World Health Organization

European Region

Targeted review of the National Tuberculosis Program Republic of Moldova

July – November 2024

Abstract

The World Health Organization (WHO) Regional Office for Europe conducted a review of the National Tuberculosis Response Programme in the Republic of Moldova from July to November 2024. The WHO review included an epidemiological review of tuberculosis. The findings and recommendations of the review will serve as a basis for developing the next National Tuberculosis Response program for 2026–2030. The revised strategic plan will be in line with the objectives, provisions, and targets set out in the Tuberculosis Action Plan for the World Health Organization European Region 2023–2030.

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Keywords

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[1] At the time of the visit, the Institute was known as the Institute of Phthisiopneumology of "Chiril Draganiuc.

Contents

Abbreviations and acronyms

AE	adverse event
aDSM	active drug safety monitoring
ART	antiretroviral therapy
BPaL(M)	bedaquiline, pretomanid, linezolid, moxifloxacin
CAD	computer-aided diagnosis
CCPPH	Center for Centralized Public Procurement in Health
CHI	Compulsory Health Insurance
CSO	civil society organization
DRTB	drug-resistant tuberculosis
DST	drug susceptibility testing
EECA	Eastern Europe and Central Asia
EU	European Union
FLD	first-line anti-TB drug(s)
GDP	Gross Domestic Product
HIV	human immunodeficiency virus
MDL	Moldovan Leu
MGIT	Mycobacteria Growth Indicator Tube
M&E	Monitoring and evaluation
MoH	Ministry of Health
MDR-TB	multidrug-resistant tuberculosis
mSTR	modified shorter treatment regimen (for RR-TB)
MTEF	Medium-Term Expenditure Framework
NGO	non-governmental organization
NHIC	National Health Insurance Company
NRL	National Reference Laboratory
NSP-TB	National Tuberculosis Response Programme
NTP	National Tuberculosis Programme
PCIMU	Public Institution “Coordination, Implementation and Monitoring Unit” for health projects
PHC	Primary health care
PLHIV	People living with HIV
RR-TB	rifampicin-resistant tuberculosis
SAE	serious adverse event(s)
SCI	Service Coverage Index
SDG	Sustainable Development Goal
SEE	South-East Europe
SLD	second-line anti-TB drug(s)
SNRL	Supranational Reference Laboratory

SOPs	Standards and operational procedures
TB	tuberculosis
TGF	The Global Fund
UHC	Universal Health Coverage
UMIC	upper-middle income country(-ies)
UN	United Nations
VST	video-supported treatment
WHO	World Health Organization
XDR-TB	extensively drug-resistant tuberculosis

Antituberculosis drugs

Bdq – bedaquiline;
Cfz – clofazimine;
Cs – cycloserine;
Dlm – delamanid;
E – ethambutol;
FQ – fluoroquinolone;
INH(H) – isoniazid;
Lfx – levofloxacin;
Lzd – linezolid;
Mfx(M) – moxifloxacin;
Rpt(P) – rifapentine;
Pa – pretomanid;
Rif(R) – rifampicin;
PZA(Z) – pyrazinamide

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Background

Tuberculosis (TB) remains a major public health problem in the Republic of Moldova. The country is among 18 high-priority countries for TB elimination in the World Health Organization (WHO) European Region and 30 countries with a high burden of multidrug-resistant) /rifampicin-resistant TB globally[2].

The WHO Regional Office for Europe conducted a review of the National Tuberculosis Response Programme (NSP-TB) in the Republic of Moldova from July to November 2024. It included an epidemiological review of TB. The findings and recommendations of the review will serve as a basis for developing the next National Tuberculosis Response program for 2026–2030. The revised strategic plan will align with the objectives, provisions, and targets set out in the Tuberculosis Action Plan for the WHO European Region, 2023–2030.

General overview

The Republic of Moldova is a landlocked country located in Eastern Europe, bordered by Romania and Ukraine. On the Right Bank of the Nistru river, the country has 35 administrative units: 32 districts (*rayons*), Autonomous Territorial Unit of Gagauzia (ATUG) and two cities: Chisinau (the capital) and Balti. The region situated on the Left Bank (Transnistria), with a disputed status and not under authority of the central government, has 7 administrative units: 5 rayons and 2 cities (Tiraspol and Bender).

The country has been experiencing severe depopulation trends over the last two decades, due to both natural decrease and significant emigration. According to the UN Population Division, the total population was 3,034,961 in 2024; compared to 1991 when the country gained independence, the number of population decreased by 1.42 million, or by 31.9%[3]. According to the preliminary data of the 2024 Population and Housing Census[4], the population on the Right Bank was 2,401,185, out of which 53.6% lived in rural areas. The population of Transnistria is about 450 thousand, 70% of which are urban[5].

Moldova is an upper middle-income (UMI) economy, with GDP of USD 6,729 per capita in 2023[6]. Despite sustained economic growth over two decades, poverty remains significant, especially in rural areas where access to services and economic opportunities remain limited. The economy is projected to grow by 2.8% in 2024, and the poverty rate is expected to decline from an estimated 13.3% in 2023 to 10.6% in 2024 and further to 8.6% in 2025[7]. As an EU candidate, the country is in need of strong reforms and investments to ensure medium-term growth and sustainable development in the long term.

Life expectancy at birth remains among the lowest in the WHO European Region (69.6 years in 2021[8]). The overall number of deaths in 2022 fell by 20.5% compared to 2021. According to the National Agency for Public Health, the major causes of death in 2022 were diseases of the circulatory system (58%), cancerous tumors (15.8%), diseases of the digestive tract (7.5%), external causes (4.8%), and other causes (13.9%).Alcohol and tobacco consumption are serious public health issues, mostly affecting men and contributing to the heavy burden of premature mortality from noncommunicable diseases (NCDs)[9].

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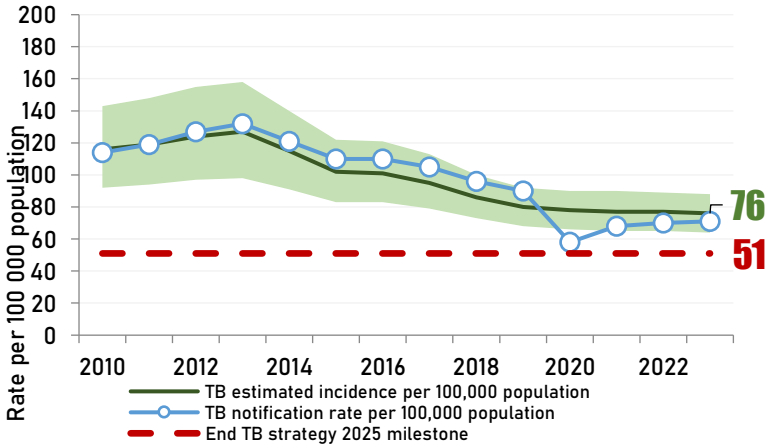
[2] WHO global lists of high burden countries for TB, TB/HIV and MDR/RR-TB, 2021–New-global-lists-of-HBC-for-TB-HIV-and-DR-TB
[3] UN Population Division, https://population.un.org/dataportal
[4] National Bureau of Statistics of the Republic of Moldova, https://statistica.gov.md/en/statistic_indicator_details/56
[5] https://mer.gospmr.org/deyatelnost/gosudarstvennaya-sluzhba-statistiki-gosstat/informacziya/soczialnaya-statistika/demografiya.html
[6] The World Bank, https://data.worldbank.org/country/moldova; estimate for 2023, in current US dollars.
[7] The World Bank, https://www.worldbank.org/en/country/moldova/overview#3; measured by the upper middle-income (UMI) country poverty line of USD 6.85/day (2017 PPP).
[8] https://data.who.int/countries/498
9 ibid

TB epidemiology

In 2023, there were an estimated 2,300 incident TB patients in Moldova, equivalent to 76 cases per 100,000 population. The mean annual decline over the last five years for estimated TB incidence was about 2.5% (*Figure 1).* Thus, the cumulative reduction of TB incidence between 2015 and 2023 is 25.5% against a 50% targeted reduction by 2025.

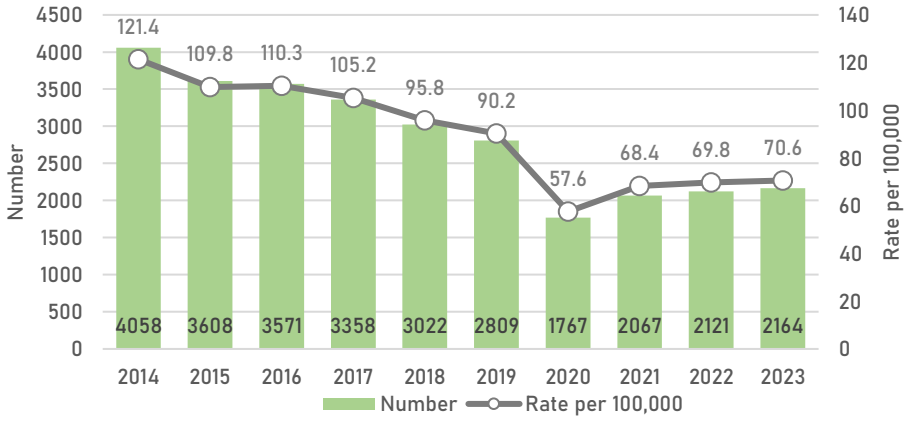
Figure 1: Estimated TB incidence and notification rate of incident TB cases, per 100,000, Moldova, 2010–2023



Source: Tuberculosis Epidemiological Review, Republic of Moldova, WHO Regional Office for Europe, 2024

In 2023, the notification rate for people with new episodes of TB cases in the country was 71 cases per 100,000 population (*Figure 2)*. The gap between estimated and notified TB cases was narrowing between 2020 and 2023, implying an increase in the detection of TB cases in the population that previously went undetected. In 2023, 2,164 people were reported as newly diagnosed with TB, a very small increase from 2,121 in 2022. The gap between estimated and notified cases has narrowed, and at least 85% of case detection has been achieved.

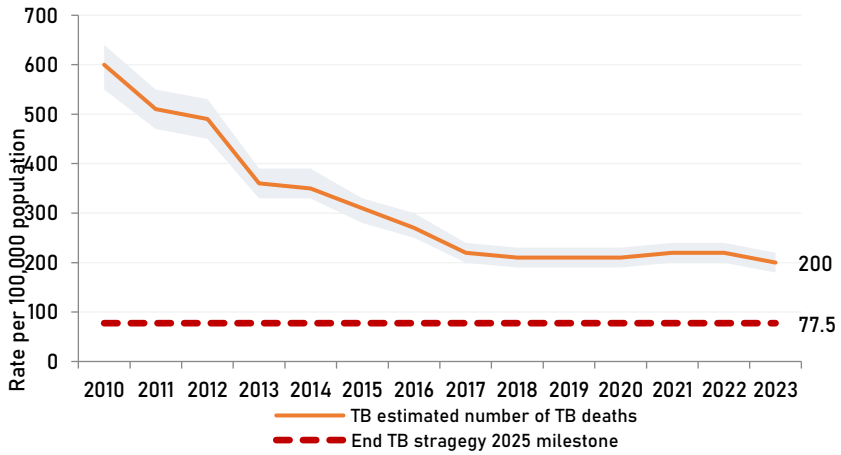
Figure 2: TB notification number and rates per 100,000 population, 2014-2023



Source: Tuberculosis Epidemiological Review, Republic of Moldova, WHO Regional Office for Europe, 2024

TB caused an estimated 200 deaths (95%UI: 180-220) in 2023, including 140 deaths (95%UI: 130-160) among people with HIV (*Figure 3)*. The number was down from a best estimate of 240 in 2022 and below the pre-pandemic level of 210 in 2019. However, the reduction of TB mortality slowed significantly after the COVID-19 pandemic. The cumulative decrease in the number of TB deaths between 2015 and 2023 is 35% against a 75% reduction by 2025 targeted by the End TB strategy.

