

Changing Epidemiology of Tuberculosis and Actions Taken in the World and Türkiye

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ABSTRACT

Tuberculosis (TB) is an airborne, contagious illness caused by *Mycobacterium tuberculosis*, which can affect all tissues and organs, primarily the lungs. Tuberculosis remains a significant public health problem worldwide, with 10 million people contracting the disease and 1.5 million deaths annually. It is the second most common cause of death from communicable diseases globally, following Coronavirus Disease 2019 (COVID-19). To combat tuberculosis globally, the Global Tuberculosis Program is carried out by the World Health Organization (WHO). The WHO began the Directly Observed Treatment Strategy in 1995, the Stop Tuberculosis Strategy in 2006, and the End Tuberculosis Strategy in 2015. The End Tuberculosis Strategy aims to end the global tuberculosis epidemic by 2035. Due to the COVID-19 pandemic, global tuberculosis goals were missed or off-target. The fight against TB requires continuity. The National Tuberculosis Control Program, which includes the End Tuberculosis Strategy, has been implemented successfully for many years in alignment with global targets in Türkiye. In this article, the changing epidemiology of TB in the world and Türkiye is evaluated, and control activities carried out within the scope of combating TB are included.

Keywords: Epidemiology, global health, National Health Programs, tuberculosis, Türkiye.



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INTRODUCTION

Tuberculosis (TB) is an airborne, contagious illness caused by the *Mycobacterium tuberculosis*, which can affect all tissues and organs (bones, skin, eyes, etc.), mostly the lungs.^{1–3} With the discovery of *M. tuberculosis* bacillus by Robert Koch on March 24, 1882, the path for the diagnosis and treatment of the disease was paved. The first drugs that killed the tuberculosis bacillus were discovered in the 1940s. Significant progress has been made in the fight against the disease from past to present.^{1,2} With treatments currently recommended by the World Health Organization (WHO), around 85% of tuberculosis patients can be cured.^{3–5} If TB is not treated, the death rate is high (approximately 50%).^{3,4}

Tuberculosis remains a significant public health problem worldwide.^{3–7} Every year, 10 million people become ill with tuberculosis, and 1.5 million people die due to it.^{3,8} Tuberculosis is the second most common cause of death from communicable diseases globally, following Coronavirus Disease 2019 (COVID-19).^{3–6} It is additionally the most common cause of death among Human



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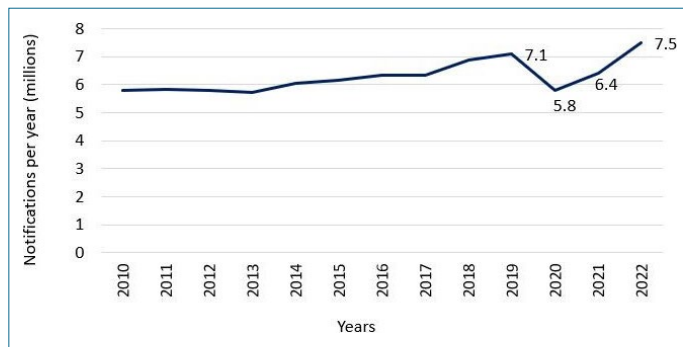


Figure 1. Global trend in case notifications of people newly diagnosed with tuberculosis, 2010–2022.^{3,9}

Immunodeficiency Virus (HIV) patients and a significant factor in deaths associated with antimicrobial resistance. Multidrug-resistant tuberculosis remains a significant public health problem.^{3,7,8}

GLOBAL TUBERCULOSIS EPIDEMIOLOGY

According to the estimates of the WHO:

- Approximately a quarter of the global population is infected with tuberculosis bacilli, and approximately 5–10% of them progress to active tuberculosis.^{3,8}
- Worldwide, approximately 10.6 million people fell ill with tuberculosis in 2022, including 5.8 million (55%) men, 3.5 million (33%) women, and 1.3 million (12%) children (aged 0–14 years). The number of people who can be diagnosed is 7.5 million (case finding rate 70.8%).³
- In total, 1.3 million people died from TB, including 167,000 individuals living with HIV.³
- Approximately 75 million lives were rescued between 2000 and 2022, thanks to the effective diagnosis and treatment programs implemented within the scope of the global fight against TB.³

