migration trends.

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