Figure 3: Estimated number of TB deaths, Moldova, 2010–2023



Source: Tuberculosis Epidemiological Review, Republic of Moldova, WHO Regional Office for Europe, 2024

In 2023, the percentage of RR/MDR TB among people with new and retreated TB was 24.3 and 44.1%, respectively *(Figure 4).* Between 2017 and 2023, the total number of people notified with RR-TB varied largely from year to year. There was a sharp decline between 2018 and 2019 and another in 2020 due to the COVID pandemic, followed by a slow recovery, which continued up to 2023. Expressed relative to population, this translates to a decline from 21.4 in 2018 to 15.6 in 2023 per 100,000 population *(Figure 5).*

Figure 4: Trend in percentage of RR/MDR TB among new and previously treated patients with DST results

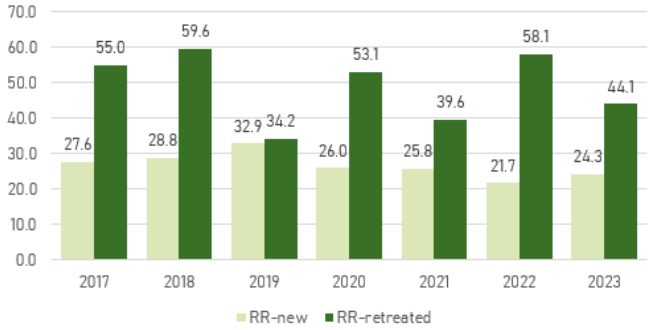
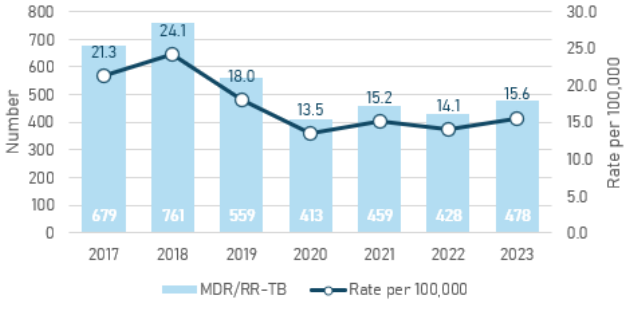


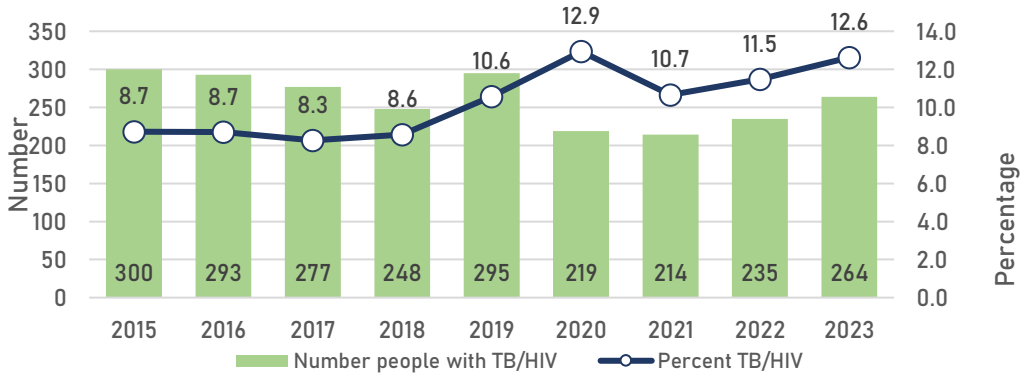
Figure 5: Trend in number of RR-TB and rate per 100,000 population



Source: Tuberculosis Epidemiological Review, Republic of Moldova, WHO Regional Office for Europe, 2024

According to routine surveillance, over the recent decade the absolute number of people notified with TB/HIV co-infection ranged from 2014 to 300. Expressed as percentage it TB/HIV co-infection varies between 8.6 to 12.9% *(Figure 6).*

Figure 6: Trend in number and percent of notified TB/HIV patients



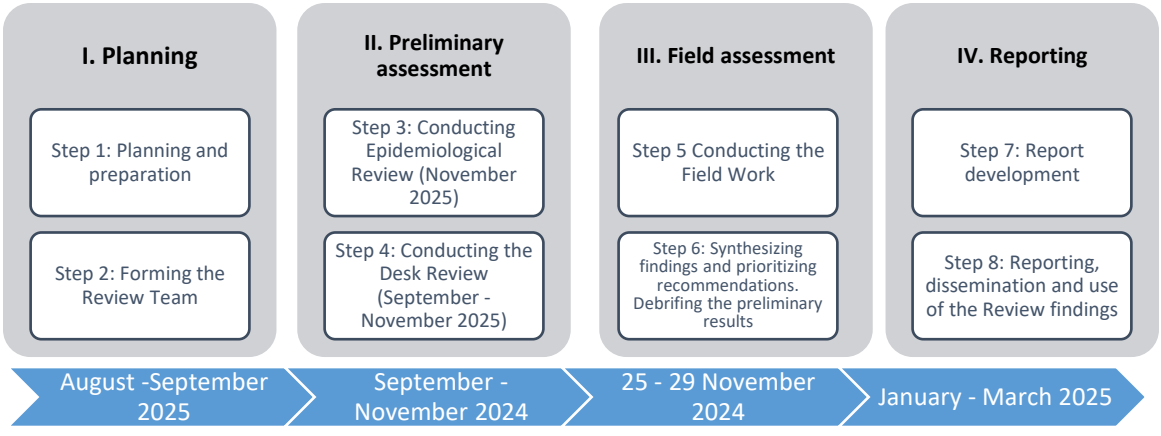
Source: Tuberculosis Epidemiological Review, Republic of Moldova, WHO Regional Office for Europe, 2024

Review methodology

National TB programme review is an integral part of the programme management cycle; it assesses how the programme has performed during a given period. NTP Review followed the updated WHO Guidance on conducting reviews of tuberculosis programmes[10], and included four steps – planning, preliminary assessment, field assessment, and reporting **(***Figure 7).*

The review included an off-side desk review of the available background documents, policies, and reports, and on-site attendance from 25 to 29 November 2025. The NTP review has also been linked to the TB epidemiological review conducted in November 2025.[11] Its findings served as a valuable source of data for analysis and discussions during in-person meetings of the Review mission experts with national counterparts.

Figure 7: NTP review timeline, Republic of Moldova



[10] https://www.who.int/publications/i/item/9789240085817

[11] Tuberculosis Epidemiological Review, Republic of Moldova 2024 (WHO/Europe, 2024).

The mission program was developed jointly with the National Tuberculosis Program (NTP) and approved by the Ministry of Health (MoH) of Moldova (*Annex 1*). Technical expertise and the program review provision have been organized and facilitated by the WHO Regional Office with the engagement of the WHO Country Office in Moldova. Where relevant, WHO engaged selected WHO consultants from the existing EURO-TB country support mechanism/s joined by the Stop TB Partnership's representatives.

The overall aim of the review was to review and assess the progress in response to TB in the context of the goals, objectives, and targets defined in *the National Tuberculosis Response Program of the Republic of Moldova for 2022–2025 (NSP-TB).*

According to the MoH and NTP request, the Review was designed to target some priority areas of national TB response, namely TB treatment, engagement of civil society and communities in national TB response and Universal Health coverage (UHC) and
Financing of the NSP-TB.

Objectives of the NTP Review included:

- ✓ Assess TB epidemiology and its determinants;
- ✓ Assess the health and social care system in relation to national TB response, including governance, social care, financing and surveillance system;
- ✓ Assess the implementation of TB treatment, including DR-TB and management of TB in children and adolescents as planned in the NSP-TB and progress towards national targets;
- ✓ Evaluate engagement and participation of civil society organizations (CSOs), and TB-affected communities in national TB response;
- ✓ Identify good practices that could be scaled up and obstacles that should be addressed;
- ✓ Define the interventions to improve the programme's performance. Recommendations related to interventions also include specific timelines graded as short- (to be implemented in a year), medium- or long-term (to be implemented in the next 2 years or later).

The review technical areas followed the pathways of patient and service delivery along it, across the health system building blocks, and via operational streams of the research and development. These all are compiled in 3 pillars of the End TB strategy and the Tuberculosis action plan in the WHO European Region, 2023–2030.[12,13]

FINDINGS

Progress in the impact of the National Tuberculosis Response Program of the Republic of Moldova on the epidemiological situation of tuberculosis

Information for this chapter is presented in detail in the Epidemiological review of the tuberculosis situation in the Republic of Moldova, conducted by the WHO Regional Office for Europe in 2024, which is attached to this report as a separate appendix (*Appendix 3).*

[12] The End TB Strategy (WHO, 2015).
[13] Tuberculosis action plan in the WHO European Region, 2023–2030 (WHO/Europe, 2023).

Treatment of all people with TB, including DR-TB, management of TB in children and adolescents

Background

As of July 2024, there are a total of 11 facilities providing hospital treatment for patients with active TB in the country. The breakdown by sector shows six facilities in the civilian sector and five in the penitentiary sector. At different levels of care within the civilian sector, one facility is at the central level, and five are at the district level, with a total of 954 beds for the treatment of active TB. The civilian sector has 695 beds, while the penitentiary sector has 259 beds. Of these, 265 beds are at the central level, and 430 are at the district level in the civilian sector.

Out of the total beds:

- 331 beds are designated for drug-resistant TB (DR-TB) patients, with 195 in the civilian sector and 136 in the penitentiary sector. At the central level, there are 125 beds for DR-TB patients, and 70 at the district level.
- 79 beds are specifically for children with TB, including 10 beds for children with DR-TB.
    - The children's ward of the Chisinau Municipal Clinical Hospital for Phthisiopneumology is of republican level where children with both susceptible TB and DR-TB from all over the republic are hospitalized. It is the only ward for children with TB in the country. There are 59 beds for children, 10 of which are for TB-DR. Another 20 beds for children are on the left bank of the Dniester River: 10 beds in the TB Hospital in Bender and 10 beds in the pulmonary TB department within the Dubasari District Hospital.

There is an increasing trend of HIV prevalence among people diagnosed with TB. Higher mortality which requires attention to the problem.

Treatment of drug-susceptible TB

During the mission, the team visited the TB wards at the Institute of Pneumology Chiril Draganiuc[14] (*further in the text Institute of Pneumology*), Municipal Clinical Hospital for Phthisiopneumology Chisinau, and TB Hospital in Bender. At the Institute, the DS-TB ward currently cares for 65 patients, overseen by four doctors. The average hospitalization time is approximately 30 days, with stable sputum smear conversion and a confirmed residence for discharge being the primary criteria. For patients without a stable residence, representatives from CSOs provide assistance coordinated by a dedicated staff member at the Institute. The Municipal Clinical Hospital for Phthisiopneumology Chisinau l has a total of 195 beds, of which 100 are currently occupied. There are three wards: one for children, with 44 children under care of four pediatricians, and two wards for adults, with 56 hospitalized under the care of five doctors.

The Tuberculosis Hospital in Bender is equipped with 150 beds distributed across four specialized wards. This includes two wards for drug-resistant tuberculosis (TB), each with 30 beds, a ward for drug-susceptible TB with 50 beds, and a diagnostic department with 40 beds, of which 10 beds for children. During the recent evaluation, 133 patients were admitted to the hospital. Treatment cards were reviewed in the susceptible and drug-resistant TB wards. The prescribed treatment regimens align with current medical guidelines, ensuring effective management and easy tracking of each patient's treatment progress, including bacteriological outcomes. Patients with drug-resistant TB are categorized into two wards based on the severity of their disease and sputum smear status. A visit to the ward handling the most challenging TB cases revealed significant concerns. A pressing issue identified during the visit was the inadequate isolation of patients with extensively drug-resistant TB, particularly those not responding to current treatments or those readmitted after treatment interruptions. This lack of proper isolation poses significant risks of transmission and complicates efforts to manage and contain the most severe forms of TB effectively.