The number of tuberculosis cases newly diagnosed worldwide was reported as 7.5 million in 2022. This is the highest number since the WHO started global TB monitoring in 1995. It exceeds the baseline of 7.1 million pre-COVID-19 (Coronavirus Disease 2019) in 2019 and is higher than 5.8 million in 2020 and 6.4 million in 2021 (Fig. 1).^{3,9} The number of tuberculosis cases in 2022 likely includes individuals who developed TB in 2020 and 2021, but whose diagnosis and treatment were delayed due to difficulties and disruptions caused by COVID-19.³ India, Indonesia, and the Philippines, which accounted for the majority (≥60%) of the global decrease in new tuberculosis diagnoses in 2020 and 2021, all saw their numbers rise above 2019 levels in 2022.^{3–5}

Globally, the estimated tuberculosis incidence (new cases per 100,000 population per year) increased from 128 in 2020 to 133 in 2022.^{3,9} It has risen by 3.9% between 2020 and 2022, following decreases of approximately 2% per year between 2010 and 2020.³

India, Indonesia, China, the Philippines, Pakistan, Nigeria, Bangladesh, and the Democratic Republic of Congo are the countries with the highest burden of TB cases. India, Pakistan, Russia, China, Indonesia, the Philippines, Myanmar, Niger, and South Africa are the countries with the highest burden of drug-resistant tuberculosis cases.^{3,4}

GLOBAL TUBERCULOSIS PROGRAM

In order to combat tuberculosis globally, the Global Tuberculosis Program is carried out by the WHO.^{10,11} The WHO initiated the Directly Observed Treatment Strategy (DOTS) in 1995, marking the first comprehensive public health strategy for tuberculosis, designed to make a substantial impact on the tuberculosis epidemic. In 2006, the WHO launched the Stop Tuberculosis Strategy.¹⁰ At the World Health Assembly in 2014, the global End Tuberculosis Strategy (resolution WHA67.1) was adopted, which includes Target 3.3 of the United Nations Sustainable Development Goals: “to end the epidemic of tuberculosis and other communicable diseases by 2030.” This

Table 1. World Health Organization (WHO) global strategy to end tuberculosis (TB) (2016–2035).^{3,10–17}

Goal	End the global TB epidemic			
	Milestones		Targets	
	2020	2025	2030*	2035
Reduction in number of TB deaths compared with 2015 (%)	35%	75%	90%	95%
Reduction in the TB incidence rate compared with 2015 (%)	20%	50%	80%	90%
Percentage of TB patients and their households facing catastrophic costs due to TB	Zero	Zero	Zero	Zero

*: The sustainable development goals aim to end the epidemics of TB by 2030. TB: Tuberculosis.

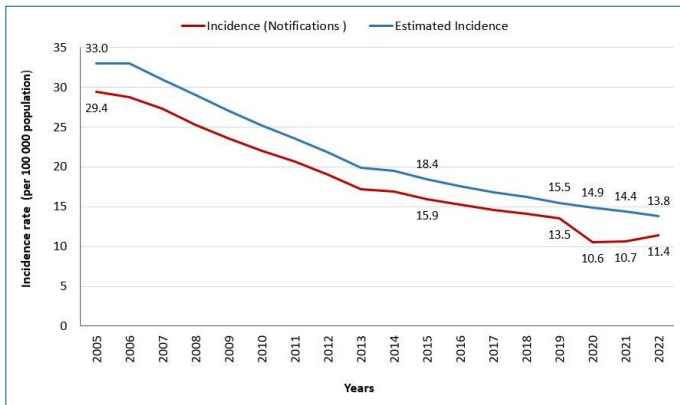


Figure 2. Tuberculosis incidence rate (notifications – World Health Organization (WHO) estimated incidence), Türkiye, 2005–2022.^{18,19,21}

strategy aims to end the global tuberculosis epidemic by 2035 (Table 1).^{10–17} The year 2050 has been set as the target year for TB elimination (<1 case per million), and the WHO recommends that countries organize their control programs towards tuberculosis elimination.¹⁴

Türkiye is one of the countries in the WHO European Region. Within the framework of the End Tuberculosis Strategy, the ‘WHO European Region Tuberculosis Action Plan 2016–2020’ was implemented. Based on the progress achieved and lessons learned from this action plan, the ‘WHO European Region Tuberculosis Action Plan 2023–2030’ was initiated in 2022. With the implementation of this plan, the aim is to reduce the tuberculosis incidence by 80% and tuberculosis-related deaths by 90% by 2030 compared to 2015 in the WHO European Region (Table 1).¹⁵

TUBERCULOSIS EPIDEMIOLOGY IN TÜRKIYE

The National Tuberculosis Control Program (NTP), which incorporates the End Tuberculosis Strategy, has been successfully implemented for many years in alignment with global targets in Türkiye.