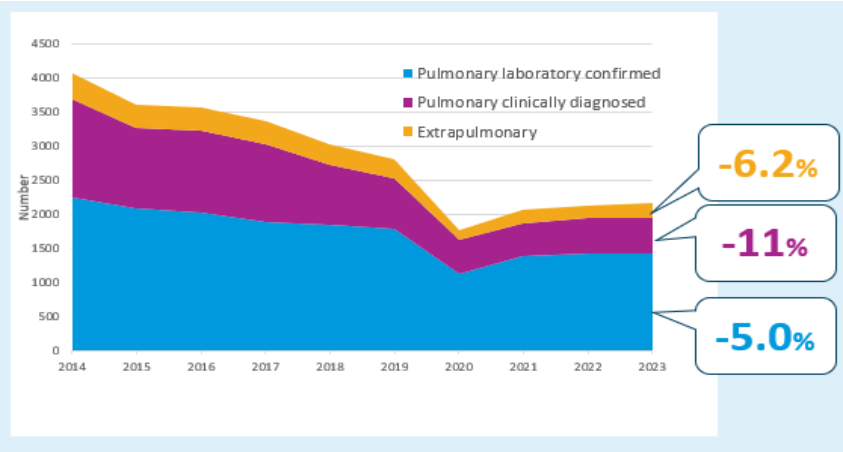
[14] At the time of the NTP Review mission, the Institute was known as the Institute of Phthisiopneumology of "Chiril Draganiuc".

All patients diagnosed with Rifampicin-susceptible TB are additionally tested for Isoniazid resistance using the Xpert XDR system. Although this information is crucial for prescribing a 4-month treatment regimen, it is often challenging to locate in treatment files. We observed a case where a patient, initially diagnosed using GeneXpert as MTB DNA positive without Rifampicin resistance, was started on a 4-month regimen including HPZMfx. However, Isoniazid resistance was detected four weeks later, necessitating a switch to the Hr-TB regimen. Currently, 43.6% of all drug-susceptible TB patients are on this shorter regimen. Eligibility for the 4-month treatment is assessed by a TB Consilium focused on susceptible cases, led by the deputy director of the Institute of Pneumology. The doctors report minimal issues with the regimen, though side effects such as hepatitis and Clostridium difficile infections have been noted. There is no current data on how many patients switch to the standard regimen due to severe adverse events.

During a previous mission, the high number of clinically diagnosed TB cases was addressed. We recommended a pilot activity where all bacteriologically unconfirmed cases are reviewed by the TB Consilium. This has been implemented and has resulted in an 11% decrease in clinically diagnosed pulmonary TB cases, suggesting that more careful evaluation helps reduce overdiagnosis. Meanwhile, the rate of bacteriological confirmation continues to rise, which also contributes to the reduction in only clinically diagnosed TB cases (.

Figure 8).

Figure 8: TB notification by bacteriological confirmation and site of disease, annual percentage of change, 20013



Patients in the Institute's ward for DS-TB are grouped by their arrival dates, with newcomers sharing rooms, four per room. Shielded UV lamps are installed in patient rooms as well as in the long corridor used by all patients and personnel. Patients are required to wear surgical masks when leaving their rooms. The same protocols apply in the Municipal Hospital, except patients with histories of non-adherence or alcohol abuse are hospitalized on a separate floor for safety reasons.

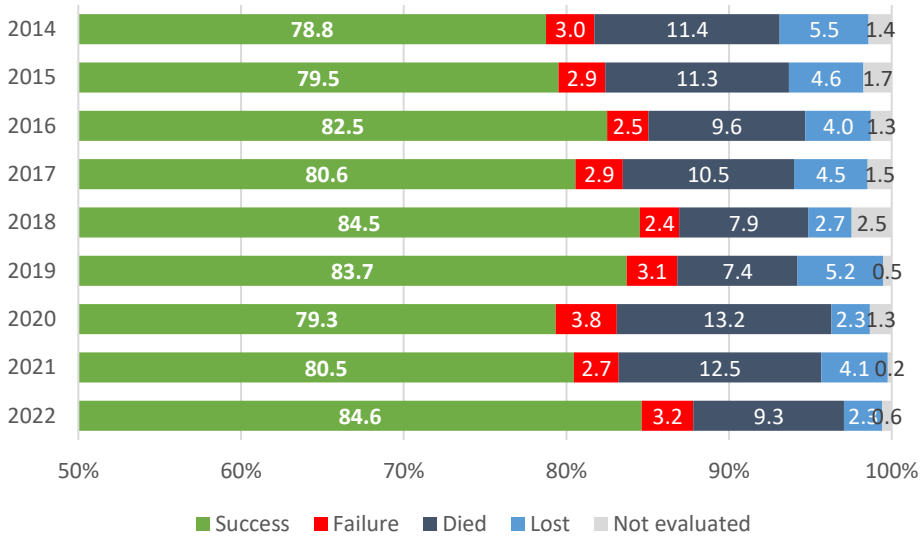
The majority of patients treated at the Municipal Hospital are from Chisinau or the nearby regions. Among these, a significant proportion includes homeless individuals and those grappling with various substance abuse challenges. These factors often lead to prolonged hospital stays and complex clinical pictures, necessitating specialized care from addiction specialists. In 2023 alone, 43 patients without homes were admitted for treatment. The recurrent admissions of these patients, who frequently enter and exit the healthcare system, exacerbate the challenges of maintaining continuous care and adherence to treatment protocols. This situation not only heightens the risk of treatment failure and mortality but also increases the potential for TB transmission within the community. To address these issues, discussions have been initiated on enhancing social support and guidance for these vulnerable groups. Furthermore, there is a recognized need for specialized training for healthcare personnel. This training would focus on strategies for managing "difficult" patients effectively and include modules on effective health communication. The goal is to enhance interactions between staff and patients, ensuring messages about

treatment plans and the importance of adherence are conveyed clearly and empathetically. These communication skills are vital for improving patient retention in the treatment program and reducing the risk of adverse outcomes.

Treatment outcomes

Treatment outcomes for DS-TB are good but have not reached the regional target of 90%. The success rates have fluctuated at nearly the same level over the past few years (*Figure 9*). The main contributor to this shortfall is a relatively high mortality rate, which may stem from late diagnoses, poor adherence and an increase in comorbid conditions. This issue warrants further analysis to identify specific causes of death and implement strategies to improve outcomes.

Figure 9: Treatment outcomes of new and recurrent TB patients, Moldova, 2014-2022



Source: Moldova Tuberculosis Program Epidemiological Review 2024

As of November 2024, 1,366 patients have been diagnosed with drug-susceptible TB, with 595 on the shorter treatment regimen. Interim results show 240 patients (40.3%) successfully treated, 19 (3.2%) experiencing treatment failure, 5 (0.8%) lost to follow-up, and 12 (2.0%) deceased, with 319 (53.6%) continuing their treatment. These statistics suggest that treatment outcomes within this group may potentially reach the 90% target. However, it is critical to note that the most severe TB cases are still managed on the standard regimen.

The year 2024 will be particularly significant with the introduction of the 4-month regimen. It will be crucial to closely analyze the impact of this new regimen to determine if it helps in achieving better treatment outcomes.

Hr-TB

During the visit, relatively few patients were observed with Hr-TB. According to laboratory data from 2023, there were 77 patients identified with H mono-resistance: 58 (5.3%) were new patients and 19 (4.3%) were previously treated. Upon receiving the results of H resistance, either by molecular methods or phenotypic testing, patients are referred to the TB Consilium. Subsequently, H is replaced with Levofloxacin (Lfx). Following the introduction of Lfx, the treatment duration is set at 6 months, aligning with current guidelines.

The primary challenges during treatment include hepatotoxicity, often caused by Pyrazinamide (Z), and joint pain, which may be caused by both Pyrazinamide and Levofloxacin. It was discussed that if Levofloxacin is determined to cause arthralgia, a change to Moxifloxacin (Mfx) might be permitted. This change is contingent upon ruling out other causes and achieving consensus from the Consilium, and it is supported by the consultant's agreement. This

decision also ties into drug procurement strategies, necessitating accurate calculations of Mfx quantities to meet treatment demands.

Treatment of drug-resistant TB

In 2023, Moldova diagnosed 478 cases of multidrug-resistant tuberculosis (MDR-TB), revealing that the incidence of RR/MDR-TB stood at 24.3% among new cases and 44.1% among retreatment cases. As of 2024, 390 patients with MDR-TB have been identified, with a significant shift observed in treatment practices. Notably, 66.2% (258 patients) are now being treated with the BPaL(M) regimen, while the 9-month modified shorter treatment regimen (mSTR) is reserved for specific populations like pregnant women and children. A considerable number of patients continue on longer regimens, primarily due to:

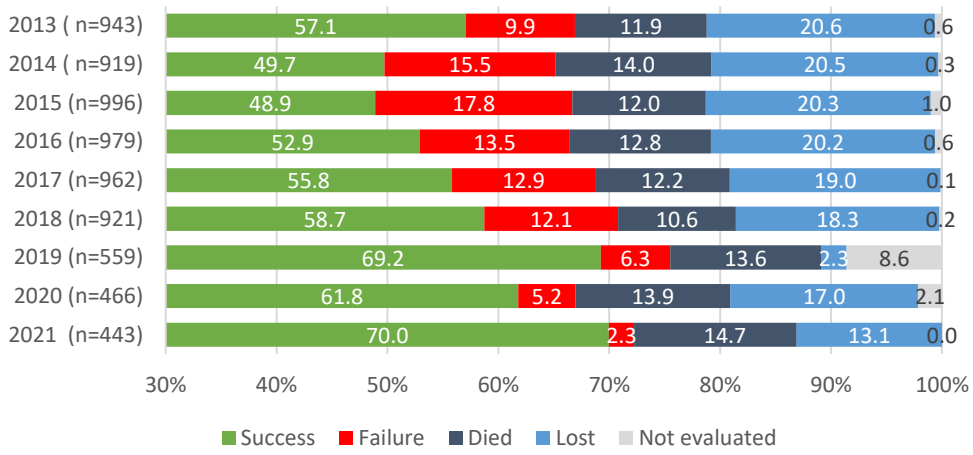
- The history of previous medication use, including Bedaquiline, Linezolid, Clofazimine, and Delamanid for over a month, where targeted next-generation sequencing (ttNGS) could play a crucial role in clinical practice.
- Generalized TB or serious health issues that complicate the treatment process, often due to late diagnosis.
- The ongoing management of a significant number of extensively drug-resistant TB cases, which receive close evaluation during ward visits at the Institute and Benderi Hospital.

The MDR-TB Consilium oversees the management and prescription of treatments, tailoring treatment plans to the individual histories and needs of patients.

Despite the challenges, there is a noticeable decline in second-line drug resistance, reflecting an overall improvement since 2020. This trend is supported by almost universal second-line drug testing coverage, except Pretomanid, enhancing the ability to tailor treatment regimens more effectively and reduce resistance rates. However, rising levels of drug resistance to drugs like Bdq, Dlm, Lzd, and Cfz necessitate a quick scale-up of targeted gene sequencing (TGS) for clinical use.

The introduction of new, fully oral treatment regimens has been a significant development in managing drug-resistant tuberculosis (DR-TB). However, challenges persist in achieving optimal outcomes. The overall treatment success rate in the 2022 cohort improved to 70%, indicating a complex landscape of progress and ongoing challenges when treatment outcomes are disaggregated by regimen type. While introducing the BPaL(M) regimen this year marks a promising advance, it is too early to determine its overall effectiveness. Historical data, however, show substantial differences in outcomes between the modified shorter treatment regimen (mSTR) and longer regimens. The introduction of new oral short treatment regimens (mSTR) for drug-resistant TB, which covered 38.3% of eligible patients in 2023. The trend of treatment outcomes for patients with RR/MDR-TB from 2013 to 2021 is shown in *Figure 10.*

Figure 10: Treatment outcomes of patients with RR/MDR-TB (without FQ resistance), Moldova, 2013-2021)



Source: Moldova Tuberculosis Program Epidemiological Review 2024

A critical barrier to success in DR-TB management is the non-completion of treatment by patients, often due to poor follow-up, different addicts, and a lack of tailored patient education. Addressing these factors is crucial for improving adherence and completion rates. Effective management also requires robust social support mechanisms, particularly for marginalized groups or those with limited access to healthcare resources. Early recognition and intervention to address these social determinants of health are vital.

NGOs play a pivotal role by supporting vulnerable groups through targeted support plans and investing in effective health communication strategies that focus on raising awareness about TB treatment and prevention, reducing stigma, and promoting health literacy. These efforts help bridge the gap between medical treatment and community support, creating a more supportive environment for patients undergoing long and arduous treatments.

A multidisciplinary approach is critical for adapting treatment plans to individual needs and circumstances, ensuring that all aspects of a patient's situation are considered—from medical history and treatment response to social support needs and psychological well-being.

Extensively drug-resistant TB

The mission reviewed several cases of extensively drug-resistant TB (XDR-TB) were reviewed in various settings, including a DR Consilium, the Institute MDR-TB ward, and a hospital in Bender. The evaluations underscored recurrent challenges in managing XDR-TB, particularly the complexity of treatment regimens and patient management.

Many patients displayed patterns of non-response or relapse after initial treatments, frequently requiring regimen adjustments due to evolving drug resistance. Complications arose from patients "lost to follow-up" or with "interrupted treatment," exacerbating resistance development. Furthermore, resistance to first-line and even Group A and B TB drugs necessitated the use of more toxic and less effective medication combinations. Radiological findings often show significant pulmonary damage, indicating advanced disease and complicating treatment outcomes.

Management is further challenged by the fact that pDST results often arrive late and are accompanied by incomplete information about patients' previous treatments, including their responses to treatment and full bacteriological histories from the beginning of each case. These gaps hinder the timely application of effective treatment regimens. The prolonged use of second- and third-line TB drugs leads to recurring side effects and toxicities, necessitating frequent monitoring and adjustments to the regimens. Social and psychological factors

significantly influence treatment adherence and outcomes. In the hospital, patients are housed according to their DST profiles in rooms with individual sanitary facilities. Despite these measures, the shared corridor accessible to all poses a risk of cross-infection, highlighting the inadequacy of current infection control measures.

A comprehensive approach is essential to address these issues effectively. This includes stringent infection control, robust clinical management, and supportive care tailored to the social needs of the patients. Additionally, the presence of mixed infections among the XDR-TB cohort calls for further investigation and potential revision of treatment approaches.

It is highly recommended that all such cases be presented to the European Medical Consilium, which now extends beyond cases receiving only mSTR. Discussions have also highlighted a gap in the current WHO recommendations for managing XDR TB cases. Currently, the protocol required to present a patient at the DR-TB Consilium is being updated and is approved by the MoH Order No. 1050 of 17.12.2024 - Regarding the activity of the National Committee for the Management of DR-TB[15]. This document mandates that all patient information be updated before each consultation, ensuring no previous data is lost. The only component currently missing is a complete drugogram, which should include all previous episodes to track the drugs received, their duration of use, and any SAE that may have occurred due to specific drugs.

For the most current practices and expert opinions, the handbook "Best Practices for Clinical Management of Tuberculosis with Expanded Resistance: A Field Guide" from The BETTER Project, published in December 2024, serves as an invaluable resource.

Stepwise approach for case management under BETTER Project Guidelines[16]:

1. Comprehensive DST should be conducted at the outset for all patients, particularly those previously treated with newer or repurposed TB drugs. This is crucial for identifying effective drugs and tailoring the treatment regimen accordingly. Integrate sequencing results with clinical data to tailor the treatment regimen. This includes adjusting drug choices based on identified mutations that confer resistance to specific TB drugs.
2. Pending the results of DST, an initial regimen based on the most likely effective drugs should be started. This regimen should account for both the bactericidal and sterilizing properties of the selected medications, at least four effective TB drugs. These selections should include bactericidal drugs, sterilizing drugs and drugs with good penetration
3. Once DST results are available, adjust the treatment regimen to focus on drugs with confirmed effectiveness against the identified TB strain. This may involve adding or substituting drugs based on their specific bactericidal or sterilizing capabilities, as well as patient-specific factors like previous drug exposure and potential drug interactions.
4. For medications Bdq, Fq, Lzd, Cfz consider use of higher doses, if used before or high-level resistance is *not* documented or likely, consider using in higher dose. QTc and liver function monitoring should be done more frequently
5. Regular monitoring for drug toxicity and treatment efficacy is essential. Adjustments should be made based on side effects, the emergence of new resistance, or failure to respond to treatment.
6. Monitoring should include periodic re-assessment of drug susceptibility, especially if there is a lack of clinical improvement or if new resistance mutations are suspected.
7. Incorporate comprehensive support measures, including psychological, nutritional, and social support, to address the broader needs of the patient, which are critical for successful treatment outcomes.
    - It is recommended that all persons exposed to RR/MDR-TB with expanded resistance be given a package of nutritional support. This includes providing modest nutritional support defined as 750 kCal, 23 grams of

[15] https://simetb.Institute of Pneumology.md/Download/oficial_docs/Ordin_MS_2024_12_17_nr_1050.pdf
[16] BETTER-Field-Guide-December-2024.pdf

protein, and essential micronutrients. Nutritional supplementation should be routinely provided not just to the individual diagnosed with TB but to the entire household.

8. Engage in shared decision-making with the patient, considering their preferences, treatment tolerance, and other personal factors. This collaborative approach helps in tailoring the treatment plan to enhance adherence and effectiveness.
9. Special protocols should be considered for patients with a history of recurrent disease, extensive drug resistance, or those who have shown previous treatment non-adherence. These protocols might include the use of novel drugs under compassionate use or expanded access programs, as well as more aggressive monitoring and social support strategies.

Childhood TB

Children with TB are treated according to national clinical guidelines, which align with World Health Organization recommendations. This approach utilizes appropriate TB medications and incorporates the latest diagnostic and treatment methods to ensure that children receive the most effective and least harmful treatment protocols available. Access to early diagnosis and a complete treatment course is ensured for all forms of TB, including drug-resistant strains. The use of stool tests, although encouraged, requires broader adoption nationwide; training for GPs and primary health practitioners in this diagnostic method is crucial.

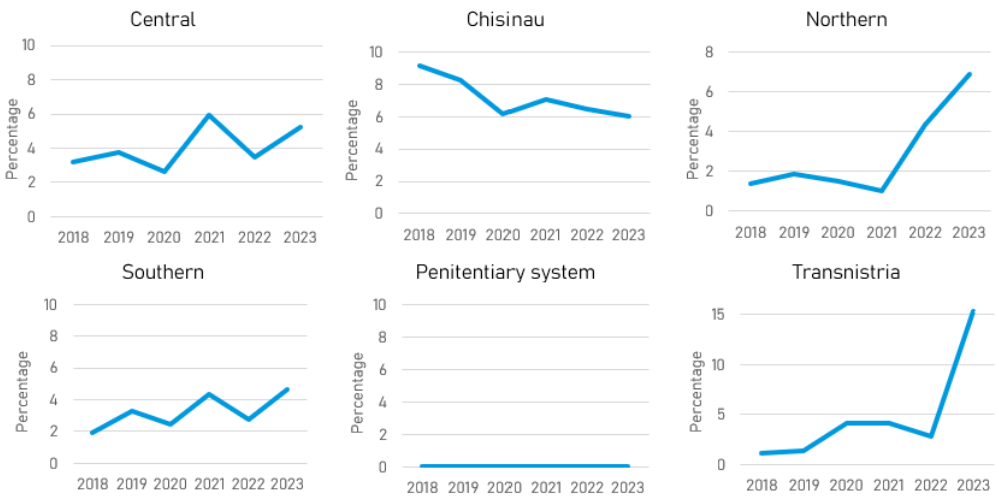
Additionally, concerns have been raised about an increase in TB notifications in Moldova in 2023. Closer examination reveals that specific regions are experiencing a particularly sharp increase in incidence among children. This issue was highlighted during the 2023 mission. In response, all childhood TB cases must now be presented at the Consilium. This approach has led to the stabilization of the numbers and a decrease in overdiagnoses or misdiagnoses. Moreover, this trend underscores the critical need for training pediatricians in the current approaches to diagnosing TB in children.

During a recent evaluation mission, the Municipality Hospital was visited, where 44 children are currently receiving TB treatment. The children's ward of the Chisinau Municipal Clinical Hospital for Phthisiopumology is of republican level where children with both susceptible TB and DR TB from all over the republic are hospitalized. It is the only ward for children with TB in the republic. The ward includes a social worker, a psychologist, and teachers to ensure continuity of education, catering to the children’s clinical and social needs.

Treatment cards were reviewed to ensure compliance with WHO guidelines based on drug susceptibility testing (DST) and index case information. For drug-susceptible TB (DS-TB), standard and shorter treatment regimens are applied based on specific criteria, supervised by TB Consilium(s). The follow-up of guidelines for drug-resistant TB was found to be thorough. aDSM is a critical component in managing childhood TB and is diligently followed.

A significant concern discussed during the mission was the prolonged hospital stays for some children, often necessitated by the poor socio-economic conditions of their families, which affect nutrition, hygiene, and social support. Children often receive better care in the hospital than at home. Addressing these underlying social issues requires a national-level discussion to avoid placing the burden of decision-making on medical practitioners alone.

Figure 11: Trend of percentage of child TB by regions, Moldova, 2018-2023

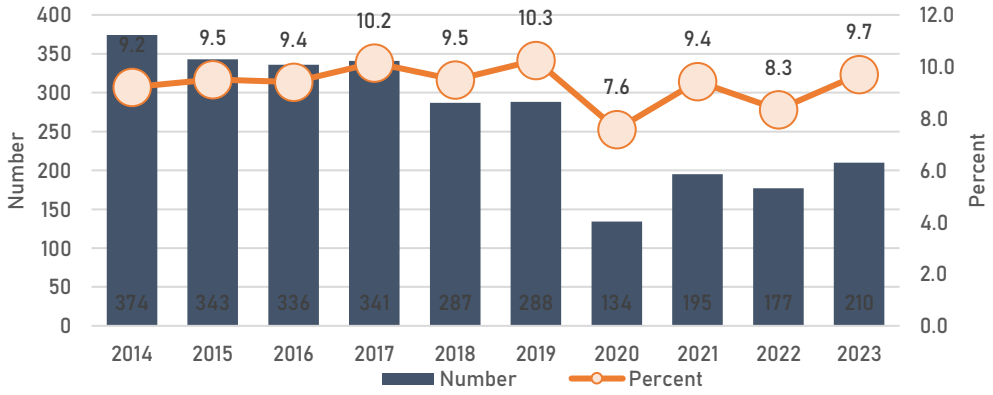


Source: Moldova Tuberculosis Program Epidemiological Review 2024

Extrapulmonary TB

The epidemiological review reveals a relatively consistent incidence of extrapulmonary TB (EPT) across Moldova, though pulmonary TB is more common. Notably, the incidence of EPT varies by region, with no cases reported in the penitentiary system and a higher prevalence observed in the Transnistria region. These disparities suggest differences in diagnostic capabilities and reporting accuracy across regions.

Figure 12: Trend in number and percent of extrapulmonary TB, 2014-2023



Source: Moldova Tuberculosis Program Epidemiological Review 2024

EPT poses unique challenges in diagnosis and management due to its diverse manifestations, affecting areas outside the lungs such as the pleura, lymph nodes, bones, and central nervous system. The variation in EPT rates hints at potential inconsistencies in how EPT is diagnosed and managed. Clinicians generally adhere to current guidelines and employ molecular diagnostics beyond sputum samples, but there is a notable discrepancy in recognition of the importance of GeneXpert for diagnosing TB, particularly at extrapulmonary sites. Often, no tests are conducted on surgical materials or biopsies from the pleura, lymph nodes, or other affected sites.

To effectively address these challenges, it is recommended that diagnostic accuracy be enhanced and the comprehensive inclusion of all tuberculosis forms in both surveillance and treatment protocols be ensured. Additionally, raising awareness and refining treatment guidelines for extrapulmonary tuberculosis is essential to prevent its underdiagnosis or mismanagement. There are concerns that diagnostic practices are misused in some

regions to inflate incidence rates and maintain hospital bed occupancy artificially. To counteract this, the TB Consilium has been actively reviewing all EPT cases since last year to confirm diagnoses, successfully reducing the number of clinically diagnosed and potentially over-diagnosed cases.

Post-TB lung disease

Until now, the main efforts in combating tuberculosis have been directed toward timely diagnosis and effective treatment to limit the further spread of mycobacteria without sufficient attention to its long-term consequences. After tuberculosis treatment, patients may have chronic respiratory disorders such as pulmonary fibrosis, bronchiectasis, or chronic obstructive pulmonary disease. These damages, referred to as post-TB lung disease, negatively affect patients' quality of life, causing breathing difficulties, frequent exacerbations of infections, and other health issues. Post-TB lung disease is a globally significant public health problem, as the increasing number of surviving patients creates a growing need for long-term care, diagnostics, and treatment strategies to prevent disease progression and improve patients' quality of life. Current TB guidelines for the treatment of TB don't include the management of PTLD.