The number of tuberculosis cases, which was reported as 20,535 in 2005, decreased to 9,851 in 2022, and the TB incidence dropped from 29.4 to 11.4 per 100,000 population in Türkiye (Fig. 2).^{18,19} The tuberculosis incidence in 2020 and 2021 was similar, respectively 10.6 and 10.7 per 100,000 population. It decreased by about 3–5% per year

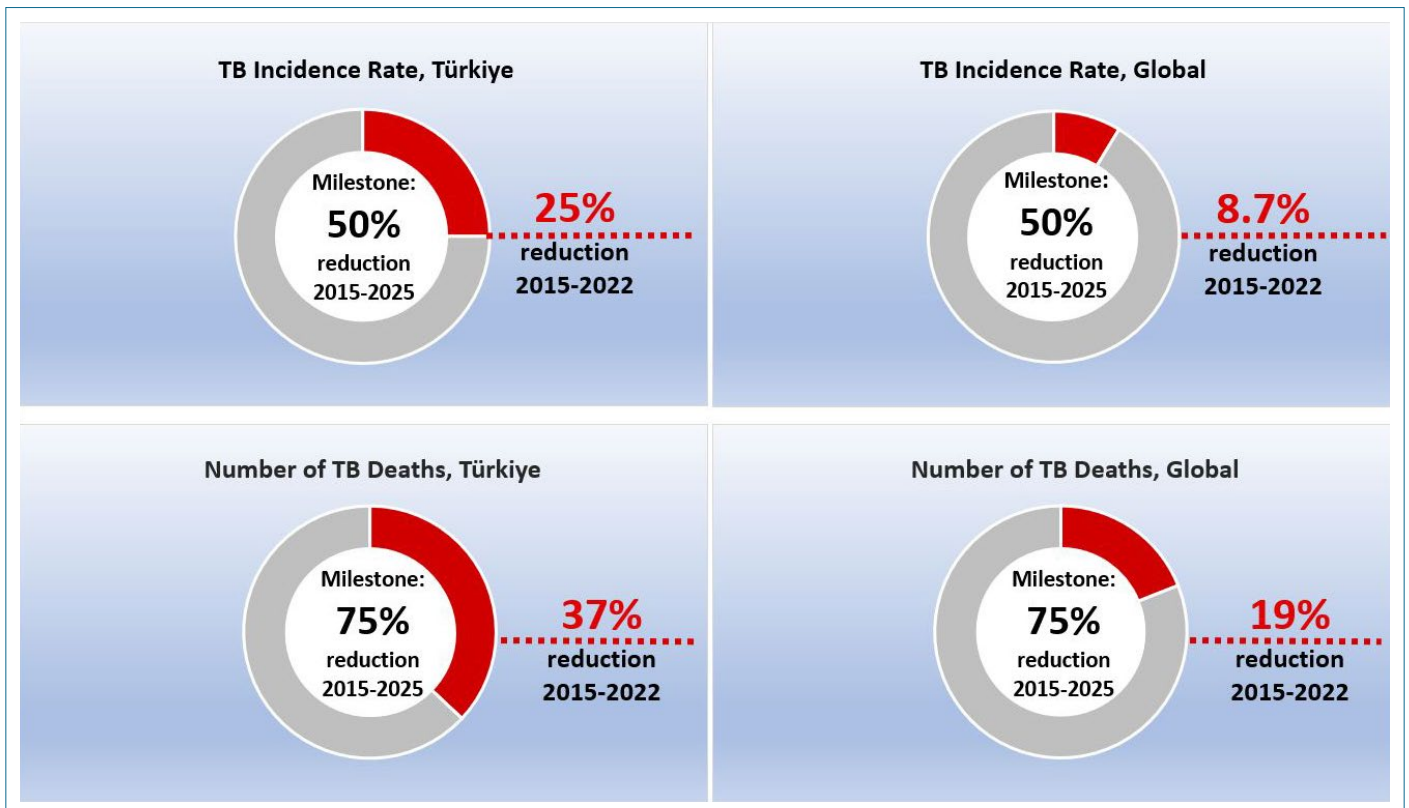


Figure 3. WHO End Tuberculosis Strategy, 2025 milestones; Tuberculosis (TB) incidence rate and number of TB deaths reductions, Türkiye and Global, 2015–2022.³