To effectively incorporate the management of post-TB lung disease into national health guidelines, assessing the capabilities and resources available within the country is recommended. This assessment should focus on the availability of diagnostic tools, specialized medical personnel, and rehabilitation services. Based on this assessment, the country should develop specific guidelines that:

- Clearly define the pathways for diagnosing and managing post-TB lung disease.
- Include standardized treatment protocols tailored to the severity and type of lung damage.
- Provide clear guidelines for the ongoing monitoring and support of patients with post-TB lung disease, including physical, nutritional, and psychological aspects.
- Ensure training and resources are available for healthcare providers to implement these guidelines effectively.

Main achievements

- *The National TB Program 2022-2025 has achieved clear targets and shown good progress, including increased sustainability in government spending, significantly supported by the robust work of the established National TB Coordination Unit.*
- *In recent years, Moldova has made substantial strides in aligning its tuberculosis management strategies with the latest World Health Organization guidelines. The approval of the National TB Management Protocol for children and adolescents by the Ministry of Health in 2023, and for adults in February 2024, represents a crucial step in standardizing TB care nationwide. These protocols have been instrumental in driving significant improvements in several key areas.*
- *Early diagnosis and treatment outcomes for pediatric TB cases have improved notably, supported by the integration of WHO-recommended diagnostic tools and child-friendly treatment formulations.*
- *The implementation of pDST across all regions has ensured effective clinical management of all anti-TB medications, except for Pretomanid. Moreover, the introduction of Targeted Next-Generation Sequencing (tNGS) in 2024, primarily for research purposes, has significantly enhanced the understanding of TB resistance and pathogenesis.*
- *Since 2020, the adoption of fully oral, shorter treatment regimens, including BPaL(M) and modified short-term regimens has been instrumental in rapidly implementing new treatment and preventive therapy protocols.*

- *Both inpatient and outpatient treatment options are widely available, featuring innovative approaches such as video-supported therapy.*
- *Additionally, early detection and proactive management of drug-related toxicities are systematically carried out through a standardized safety monitoring schedule.*
- *A variety of models have been developed to support treatment adherence. These include Directly Observed Therapy in ambulatory settings, home-based DOT delivered by community service organizations, and the widespread use of VST.*
- *The DR-TB Consilium plays a pivotal role in treatment initiation and clinical management. Its structured meetings and standard operating procedures ensure comprehensive case management and feedback.*
- *There is also high performance in several key areas, including Xpert testing coverage, HIV testing, ART coverage, drug susceptibility testing, and treatment initiation, all of which contribute to the robust TB management framework in Moldova.*

Key challenges

- *Potential over-diagnosis in children aged 5-14 and sub-optimal bacteriological confirmation rates in extra pulmonary TB cases.*
- *Increasing HIV prevalence among TB patients and a high number of extensively drug-resistant TB (XDR-TB) cases on suboptimal treatment regimens highlight areas needing further attention.*
- *A significant challenge in managing XDR TB is patients being lost to follow-up or interrupting their treatment. These interruptions may contribute to the development and spread of drug-resistant strains, complicating efforts to manage the disease effectively.*
- *The ongoing need to improve patient-staff interactions and overall care quality through enhanced social support and specialized training for healthcare personnel.*
- *Despite generally good treatment outcomes, fluctuations near regional targets for drug-susceptible TB and high mortality rates indicate areas needing critical attention and improvement.*
- *No protocols developed for the management of PTLD*

Main recommendations:

	Recommendations	Timeline	Imp actors
1	Continue to improve the diagnostic precision for childhood and extra pulmonary TB through enhanced training, better diagnostic tools, and adherence to standardized protocols, including close monitoring via TB Consilium.	Short-term	MOH, NTP, Institute of Pneumology
2	Address increasing drug resistance by rapidly expanding targeted genome sequencing and drug susceptibility testing capabilities, including for Pretomanid. Transition targeted next-generation sequencing (ttNGS) from research and surveillance to routine clinical use, developing protocols for integration into diagnostics.	Short-term	MOH, NHIC, NTP, Institute of Pneumology
3	Address the rising prevalence of HIV and reduce TB-related mortality through the continuous integration of TB and HIV services.	Short-term	MOH, NHIC, Institute of Pneumology

4	Improve infection control measures across inpatient TB facilities through comprehensive staff training and infrastructure improvements.	Short to medium-term	MOH, NTP, NHIC, Institute of Pneumology
5	Implement evidence-based treatment regimens for XDR-TB, enhanced adherence monitoring and side effect management, strengthen infection control protocols, and expand access to Virtual Medical Consilium consultations to ensure multidisciplinary expert review of XDR TB cases to optimize treatment plans	Short to medium-term	NTP, Institute of Pneumology
6	Develop a comprehensive training program for healthcare providers with a focus on improving communication skills, cultural competence, and empathy, particularly for managing difficult-to-treat TB patients, including those with histories of non-adherence or substance abuse.	Medium-term	MOH, NTP, Institute of Pneumology
7	Develop a national protocol for managing post-TB lung disease, which should include detailed guidelines on follow-up care and pulmonary rehabilitation. This protocol will ensure that patients who have recovered from TB but continue to experience pulmonary issues receive consistent and effective care to manage their long-term health needs.	Medium-term	NTP, Institute of Pneumology

Engagement of communities and civil society in the national TB response

Policies and governance

The Republic of Moldova recognizes the role of civil society at the highest level; the National Council for Participation was created within the Government as an advisory body to ensure civil society's participation in policy development, implementation, monitoring, evaluation, *and review.*

In the area of TB notably, Moldova established legal and policy frameworks for engaging communities and civil society organizations (CSOs); they are reflected in the following strategic documents:

- The National Health Strategy "Health 2030" approved by the Government of Moldova in 20217, has an overall goal of Strengthening strategic partnerships and mechanisms for intersectoral cooperation and shared responsibility, with a separate Priority direction, 1.2.2, on Empowering communities and strengthening effective mechanisms to engage community leaders and CSOs in implementing relevant public health programs adapted to the local context.
- National Tuberculosis Response Programme for 2022–2025, approved by the Moldovan Government in 2023[18] (further on NSP-TB). The NSP-TB aims to expand the participation of civil society in decision-making, implementation of TB/HIV programs, and strengthening public-private partnerships between government agencies, CSOs, and the private sector.

The current NSP-TB stipulates active involvement of the civil society and community organizations throughout the NSP-TB and, particularly, in the areas of peer-peer education and support; provision of integrated services; awareness-raising activities; community-led monitoring and operational researches (***for details, see Table 1)***: The relationship and mutual obligations are well documented and institutionalized in the Memorandum of Understanding signed in 2016 between NTP and ten CSOs.

[17] National Health Strategy "Health 2030" approved by the Government of Republic of Moldova, Decision No.387 of 14-06-2023 https://www.legis.md/cautare/getResults?doc_id=138493&lang=ro

[18] Национальная Программа противодействия туберкулезу на 2022–2025гг., Постановление Правительства Республики Молдова № HG107/2022 от 23.02.2022

CSOs actively participate in decision-making processes, including the development, implementation, and M&E of national strategic plans on TB and HIV, as well as The Global Fund's (TGF) funding requests. Currently, thirteen (13) CSOs are represented in the national coordinating platform – the National Coordination Council of National TB/HIV/AIDS/STI (NCC) Prevention and Control Programs, representing 43% of 30 members.[19] This includes the NCC vice president who represents the League of People Living with HIV/AIDS. TB civil society is represented by three members: the President of the National TB CSOs Platform (who leads the Platform on a rotational basis) and two organizations representing people affected by TB from both banks of the Dniester (Vice President of the NGO "SMIT" (Moldovan Society Against TB) and Director of the Non-Commercial Partnership "Medical Social Programs"). This inclusive approach ensures equal representation of civil society and affected communities from both banks of the Dniester River in decision-making processes.

NGOs working on TB in Moldova have their coordination platform – the National TB CSOs Platform - established in 2013 with the financial support of TGF. The Platform includes NGOs from both banks of the Dniester River. Despite of limited financing from 2014 to 2020, the Platform worked voluntarily, and since 2021, funding has resumed from TGF grant through the PAS Center. The platform's activities include quarterly CSO coordination meetings, field visits to exchange experiences between NGO representatives, and regularly disseminating information (news, guidelines, recommendations) among members. More importantly, the Platform represents the joint and consolidated interests of civil society and community organizations to the NCC. The Platform develops annual action plans and has a secretariat.

Financing

The availability of sustainable financing remains a determining factor in civil society's meaningful engagement in TB response. The NSP-TB describes all activities related to the engagement of civil society and communities in national TB response supported by the source of funding for each intervention. (*Table 1*).

Table 1: Activities defined in the NSP-TB 2022-2025 with and for engagement of CSOs and source of budget

Activities	**Government** *(Moldovan Leu)*	**Global Fund** *(Moldovan Leu)*
Ensuring the detection of people in key populations (PLHIV, homeless adults, PWIDs, and other vulnerable groups with limited access to PHC), with the support of CSOs at the community level	19,900,358 (2021-2025)	22,823,696 (2021-2023)
Providing peer-to-peer support to people with TB through CSOs	Not specified	-
Developing community-based partnerships involving CSOs and local authorities	-	37,548.00 (2021)
Provision of a platform for integrated services for prevention and support for people living with TB with other comorbidities at the level of CSOs	Not specified	-
Conducting awareness-raising activities changing attitudes and behavior at national and local levels	-	194,980.60 (2023)
Capacity development for non-medical personnel (CSOs, outreach workers, peer-to-peer consultants, psychologists, and case managers).	-	GF – not specified
Development and implementation of contractual arrangements and payment mechanisms for CSOs providing packages of services to people affected by TB	-	40,000.00

[19] http://www.ccm.md/index.php/membri-cnc-tb-sida

Ensuring CSO's participation in TB response and carrying out activities through the provision of small grants (awareness raising and other activities to increase treatment adherence and support)	3,747,201 (2024-2025)	6,562,369 (2021-2023)
Assessment of human rights and gender barriers to TB services in key populations		356,000.00
CSOs participation in reducing barriers to access to TB services for key population		GF – not specified
Community-led monitoring of access to TB services and their quality in relation to compliance with patients' rights		GF – not specified
CSOs participation in operational research, including at the community level	256,000.00 (2025)	

Source: Annex 2 Action Plan on Implementation of the National Program to Combat Tuberculosis for 2022–2025

However, despite the government's annual increase in funding, these activities remain largely dependent on external sources, primarily TGF *(Table 2).* Over the past years, the ratio of state funding to TGF support for NGOs has averaged 1 to 9.[20] This heavy reliance on external financing poses a significant risk to the sustainability and continuity of activities, particularly as international funding declines.

Table 2: Sources of financing CSOs services, 2024, Moldova

	Contracted (*in MDL*)	Share in %
Global fund through UCIMP DS and Pas Center	19,495,396.64	90,9
State funding via the Insurance Company (CNAM)	1 455 050,65	9.1

Source: Report "Implementing a standardized package of community-based support services to improve TB treatment and prevention outcomes", Moldova 2024

To ensure effective resource planning, the National Health Insurance Company (NHIC) collaborates annually with the NTP and NGOs to establish priorities and allocate resources, including funding for NGO-led TB activities. The National TB SCOs Platform developed and proposed a strategy advocating for a gradual increase in funding for NGO-provided activities. Their vision aims to allocate up to 90% of the Prevention Fund of the CNAM to these activities by 2027, supporting the achievement of NSP-TB indicators.

Monitoring and evaluation of civil society and affected community's work

To evaluate the involvement of civil society and community organizations in national TB responses, WHO EURO has established four indicators, which are integrated into the Monitoring and Evaluation (M&E) plan of the TB Action Plan for the European Region 2023–2030. Implementing all four indicators enables countries to comprehensively assess the engagement and contributions of CSOs to the national TB response.

In Moldova, three of the four regional indicators have been incorporated into the M&E Plan of the NSP-TB, with specific targets set for each year of implementation (*Table 3).*

Table 3: National Indicators to monitor and measure CSOs and CBOs engagement in the national TB response and their annual targets, 2021-2025, Moldova

		Baseline	2021	2022	2023	2024	2025

[20] Report "Implementing a standardized package of community-based support services to improve TB treatment and prevention outcomes", Moldova 2024

1.	Proportion of people with TB identified through civil society-led case-finding activities for active TB	2,6% (2019)	11%	11.2%	11.6%	11.6%	16.2%
2.	Proportion of people with TB who started TB treatment (DS-TB & DR-TB) and received any form of adherence support from CSOs (including psychosocial support)	15.7% (2019)	10%	15%	20%	25%	>25%
3.	Subcontracting mechanisms using public funds or other financing mechanisms related to CSOs developed and implemented	NA	Yes	Yes	Yes	Yes	Yes

Source: Annex 3 to the Government Resolution No. 107/2022: Monitoring and Evaluation Plan for the NSP TB, 2022-2025

The analysis indicates that two target indicators have been met (Table 3). CSOs have played a significant role in TB screening, identifying 12.2% of people with TB—surpassing the 2023 target of 11.6%. Additionally, public fund-based subcontracting mechanisms have been developed and are now being implemented, demonstrating the effectiveness and critical role of CSOs in Moldova's national TB response.

In 2023, 10.7% of people with TB initiated treatment and received support from CSOs. This lowers the 2019 baseline of 15.7% and falls short of the 20% target for 2023. During stakeholder meetings, CSOs from both sides of the Dniester River highlighted key challenges in achieving this goal. These include working with vulnerable populations—such as individuals with alcohol use disorders, homeless individuals, and former prisoners—and operating in areas with limited or no access to primary healthcare. Thus, the principal factor affecting the results is the current calculation method. The denominator currently includes the total number of people who started TB treatment within the same period throughout the country, while CSOs are primarily working only with key and vulnerable populations in particular settings. Given these complexities, CSOs propose adjusting the methodology during the next NSP-TB to consider all types of interventions and the number of individuals from these groups who initiated treatment and with whom CSOs particularly work.

As Moldova's TB epidemic continues to decline, priority should be given to identifying undiagnosed and missing cases within key populations. Subsequently, this effort will demand more time, resources, and financial investment per detected case. Therefore, the target for this indicator should be adjusted accordingly.

The fourth WHO-recommended indicator—measuring the adaptation of standards and operational procedures (SOPs) for CSO-provided support services (including psychosocial support to ensure treatment adherence)—is not currently included in the national M&E plan. However, guidance for CSOs-led community-based services for the application of SOPs has been developed and approved by the National TB CSOs Platform. These documents regulate CSO activities, including those funded by TGF, and align with WHO's Standardized package of community-based support services to improve tuberculosis outcomes[21]. Despite this progress, the MoH has not yet officially approved the guidance and SOPs, which is a necessary step for their formalization.

Beyond the three adopted regional indicators, since 2021, the NTP and CSOs have regularly monitored CSO-implemented activities outlined in the NSP-TB. This monitoring is part of a broader evaluation of key programmatic outcomes. *Table 4* provides an overview of the progress made on CSO-related interventions implemented in 2023.

Table 4: Implementation and outcomes of CSO-related interventions, 2023, Moldova

Activities / NSP-TB objectives	Implementation (indicator) in 2023
Proportion of people with TB identified through CSO-led case-finding activities for active TB (%) (1.1.5)	12,2% - achieved the 2023 target (265 TB cases out of 2168 new cases and TB relapses notified during 2023)

[21] https://www.who.int/europe/publications/i/item/9789289060004

Providing peer-to-peer support to people with TB through CSOs (3.3.4)	Share of patients who initiated TB treatment (DS and DR-TB) benefited from any assistance from CSOs to increase adherence, including psychosocial support, was 10.7% (the target for 2023 was 15%.)
Developing community-based partnerships involving CSOs and local authorities (4.1.2)	SMIT organized seven joint information and awareness meetings on TB, and 64 local decision-makers were informed and sensitized.
Provision of a platform for integrated services for people living with TB and other comorbidities at the level of CSOs (4.2.3)	The platform is available, including at the level of the NCC working group on TB/HIV co-infection.
Conducting awareness-raising activities and changing attitudes and behavior at national and local levels (5.2.1)	Public consultation at the Parliament; scientific-practical conference; Joint activities carried out with the mass media (Radio show, health podcasts, etc.); awareness raising in schools; flashmobs, etc.
Capacity development for non-medical personnel (6.3.5).	Three trainings for CSOs, and three scientific-practical conferences were conducted.
Development and implementation of contractual arrangements and payment mechanisms for CSOs (6.5.1)	The active TB detection service with CSOs' support was costed and taken over for financing from national resources (NHIC).
Ensuring civil society participation in TB response and carrying out activities through the provision of small grants (awareness raising and other activities to increase treatment adherence and support) (6.5.2)	In total, 7 CSOs from both banks of the Dniester River were given small grants for interventions to increase treatment adherence and provide support services to people who completed treatment to prevent relapses. 229 people were covered with psycho-social support by CSOs, 82.5% were adherent to the treatment
Assessment of human rights and gender barriers to TB services in key populations; estimating the size of key populations (6.5.3)	The study "Evaluation of barriers regarding community involvement, human rights, gender aspects and the level of stigma associated with TB in Moldova" was conducted in 2022 by SMIT with TGF funds via PAS Center[22].
CSOs participation in reducing barriers and ensuring access of key groups to TB services (6.5.4)	Implemented by the Institute for Human Rights of Moldova. Activities included organizing information campaigns and training on TB-related human rights, organizing free consultations and legal assistance from lawyers; communicating information on free access to legal assistance for persons affected by TB and their family members.
Community-led monitoring of access to TB services and their quality in relation to compliance with patients' rights (6.7.3)	A digital solution platform, "I LIKE VST," was developed by the PAS Center with financial support from the GF and Stop TB partnership to monitor treatment adherence through video assistance and facilitate monitoring of the community's response to TB (CLM module).
CSOs participation in operational research, including at the community level (7.2.2)	The study "Evaluation of barriers regarding community involvement, human rights, gender aspects and the level of stigma associated with TB in Moldova" was conducted in 2022 by SMIT with TGF funds via the PAS Centre. In 2023-2024, operational research was started on assessing catastrophic expenses incurred by TB patients and their households,

[22] smitmd.wordpress.com/2022/12/14/evaluarea-barierelor-privind-implicarea-comunitara-drepturile-omului-aspectele-de-gen-si-nivelul-de-stigma-asociata-tuberculozei-in-republica-moldova/

	provided by the NGO AFI (Act for Involvement) in partnership with NTP and with financial support from PAS Center.

Source: NTP, Moldova

In 2022, the PAS Center conducted a retrospective study, funded by TGF, to assess the engagement of CSOs in Moldova's TB response. The study documented the impact of CSO involvement, highlighting their role in strengthening operational capacities. It concluded that SCOs have made significant contributions to the national TB response, particularly in identifying missing TB cases and supporting the VST program[23].

Monitoring and evaluating CSO-led interventions help build trust among public TB service providers and the NTP, reinforcing the crucial role of communities in the national TB response. It also enhances civil society's accountability within the multisectoral TB response. However, the current national M&E indicators do not fully capture the range of SCOs' services, limiting the ability to assess their overall impact and contributions.

To address this gap, in addition to the WHO-recommended indicators, it is advisable to develop a set of progress and outcome indicators specifically for civil society engagement in TB response. These should align with the *Operational Guidance on Adaptation and Implementation of WHO's Multisectoral Accountability Framework to End TB (MAF-TB)* [24] to ensure a more comprehensive evaluation of CSO's contributions.

To strengthen this process, it is recommended that an annual report on CSOs' engagement in the national TB response be developed. This report should be integrated into the broader *Report on the National TB Response* and made publicly available to ensure transparency and inform policy decisions.

In 2023, Moldova began implementing a public monitoring tool developed through the *I Like VST app*, enabling the reporting of barriers to state-provided health services. To ensure high-quality case management, SOPs were established, including: (1) An algorithm for internal and external reporting on public monitoring results; and (2) A mechanism for SCOs to assess the quality of TB services from a TB-related human rights perspective within the framework of public monitoring.

Activities at the service delivery level

CSO-provided activities at the service delivery level in Moldova are defined by the NSP-TB 2022-2025 and mainly targets a wide range of key and vulnerable populations. TB-related services delivered by CSOs include the following areas[25]:

- *Prevention*: awareness raising and information provision
- *Detection*: contact tracing and sputum collection/transportation
- *Referral to services*: linking with clinics, transportation support and facilitation; accompaniment
- *Treatment adherence support:* DOT, VST, adherence counseling, psychological support
- *Social and livelihood support:* food and clothes supplementation, legal and administrative support
- *Advocacy:* capacity building, protection for human rights, working with community leaders and institutions, community mobilization and involvement
- *TB-related activities in the penitentiary system*

Until 2020, CSOs' service areas were mainly based on their physical location, often misaligning with TB service needs, especially for key populations in TB high-prevalence areas. However, due to increased financial opportunity

[23] https://pas.md/en/PAS/Studies/Details/390

[24] https://www.who.int/publications/m/item/operational-guidance-adaptation-and-implementation-of-the-who-multisectoral-accountability-framework-to-end-tb

[25] https://pas.md/en/PAS/Studies/Details/390

and growing government recognition of CSOs during the COVID-19 epidemic, coverage expanded to include more services and territories, focusing on prevention, active case finding, advocacy, and community engagement.

In 2016, the NTP and ten CSOs (through the National TB CSOs Platform) signed a Memorandum of Understanding outlining their mutual obligations. The NTP and TB Platform jointly develop an annual plan for CSOs' engagement in the national TB response, which includes a list of CSOs, the services they provide, their target populations, and geographic coverage, particularly focusing on areas with limited access to healthcare. Nearly all regions of the country receive CSOs' support, and the MoH Order approves this plan. This demonstrates a strong partnership between CSOs and the NTP/MoH, serving as a regional best practice.

The range of services provided by CSOs is outlined in the *Guidelines for the Application of SOPs for NGO-Provided Activities*, which follow the WHO's *Standardized Package of Community-Based Support Services to Improve Tuberculosis Outcomes*[26]. Moldova has adopted ten of the twelve recommended services, developing the necessary SOPs. The remaining two are (1) the non-clinical management of latent TB and (2) social support/rehabilitation after treatment. The reason is that the national policies do not involve CSOs in latent TB management. CSOs explained that social support/rehabilitation after treatment is one of the most challenging objectives, which requires long-term case management of high-risk population groups; SCOs need additional expertise, knowledge, and human and financing resources to be engaged in this service.

Moldova began social contracting with CSOs through NHIC in 2020, marking a successful CSO-government partnership. A comprehensive package, including cost estimations, was developed and approved at the MoH only for one community-based support service —TB screening. This allowed nine CSOs to receive funding from NHIC's Prevention Fund. From 2020 to 2024, government funding for CSO-provided TB screening services increased significantly, rising from 82,966.67 to 1,455,050.65 Moldovan Leu (MDL) (*Table 5*). The mission was informed that starting in 2026, NHIC is expected to fully fund all community-based TB screening services by CSOs. However, overall, all other CSO-provided services still rely heavily on donor funding.

Table 5: State financing of CSOs from the Prevention Fund of the NHIC, 2020-2024, Moldova

Years	**2020**	**2021**	**2022**	**2023**	**2024**
	Implemented				Contracted
Contracts with CSOs for TB community-based screening *(MDL)*	82 966,67	855 876,12	1 485 047,19	1 120 212,55	1 455 050,65

Source: Report "Implementing a standardized package of community-based support services to improve TB treatment and prevention outcomes", Moldova, 2024

The lack of costing and official MoH approval for the other remaining community-based services outlined in the national Guidance creates a barrier to their sustainable funding from NHIC, jeopardizing the sustainability of these services, particularly during the transition from donor to domestic financing. Therefore, it is recommended that this practice be expanded to develop costs for all community-based services with endorsement at the MoH level.