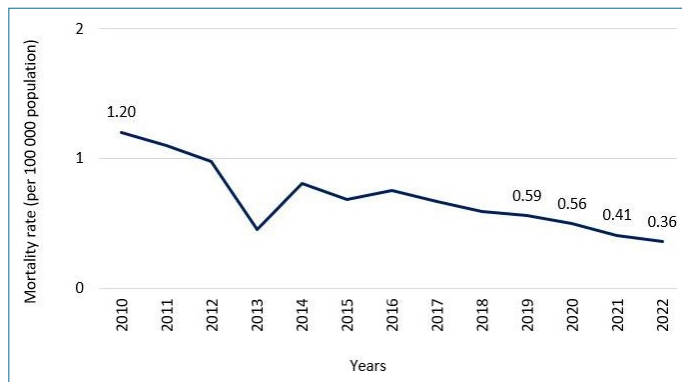


Figure 4. WHO, estimated Human Immunodeficiency Virus (HIV-negative) (-) tuberculosis mortality, Türkiye, 2010–2022.²²

pre-COVID-19, between 2014 and 2019, but fell by about 22% during the COVID-19 pandemic in 2020 compared to 2019.^{18,19}

The WHO calculates the estimated TB incidence for countries by modeling using various variables.²⁰ For Türkiye, the estimated tuberculosis incidence calculated by WHO is 14 per 100,000 population in 2022 (Fig. 2).²¹ One of the milestones of the End Tuberculosis Strategy is to reduce the tuberculosis incidence by 50% by 2025 compared with 2015. The cumulative decrease in tuberculosis incidence from 2015 to 2022 was 25% for Türkiye. Worldwide, the cumulative decrease in tuberculosis incidence from 2015 to 2022 was 8.7%, significantly below the End Tuberculosis Strategy milestone of a 50% decrease by 2025 (Fig. 3).³

In 2022, a total of 9,851 TB cases were registered by Tuberculosis Dispensaries (TDs). Of these, 93.7% (9,235 cases) were new TB cases, and 6.3% (616 cases) were previously treated cases. Of the total TB cases, 55.5% were male, 40.5% were female, and 4% were children aged ≤ 14 years. In total, 62.8% (6,188 cases) of the TB cases had pulmonary tuberculosis, while 37.2% (3,663 cases) had extrapulmonary tuberculosis (involving lymph nodes, pleura, bone, kidney, brain, etc.).¹⁹

The estimated HIV-negative (-) TB mortality rate in Türkiye, which was 1.2 per 100,000 population in 2010, decreased to 0.36 per 100,000 in 2022 (Fig. 4).²² One of the targets of the End Tuberculosis Strategy is to reduce tuberculosis deaths by 75% by 2025 compared to 2015. The cumulative decrease in the number of tuberculosis deaths from 2015 to 2022 was 37% for Türkiye. Globally, the cumulative decrease in the number of TB deaths from 2015 to 2022 was 19%, which is significantly below the milestone of a 75% decrease by 2025 set by the End Tuberculosis Strategy (Fig. 3).³

NATIONAL TUBERCULOSIS PROGRAM (NTP)

Research on tuberculosis in Türkiye began in the 19th century. In 1885, sputum smear testing started in Istanbul, and in 1890, tuberculin imported from Berlin was used as a vaccine. Two years after Wilhelm C. Röntgen discovered X-rays, radiology units were established in Yıldız, Gülhane, and Hamidiye Hospitals in Istanbul. The first tuberculosis service for children was established at Şişli Etfal Hospital in 1906, and the “Ottoman Society for the Fight Against Tuberculosis” was established in 1918.^{1,11}

The Infectious Diseases Hospital, established in Izmir in 1910, was transformed into a center for treating TB patients in 1924 and today serves as the Dr. Suat Seren Chest Diseases and Surgery Training and Research Hospital, a Tuberculosis Reference Hospital. The Heybeliada Sanatorium was also opened in Istanbul that same year.¹¹

The first tuberculosis vaccine in Türkiye was administered orally in 1927. The General Health Law enacted in 1930 made reporting the disease mandatory.^{1,11} In subsequent years, the number of tuberculosis dispensaries and sanatoriums increased rapidly. While there were five TDs in 1945, this number increased to 46 by 1948.¹¹

In 1945, the Turkish National Tuberculosis Association was established, and in 1948, production of the Bacille Calmette-Guerin (BCG) vaccine began at the Refik Saydam Hygiene Center Institute in Ankara. In 1949, the Law on Tuberculosis Control was published. To ensure the nationwide implementation of the BCG vaccine, the ‘Türkiye BCG Campaign Organization’ was established in 1952.^{1,11}

The General Directorate of Tuberculosis Control was established in 1963, the Department of Tuberculosis Control in 1983, and the Department of Tuberculosis was established by decree in 2011.^{1,11}

The NTP is being implemented within the scope of combating TB in Türkiye. The aims of the NTP are as follows:

- TB cases, deaths and transmission:
 - To reduce transmission through early diagnosis, standard treatment, and infection control measures.
 - To reduce the emergence of new cases through contact tracing, preventive treatment, and BCG vaccination.
 - To prevent active TB disease or death from TB.
- Prevention of drug resistance:
 - To ensure that TB patients complete their treatment appropriately.
 - To cure drug-resistant cases with early diagnosis and successful treatment.
 - To prevent the spread of resistant bacilli.¹¹

Table 2. Indicators of national tuberculosis (TB) program¹¹

Indicators	Target level
1 TB Treatment Coverage Number of new and relapse cases that were notified and treated, divided by the estimated number of incident TB cases in the same year, expressed as a percentage.	≥90%
2 TB Treatment Success Rate Percentage of notified TB patients who were successfully treated. The target includes both drug-susceptible and drug-resistant TB, although outcomes should also be reported separately.	≥90%
3 Percentage of TB Patients Lost to Follow-up Percentage of patients lost to follow-up out of notified TB cases.	≤3%
4 Case Fatality Ratio (CFR) Number of TB deaths divided by the estimated number of incident cases in the same year, expressed as a percentage.	≤5%
5 Number of Contact Examinations Per Person Diagnosed with TB	≥8
6 Percentage of Smear Microscopy Performed in Pulmonary TB Cases Percentage obtained by dividing the number of smear microscopy performed among pulmonary TB cases by the total number of notified pulmonary TB cases.	≥90%
7 Percentage of Culture Performed in Pulmonary TB Cases Percentage obtained by dividing the number of cultures performed among pulmonary TB cases by the total number of notified pulmonary TB cases.	≥90%
8 Drug-Susceptibility Testing (DST) Coverage for TB Patients Number of TB patients with DST results for at least rifampicin, divided by the total number of notified cases in the same year, expressed as a percentage (molecular or conventional).	=100%
9 Directly Observed Treatment (DOT) Rate of Total TB Cases at the End of Treatment Percentage of DOT performed at the end of treatment among total TB cases notified and treated.	≥95%

The targets of the NTP are:

- To decrease tuberculosis incidence by 90% and tuberculosis-related deaths by 95% compared to 2015, and to maintain the percentage of tuberculosis-affected households facing devastating costs due to tuberculosis at 0% by 2035.^{11,16}

Table 2 presents the NTP indicators in Türkiye.¹¹

In the implementation of tuberculosis combating and control services, the Department of Tuberculosis and the Department of Microbiology and Biological Products (National Tuberculosis Reference Laboratory) under the General Directorate of Public Health, Ministry of Health are responsible in the central organization. In the 81 provincial organizations, the Directorate of Provincial Health, the Communicable Diseases Unit and/or the Tuberculosis Unit affiliated to the Presidency of Public Health Services, and the Regional Tuberculosis Laboratories operating under the Public Health Laboratories provide services (Fig. 5).¹¹

It is mandatory for all public and private health institutions to report definitively diagnosed tuberculosis patients to the Ministry of Health within the first 24 hours. Notification is made through the Infectious Diseases Surveillance and Early Warning System and the National Tuberculosis Information System. When hospitalized TB patients are discharged from the hospital, a discharge notification is also made, and the patient is transferred to the TDs.¹⁶

The smallest unit responsible for the successful implementation of the tuberculosis control program is the TDs, working under the directorates of district health or public health centers. They operate regionally or province-wide. The TDs provides services for the prevention of transmission in the community and early diagnosis of TB. These units record TB patients who have been notified, confirm their diagnoses, and follow up. For individuals displaying symptoms similar to tuberculosis, TDs investigate the diagnosis using multiple methods such as chest radiography, the tuberculin skin test, and bacteriological examination of sputum samples. If TDs cannot perform bacteriological

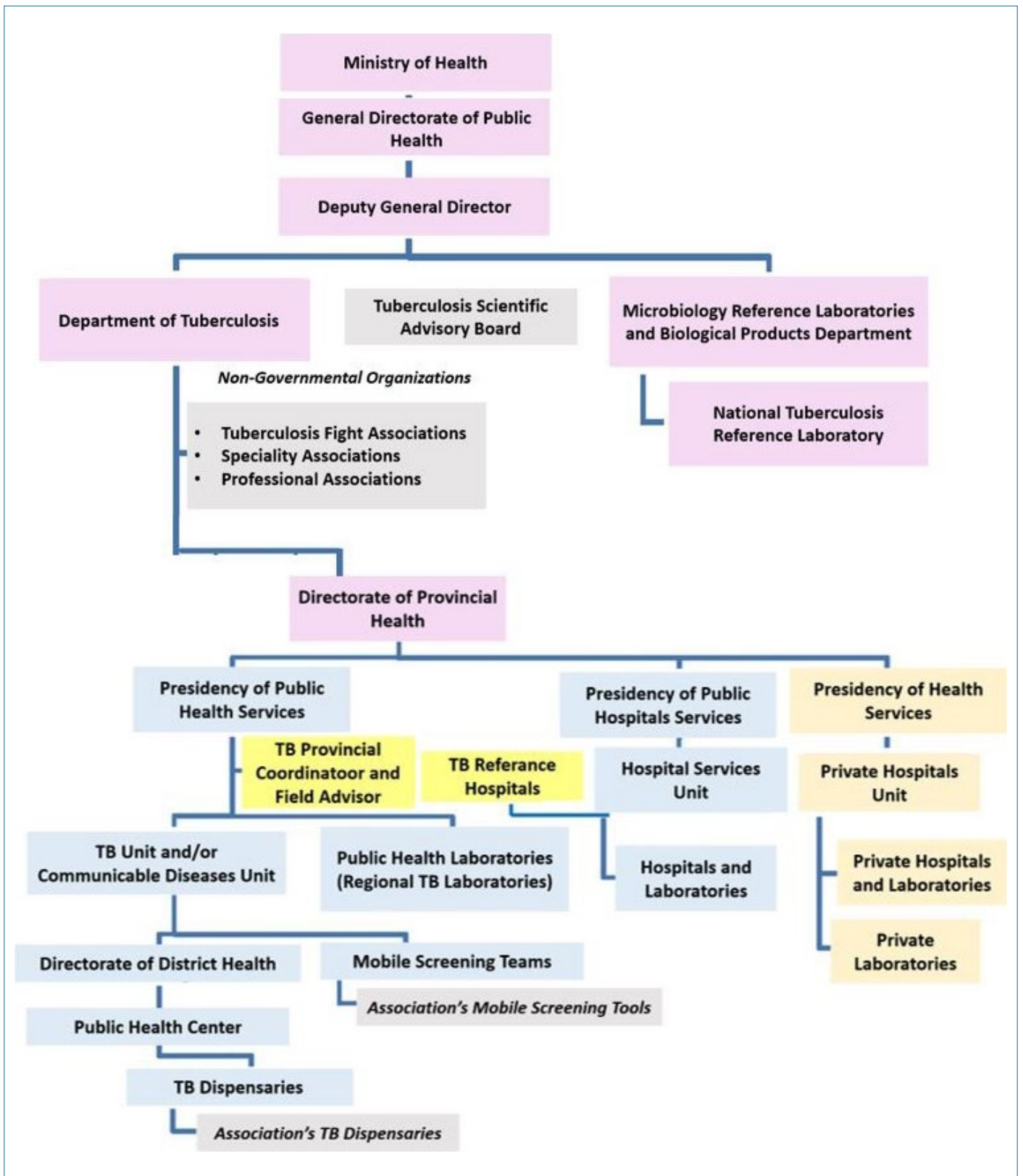


Figure 5. Tuberculosis services, central and provincial organization in Türkiye.¹¹



Figure 6. Numbers of tuberculosis dispensaries (total 173) by provinces, Türkiye, 2024.¹⁸

examinations, these units send the sputum samples to affiliated laboratories. TDs perform contact examinations, find active cases by screening risk groups, and diagnose latent TB infection (LTBI). They also provide medication for TB patients, their contacts, and people with LTBI, free of charge. They monitor each patient’s treatment regimen to ensure regular medication intake. They record and report all information about TB patients, people with LTBI, notifications, medications, and other service data into the National Tuberculosis System. Additionally, they organize programs for on-site monitoring, evaluation of hospitals and laboratories, and training of personnel.^{11,23} In this context, 173 TD units provide services in 81 provinces (160 TDs belong to the Ministry of Health, 13 TDs to associations). New TD units can be opened as needed (Fig. 6).^{18,19}

Tuberculosis Provincial Coordinators, who work under the Presidency of Public Health Services and are appointed with the approval of the General Directorate and the governorship, monitor, evaluate, and coordinate the tuberculosis control activities at the provincial level. They ensure coordination between all institutions and organizations within the province and sometimes plan inter-provincial studies related to the tuberculosis control program.^{11,16,23}

In the directorates of provincial health, a Tuberculosis Provincial Control/Advisory Board chaired by the provincial health director convenes at least once a year and extraordinarily when needed. All issues related to the TB program in the province are discussed, solutions are proposed, and the decisions are recorded and sent to the Department of Tuberculosis.²³