After the 2024 assessment and the Accounts Chamber's decision, NGOs involved in TB services should obtain a certification proving the public utility and the accreditation to deliver community-based support. At the moment of the development of this report, the NTP mission was informed that all eligible TB CSOs working on the right bank of the Dniester River by the beginning of 2025 have successfully obtained the status of the public utility[27] showing the TB CSO's commitment to aligning CSO work with country legislative requirements. However, the accreditation to deliver community-based support has not yet started. Since these services encompass both medical care (including psychological support) and social assistance, a well-defined accreditation and certification mechanism is

[26] https://www.who.int/europe/publications/i/item/9789289060004

[27] https://www.asp.gov.md/ro/date-deschise/lista-on

essential. The absence of such a mechanism currently hinders providing a comprehensive range of services funded by domestic sources.

Capacity building

Interviews with CSOs regarding their capacity-building and expertise in delivering a range of TB-related services revealed varying levels of preparedness. While some organizations perform satisfactorily, others face challenges such as a lack of qualified staff and the need for additional training to ensure service quality.

Currently, there is no clear government vision or action plan for the sustainable and continuous capacity building of CSOs, including implementing community-based services. Training for CSOs is conducted in different ways, largely depending on available resources and opportunities. In many cases, training is funded by donors or covered by the organizations themselves and is often project-specific.

There is also a gap in training modules on specialized TB-related topics. CSOs reported that training on TB screening only became available after the official approval of the relevant SOPs. Additionally, existing institutionalized training modules are not always accessible to CSOs. However, specific training modules, including providing psycho-social support services, are planned to be developed within TGF grant 2024-2026. The National TB SCOs Platform plays an active role in identifying priority training areas under TGF grant, with human rights set as the focus for 2025. Moreover, CSOs highlighted that a formal assessment of CSOs' staffing levels has never been conducted.

Given the growing role of CSOs in the national TB response—particularly their effectiveness in reaching hard-to-reach and vulnerable populations—it is essential for the NSP-TB to include a clear vision and action plan for their capacity building. This should ensure their ability to implement community-based services and secure sustainable funding for both the right and left banks of the Dniester River.

Main achievements

- ***Established Legal and Policy Framework:*** *The National Health Care Strategy "Healthcare 2030" and the NSP-TB (2022–2025) include dedicated objectives for CSO engagement, ensuring a structured role for CSOs in the national TB response.*
- ***Strong Coordination and Partnerships:*** *Effective collaboration between the NTP, CSOs, and TB-affected communities has set a strong precedent for multi-sectoral cooperation.*
- ***Active CSO and Community Representation:*** *CSOs and TB-affected communities are actively engaged in strategic planning and decision-making through the NCC, with three representatives from both sides of the Dniester involved in key processes, such as the NSP-TB development and country funding requests.*
- ***Regulated Community-Based Services:*** *CSO-provided community-based services are standardized through SOPs and official guidance developed and approved by the National TB CSOs Platform in alignment with the WHO Package of Community-Based Services. The MoH has approved a fully costed package for community-based TB screening.*
- ***Alignment of the CSO status to country legislative requirements regarding the public utility:*** *All eligible TB CSOs working on the right bank of the Dniester River have successfully obtained the status of the public utility.*
- ***Sustainable Funding for CSOs:*** *A mix of donor and state support ensures financing for CSO-led TB interventions. The NHIC funds community-based TB screening, while TGF supports other community-based TB services.*
- ***Measurable Impact of CSO-Led TB Screening:*** *Between 2022 and 2024, the share of TB screening beneficiaries with suspected pathology increased from 12% to 20.4%, reflecting the effectiveness of NHIC-funded initiatives.*

- ***Integration into National Monitoring & Evaluation (M&E) System:*** *The national M&E system now tracks NGO service delivery, with three out of four WHO-recommended community-based indicators included in the M&E plan, ensuring systematic data collection, analysis, and reporting.*
- ***Well-Coordinated TB CSOs Platform:*** *The National TB CSOs Platform, funded by TGF, includes 10 CSOs from both banks of the Dniester River and serves as a unified voice in decision-making processes, strengthening the representation of civil society in TB response efforts.*

Key challenges

- ***Lack of Official Approval for SOPs and Guidance:*** *While SOPs and guidance regulate community-based services, they are not officially approved at the governmental level (except TB screening services). This creates a barrier to securing sustainable funding from the NHIC and jeopardizes the long-term sustainability of these services amid the transition from donor to domestic financing.*
- ***Heavy Dependence on Donor Funding:*** *Most CSO-provided community-based services (excluding TB screening) rely primarily on donor funding. On the left bank of the Dniester River, all community-based TB services fully depend on TGF, making them highly vulnerable to funding uncertainties.*
- ***Lack of Accreditation and Certification Mechanisms:*** *There is no clear accreditation and certification process for CSOs delivering the full spectrum of community-based services, particularly psycho-social support. This gap could hinder service continuity, as accreditation and certification became a requirement following the Accounts Chamber's assessment and decision.*
- ***Incomplete M&E Indicators:*** *The existing M&E system does not fully capture the scope and spectrum of CSO-provided services, particularly TB prevention-related interventions. This limits visibility into their full impact on the national TB response.*
- ***Unclear Government Vision on NGO Capacity Building:*** *There is no structured government strategy for ensuring the sustainable and continuous capacity building of CSOs in delivering community-based services, particularly in the context of transition from external to domestic financing.*

Main recommendations

	Recommendations	Timeline	Imp actors
1	Revise and adopt the full package of CSO-provided community-based services at the governmental level to ensure their sustainable funding and implementation (similar to the approach used for the community-based screening): - Conduct comprehensive analysis and prioritize essential community-based services based on national health needs and context - Calculate the cost for each service and ensure adequate funding through domestic sources, particularly the NHIC, to reduce reliance on donor support. - Develop robust M&E indicators that measure progress, inputs, and impact, ensuring accurate assessment and continuous improvement of each community-based service within the national TB response framework.	Short-term	NGO Coordination Platform, NTP, MoH

2	Actively involve the National TB CSOs Platform in all states of the new NSP-TB development and ensure: - Secure defined funding for CSO-provided community-based services on both the right and left banks of the Dniester River, ensuring long-term sustainability. - Expand the M&E Plan by developing and integrating additional process and outcome indicators to measure the full spectrum of CSO-provided community-based services, beyond the existing WHO-recommended indicators. - Develop and integrate sustainable capacity-building activities for CSOs to enhance their ability to implement community-based services and secure long-term financing for both banks of the Dniester to support continuous skill development and service quality improvement.	Short to Medium-term	CCM, NGO coordination Platform under leadership of the MoH/NTP
3	Develop and document an annual report on CSOs' engagement in national TB response, highlighting their role, achievements, challenges, and impact. Integrate this report into the broader National TB Response Report to ensure alignment with national priorities. Make the report publicly available, promoting awareness, stakeholder engagement, and informed decision-making on CSO-led TB interventions.	Medium-term	NGO coordination Platform
4	Consider assessing CSO-led initiatives' impact, measuring their role in service delivery, advocacy, and policy influence. Use findings to strengthen policies and funding mechanisms, ensuring evidence-based decision-making and enhancing the sustainability of community-driven TB interventions and timely adjustment of the interventions and priorities based on country needs.	Medium-term	MoH/NTP together with NGO TB Platform

Universal Health Coverage and financing of TB Services

Universal Health Coverage

Universal Health Coverage (UHC) is defined by WHO as the opportunity for everyone to receive quality health services when and where they need them without experiencing catastrophic health spending due to healthcare costs. UN Sustainable Development Goal (SDG) indicator 3.8.1 on coverage of essential health services is measured by the UHC service coverage index (SCI) and is defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population.[28]

The UHC SCI has improved globally from a population-weighted average of 45 in 2000 to 68 in 2021. During the same period, the estimated SCI in Moldova has increased from 51 to 71 ***(Error! Reference source not found.)***, which is above the global average and classifies it as a 'high coverage' country. However, it was still below the average

[28] The Global Health Observatory, WHO; https://www.who.int/data/gho/data/themes/topics/service-coverage; accessed 23.12. 2024.

indicator for countries of the WHO European Region (81) and the group of upper-middle-income countries (79), to which Moldova belongs.[29]

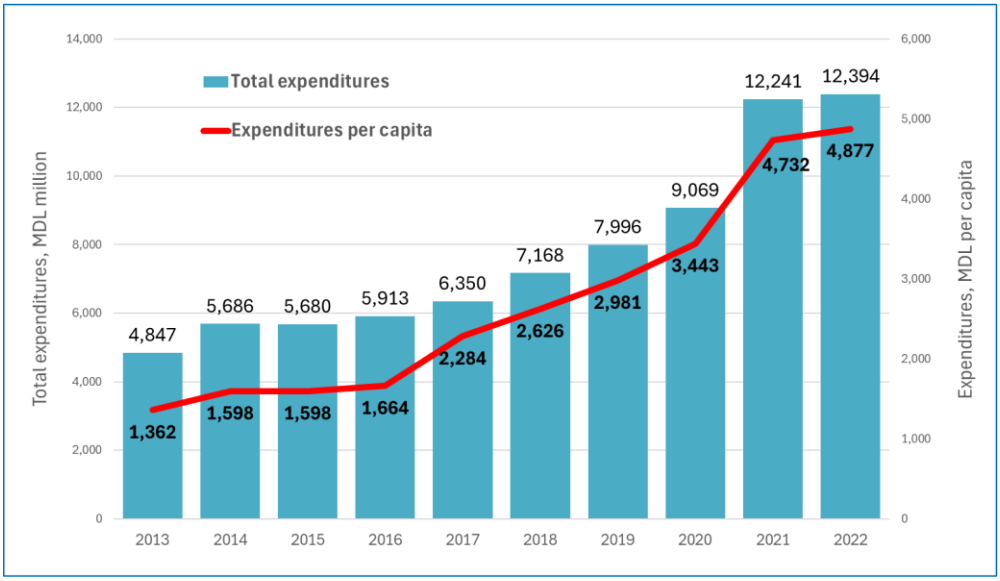
Table 6: UHC Service Coverage Index, 2000-2021

Country / Group	*2000*	*2005*	*2010*	*2015*	*2017*	*2019*	*2021*
Republic of Moldova	51	54	63	70	71	72	71
WHO European Region	64	68	75	79	80	81	81
Upper-middle income countries	62	61	67	75	77	77	79
Global average	45	50	58	65	67	68	68

According to WHO estimates,[30] Domestic public expenditures on health care in Moldova increased in nominal terms by 72.9% between 2018 and 2022 (from MDL 7,168 million to MDL 12,393 million). Per capita expenditures grew by 85.8% over the same period: from MDL 2,626 to MDL 4,877 ***(Error! Reference source not found.****13).*

Public spending on health increased substantially following the introduction of the mandatory health insurance system in 2004. In 2022, general government health expenditures accounted for about 4.5% of GDP, which is an increase from 3.6-3.9% in 2015-2019; however, this share remains below the European Union (EU) average (7.1%).

Figure 13: Government expenditures on health in the Republic of Moldova, 2013-2022



Source: WHO Global Health Expenditure Database, https://apps.who.int/nha/database

The WHO-estimated share of the government budget allocated to health ranged between 12-14% since 2005, reaching 14.6% in 2021 but decreasing to 12.3% in 2022. This proportion is higher than in most countries in Eastern Europe and Central Asia (EECA). The share of private expenditures in health care (direct payments of the population for medical services out-of-pocket), according to the same WHO estimates, accounted for 31.7% of total health spending in 2022, down from 47.2% in 2000. This level is lower compared to most countries of the former USSR

[29] The World Bank, https://data.worldbank.org/indicator/SH.UHC.SRVS.CV.XD?end=2021&name_desc=false&start=2000&view=chart; accessed 30.12.2024

[30] WHO Global Health Expenditure Database, https://apps.who.int/nha/database (accessed 30.12.2024)

but is significantly higher than the EU average (18.7%). Key health expenditure indicators for Moldova are presented in *Annex II,* ***Error! Reference source not found.***.