There are 20 Mobile Screening Teams operating under the directorates of provincial health.^{11,18,23} They carry out screening activities in high-risk groups for tuberculosis, including annual routine screening in prisons and contact screening when TB patients are detected in communal living areas such as nursing homes, orphanages, military units, schools, dormitories, and workplaces.^{11,16,18,23}

To ensure self-control regarding the activities related to the NTP, 10 physicians experienced in tuberculosis services were assigned as Tuberculosis Field Advisors/Consultants with the approval of the General Directorate. They provide consultancy services to 8 or 9 provinces affiliated with their region.^{11,18,23}

Developments in the prevention, screening, preventive treatment, diagnosis, and treatment of TB in the world and in Türkiye are closely monitored.^{11,16}

As in many countries, “Enhanced Tuberculosis Surveillance” is conducted in Türkiye. This comprehensive surveillance system includes recording and reporting information about TB patients’ sociodemographic characteristics, history, risk factors, laboratory results, medications used, treatment outcomes, follow-up examinations, contacts, and follow-up.²⁴ In addition, active tuberculosis surveillance was initiated in 2014 to strengthen ongoing tuberculosis surveillance and ensure that no unregistered TB patients remain.¹¹

Previously, data on tuberculosis patients were collected as cumulative data, but from 2005, they started being collected on a case-by-case basis and reported annually. To collect

tuberculosis data, the web-based software, Electronic Tuberculosis Management System, was used throughout Türkiye from March 2012 to March 2018. Since March 2018, the National Tuberculosis Information System (NTS), which provides electronic notification and records, has been used to improve data quality, monitor and evaluate in real time, and strengthen the NTP. Data on TB patients, their contacts, and those who need to receive preventive treatment are collected regularly by TDs. This data is checked, analyzed, and evaluated by the Department of Tuberculosis, and the Annual Tuberculosis Control Report is prepared. With this comprehensive evaluation, the current status of tuberculosis in Türkiye, the progress made in diagnosis, treatment, and other activities carried out within the framework of the NTP are reviewed. This review informs the policies of the Ministry of Health regarding tuberculosis control services and guides strategic decisions and plans for the coming years.¹⁸

The National Tuberculosis System is an internet-based program that allows for real-time data recording. It consists of three sub-modules:

1. Tuberculosis Module: This has two sections, the Patient Module and the Administrative Module. Information on TB patients (diagnosis-treatment, referral, etc.) and TDs (building, personnel, X-ray devices, etc.) is tracked.
2. Social Assistance Module: This module records and evaluates data to be sent to the Ministry of Family and Social Services regarding patients receiving Social Assistance.
3. Mobile Screening Module: This module tracks Mobile Screening Teams (personnel, vehicle, device, and annual screening program) and TB suspect individuals.²³

Treatment of drug-resistant tuberculosis patients is provided by four reference hospitals located in Ankara, Izmir, and Istanbul (Ankara Atatürk Sanatoryum, Izmir Dr. Suat Seren Chest Diseases and Surgery Hospital, Istanbul Sureyyapaşa Chest Diseases and Surgery Hospital, and Istanbul Yedikule Chest Diseases and Surgery Training and Research Hospitals).^{11,16}

Tuberculosis patients can react negatively to any situation that affects them adversely, disrupting their treatment and potentially abandoning it. To protect both the patient and public health in resolving the problems experienced during this process, the TDs physician, TB provincial coordinator, district health director/public health center head, and family medicine unit employees collaborate with other provincial administrators. Non-compliant patients are supported by psychologists and social workers. If the patient continues to insist on non-compliance with treatment, legal action is taken (Provincial Health Board and/or Civil Court of Peace).^{11,16}

In Türkiye, tuberculosis diagnosis, treatment, and follow-up services are offered at no charge by all health institutions. All anti-tuberculosis drugs used in the treatment of TB patients, and in TB preventive treatment for their contacts and people with LTBI are provided by the Ministry of Health and delivered to citizens free of charge.^{11,16,23} Another protective measure, the BCG vaccination, is also administered free of charge to babies who are two months old after birth within the scope of the Expanded Programme on Immunization (EPI).^{11,16} In addition, diagnosis, treatment, and follow-up services are provided free of charge for tuberculosis patients born in foreign countries in Türkiye.¹⁶

Directly observed treatment (DOT), which is recognized by the WHO as an example of good practice to ensure regular continuation and completion of treatment, has been implemented in Türkiye since 2006. A health worker or another trained volunteer observes the TB patient swallowing each dose of the drugs and records it daily. With Video Directly Observed Treatment (VDOT), which began to be implemented during the COVID-19 pandemic, the TB patient is connected electronically to a health worker via video as they swallow each dose of medicine or records the moment they swallow their medicine and sends a video.¹¹

Tuberculosis is considered a biopsychosocial disease due to the long treatment process that causes non-compliance and devastating costs, as well as the effects it has on the patient, their family, and their environment. Within the framework of the protocol signed between the Türkiye Ministry of Health and the Ministry of Family and Social Services in December 2017, monthly conditional cash social assistance has been provided to tuberculosis patients who adhere to regular treatment and check-ups and who experience economic and social difficulties since 2018, which is considered an example of good practice by the WHO.^{16,18,25}

Training activities for healthcare personnel are planned and carried out by the Department of Tuberculosis, including the Tuberculosis Control Certified Training Program for Physicians, Certificate Renewal Training and Examination Program, Tuberculosis Control Training Program for Healthcare Workers, In-Service Rotation Training in Tuberculosis Reference Hospitals, and Field Team Orientation Training.^{18,23}

The Tuberculosis Laboratory Surveillance Network studies, initiated regionally in 2011, have been conducted nationally since 2012. The 'National Tuberculosis Laboratory Diagnostic Guide' was published in 2014. The coordination, operation, and monitoring of TB laboratories at different levels and functions are carried out by the National Tuberculosis Reference Laboratory (UTRL-NTRL). During monitoring, laboratory assessment visits, authorization audits, and external quality

assessment program arrangement studies are conducted, and practical training is organized annually for tuberculosis laboratory personnel (expert and technical staff).¹¹

There are a total of 93 TB laboratories nationwide, 49 Level III and 44 Level II, operating within various institutions (university, public health laboratory, state/city hospital, chest diseases hospital, training and research hospital, private hospital) on a provincial basis. Seventeen of these laboratories are regional service providers. All regional TB laboratories operate within public health laboratories and university laboratories.¹¹

To ensure a standard in the diagnosis and treatment of tuberculosis, the “Reference Book for the Control of Tuberculosis in Türkiye,” a national guideline, was published in 2003 and distributed to Veterinary Service Dispensaries (VSDs). The “Tuberculosis Diagnosis and Treatment Guide,” prepared and implemented in 2011, was updated in 2019. In 2016, the TB Guide for Patients Using Anti-tumor necrosis factor (anti-TNF) and the “Tuberculosis Information and Patients’ Rights and Responsibilities Guide” were published. In 2019, the “Tuberculosis Control Activities Field Application Guide” and the “Conditional and Regular Cash Aid Guide for Tuberculosis Patients” (updated in 2023) were published. Additionally, in 2021, the “Tuberculosis Control Dispensaries Registration and Reporting System Guide” was released. The NTP document was published in 2022, defining the objectives, targets, and strategies of the control program and the activities related to protection, diagnosis, treatment, and other applications for these strategies. Posters and brochures have been prepared to inform TB patients, their contacts, and relatives about tuberculosis and to raise public awareness. Relevant documents are published on the General Directorate of Public Health website.¹¹

The Türkiye Ministry of Health carries out the National TB Control Program studies in cooperation with national and international organizations, the public and private sectors, non-governmental organizations, voluntary organizations, and continues to strengthen these efforts aiming for TB elimination.¹¹

Civil society organizations (CSOs), including the Turkish National Federation of Tuberculosis Control Associations, professional organizations, and specialist associations, support TB control activities by providing diagnosis and treatment services, contributing to scientific committees, congresses organized by federations and associations, and providing cash and in-kind aid to TB patients.¹¹

During the “Tuberculosis Education and Awareness Week” and “March 24 World Tuberculosis Day,” which start on the first Sunday of January each year, activities are carried out to inform society, include TB in the school curriculum, and draw attention from all segments of society to the importance of the issue.^{11,18}

CONCLUSION

Due to disruptions in access to diagnosis and treatment services resulting from the COVID-19 pandemic, the number of tuberculosis cases diagnosed and treated decreased in 2020 and 2021. The negative impact on the number of deaths and the disease burden has begun to reverse, with an increase in the number of tuberculosis cases diagnosed and treated in 2022. The number of newly diagnosed tuberculosis cases reported worldwide in 2022 was 7.5 million, the highest since the WHO launched global TB monitoring in 1995. Despite this increase, global tuberculosis goals were missed or off-target.³ The fight against tuberculosis requires continuity.

In Türkiye, the number of TB cases diagnosed and treated decreased substantially in 2020. There was a slight increase in 2021 and 2022, but the numbers were lower than those seen pre-COVID-19. Türkiye continues its TB control activities by updating the National Tuberculosis Program within the scope of the WHO End Tuberculosis Strategy targets. The ultimate goal of the NTP is ‘a tuberculosis-free Türkiye’.

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