Financing of TB services

Medical services for detection, diagnosis, treatment and prevention of TB in Moldova are funded by NHIC from public sources within the mandatory health insurance framework. Financing of TB services is included under the following NHIC programs:

- *Preventive activities*, funded from the special preventive measures fund of NHIC, including TB screening by mobile X-ray units equipped with computer-aided diagnosis (CAD), and activities implemented by CSOs, which are also co-financed by TGF grant;

- *Specialized outpatient medical care*, including ambulatory services provided by family doctors and phthisiopneumologists in outpatient settings, including screenings for early detection of TB and other pulmonary diseases among the high-risk and vulnerable population at the level of PHC, diagnostic services by TB reference laboratories (National Reference Laboratory (NRL) at the Institute of Pneumology 'Chiril Draganiuc' and 3 regional reference laboratories); and patient support during outpatient treatment

- *Inpatient care*, which is provided in three hospital facilities: Institute of Pneumology 'Chiril Draganiuc', Municipal Clinical Hospital of Phthisiopneumology (Chisinau) and Balti Clinical Hospital.

TB services in outpatient settings are funded based on a *per capita* principle, which includes two distinct per capita rates: one covering services of PHC providers, and the second covering services of 'narrow' specialists, including those provided by the phthisiopneumologist. No specific portion of either per capita rate is earmarked for TB related services. The NRL and regional reference laboratories in Balti and Vorniceni are funded by *global budget* (i.e. a pre-defined annual budget not linked to actual performance volumes). Patient support (food incentives and transportation costs) is *compensated retrospectively*, based on the reported volumes of actual expenditures. Preventive services (screening) are financed on a *fee-for-service* basis, according to the actual numbers of provided services and fixed tariffs for each service or beneficiary. Finally, inpatient services are funded based on the *number of patient-days* (bed-days)*,* according to the approved tariffs.

Provider payment methods for different types of medical services, as well as the contracting and payment mechanisms, are approved annually by the MoH by a joint order with NHIC.[31] The Government approves tariffs for publicly funded medical services, which are periodically revised.[32]

Table 7 below provides summary information on the total funding provided by NHIC for TB services during 2022-2024 (and the plan for 2025). These figures do not include the amount of funding for outpatient TB services through per capita normative, as these costs are included in the total amount of specialized outpatient care along with other specialist services.

Procurement of anti-TB drugs, supplies and medical equipment under the state budget is centralized and carried out by the Center for Centralized Public Procurement in Health (CCPPH) under the MoH, while the Public Institution 'Project Coordination, Implementation and Monitoring Unit' (PCIMU) for health sector projects, being the Primary Recipient of TGF grants, carries out procurements funded by TGF.

[31] Ministry of Health of the Republic of Moldova, Order Nr. 1219/332 from 28.12.2023 *'On approval of the criteria for contracting providers of medical services in the compulsory medical insurance system and the method of issuing and paying invoices for provided medical services for 2024'*; https://www.legis.md/cautare/getResults?doc_id=146185&lang=ru

[32] Government of the Republic of Moldova, Resolution Nr. 1020 from 29.12.2011 *'On tariffs for medical-sanitary services'*; https://www.legis.md/cautare/getResults?doc_id=145152&lang=ru

Table 7: Funding for medical services for prevention and treatment of TB by the National Health Insurance Company, 2022-2025

No.	Program / Activity	2022	2023	2024	2025 (plan)
1	**Inpatient care**				
1.1	Bed-days	123,766	130,973	90,124*	127,500
1.2	Executed budget, MDL million	129.6	145.8	105.4*	149.4
2	**Specialized outpatient medical care, MDL million**	**22.5**	**30.6**	**26.9**	**30.6**
2.1	Out of which, patient support for outpatient treatment (food and transportation)	12.7	15.8	11.2	13.5
2.2	Laboratory diagnostics	9.8	14.8	15.7	17.1
3	**Preventive measures fund**				
3.1	Screening of high-risk groups (mobile x-ray)				
3.1.1	Number of covered beneficiaries	13,485	9,780	8,352	10,000
3.1.2	Beneficiaries with suspected pathology	1,613	1,300	1,702	
3.1.3	Executed budget, MDL million	1.15	0.97	1.17	2.13
3.2	Community-based programs for early detection of TB among key vulnerable populations and awareness raising through NGO engagement				
3.2.1	Number of beneficiaries	4,037	1,815	1,880	3,000
3.2.3	Executed budget, MDL million	1.48	1.12	0.68**	2.39
	Total financing, MDL million	**154.73**	**178.49**	**134.2**	**184.52**

*Notes: * - data for 10 months; ** - data for 9 months.*
Source: NHIC, November 2024.

Established in 2016, CCPPH is responsible for consolidating procurement processes of medicines, equipment and consumables for the needs of about 400 public medical facilities throughout the country, 12 national health programs and for treatment of rare diseases, as well as for maintenance and servicing of information systems in the health sector. The annual budget managed by CCPPH for the TB program was around MDL 28 million in 2024, out of which about MDL 16 million were allocated for procurement of medicines, and 12 million – for equipment and supplies. CCPPH is not allowed by the law to directly procure from international platforms or manufacturers, which creates certain challenges, especially in cases of procurement of drugs in small quantities, for which often no bids are submitted by commercial organizations. Amendments to the Law on Public Procurement are currently under discussion to address these issues.

More detailed information on TB financing is collected and analyzed periodically by the NTP's TB Response Coordination Department, which is further used by other stakeholders as well, such as PCIMU (including reporting to the Global Fund on the fulfillment of co-financing commitments under the grant agreement). This data covers all domains of TB funding and consolidates the information from different sources, including MoH (state budget allocations), NHIC, public institutions at the central (republican), municipal and district levels, NGOs, as well as other ministries and government agencies including the Ministry of Justice for TB control in prisons.

According to the latest available data, the total expenditures for the national TB response (from both domestic and external sources) in 2023 was about MDL 342.3 million (about EUR 17.43 million), out of which domestic sources (public budgets) accounted for 84.6% (MDL 289.5 million or EUR 14.74 million) of the total, and external funding – for 15.4% (MDL 52.8 million or EUR 2.69 million).[33] The priorities for government investments in the field of TB are to secure:

- 100% coverage of the needs in first-line TB drugs;
- 90% coverage of the needs in RR/MDR-TB treatment for adults on the right bank of the Dniester River, including the penitentiary sector;
- TB inpatient treatment;
- financing of National and regional reference laboratories;
- 60% coverage of the needs in laboratory reagents and consumables;
- 100% coverage of food incentives and transportation expenses for outpatient TB treatment on the right bank of the Dniester River;
- 10% coverage of services provided by CSOs under small grant projects – for active case finding / systematic screening, prevention and other activities among groups at risk.

Main achievements

- *The health system of the Republic of Moldova is organized in line with the principles of UHC, providing for universal access to basic health services and equity. Public spending on health, on average, accounts for 4-5% of GDP, and it is planned to maintain allocating over 14% of the total government expenditure (budget) to health care. Both indicators are among the best in the EECA region.*
- *Since 2004 the Republic of Moldova has implemented a publicly financed mandatory health insurance system with a defined benefits package managed by the National Health Insurance Company (NHIC), which successfully fulfills the roles of the strategic purchaser and the single payer in the health sector.*
- *The health insurance system provides comprehensive coverage of TB interventions, which are explicitly included in the package of essential services covered by NHIC, including diagnosis, treatment, prevention and support services (including support to CSO engagement in working with population groups at risk).*
- *All citizens have access to publicly funded TB diagnostic and treatment services (both inpatient and outpatient), regardless of their insurance status. The NSP-TB for 2022-2025 aims to eliminate catastrophic costs for people with TB and their households.*
- *Financing of the TB program covers essential interventions for TB prevention and care in the country, and the level of funding has been increasing. About 85% of the total National TB Program costs are covered from domestic funding sources.*

Key challenges

- *PHC services are funded on a per capita basis, which, until 2025, did not provide for an earmarked annual budget for laboratory diagnostic services. This funding mechanism, which could potentially create limitations regarding the referrals for bacteriological confirmation of TB diagnosis in people with presumptive TB disease, was revised in December 2024. The new mechanism stipulates that paraclinical services (including diagnostic tests for TB) prescribed by PHC providers and outpatient specialists, should be funded separately by NHIC).*
- *Facility budgets for outpatient specialized services are also based on the per capita principle, which does not specify the share of different medical specialties (including the phthisiopneumology service) in the total budget. This mechanism may negatively influence managerial decisions at the institution level regarding allocating sufficient funding for TB care.*

[33] *Source*: Ministry of Health of the Republic of Moldova, letter to the Global Fund Nr. 09/4247 from 13.11.2024

- *At PHC and specialized ambulatory care level, there are no performance-based incentive payments that would promote early diagnosis of TB and improved treatment outcomes.*
- *The payment mechanism for inpatient TB facilities is based on the number of patient days (' bed days'), which has potential risks of stimulating unjustified prolongation of hospital stays.*
- *The Government needs to allocate additional funding for the NTP to ensure an effective transition from TGF financing, expected in the coming few years, and ensure appropriate institutionalization of these interventions (including those that support CSO engagement in TB activities among risk groups, which are currently mainly funded by TGF) into the budget processes, allocation and provider payment schemes.*

Main recommendations

	Recommendation	Timeline	Implementers
1	Consider the possibility of adjusting and further improving provider payment mechanisms for outpatient and inpatient specialized TB services, as well as for PHC providers, in order to facilitate the achievement of the national TB response objectives	Continuous	MoH, NHIC, NTP
2	Review the per capita normative for PHC to ensure earmarked funding for diagnostic services for early TB detection and timely bacteriological evaluation (while this issue has been addressed, monitoring and follow-up of early implementation is required)	Short-term	MoH, NHIC
3	Explore the possibility for setting up the per capita normative for separate outpatient specialties (including phtisiopneumology), to enable allocation of sufficient resources for priority TB interventions.	Short-term	MoH, NHIC
	To ensure appropriate funding and motivation of TB service providers at the peripheral level, it is recommended to continue with the current organizational arrangement at the district level, which includes TB as part of specialist outpatient services (Consultative Department) under the management of the Rayon Hospital. At the same time, further work is needed to strengthen the engagement of and coordination with PHC providers at district and municipality level (Health Centers and family medicine offices), possibly by putting in place, among other measures, performance-based monetary incentives for both PHC and specialist care providers.	Short- and medium-term	MoH, NHIC, NTP
4	Update the transition plan from TGF support for priority interventions currently covered by TGF (including specimen transportation, CSO support, select activities in prisons, etc.)	Medium-term	MoH, MoJ, PCIMU, NTP, NHIC

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Annexes

Annex I Agenda of the Review mission, 25-29 November 2024

Time	Institution/ Organization to visit	Mission members
Day 1: 25.11.24		
9:30 – 11:00	The public medical-sanitary institution, the Institute of Pneumology "Chiril Draganiuc". Joint meeting with the Coordination Department of the NTP: - Doina Rusu, Director of the Institute of Pneumology - Ana Donica, deputy director of the Institute of Pneumology - Valentina Vilc, Coordinator of NTP, Head of the Coordination Department of the National Tuberculosis Response Program, the Institute of Pneumology Andrei Corloteanu, phthisiopneumologist, CD NTP, Institute of Pneumology - Sofia Alexandru, phthisiopneumologist, CD NTP, Institute of Pneumology - Tatiana Gulpe, phthisiopneumologist, CD NTP, Institute of Pneumology - Cula Evghenia, phthisiopneumologist, CD NTP, Institute of Pneumology - Plamadeala Oxana, phthisiopneumologist, CD NTP, Institute of Pneumology - Sclifos Olga, phthisiopneumologist, CD NTP, Institute of Pneumology - Axenti Ecaterina, phthisiopneumologist, CD NTP, Institute of Pneumology - Valeriu Crudu, head of LNR, IMSP	***Mission members:*** Sayohat Hasanova Liga Kuksa Andrei Mosneaga Saro Tsaturyan Alexander Voloc
11.00 – 13.00 Parallel sessions/meetings	Visit to the clinical wards of the public medical-sanitary institution the Institute of Pneumology : - Ana Donica, deputy director of the Institute of Pneumology - Olga Crasnova, Head of TB MDR section - Liuba Nepoliuc, Head of Phthisiopneumology section no. 2 - Serghei Ciobanu, Head of Phthisiopneumology section no. 1 - Olga Caraiani, Head of Phthisiopneumology section no. 3	***Mission members:*** Liga Kuksa Sayohat Hasanova
	Meeting with the Coordination Department of the NTP: - Valentina Vilc, Coordinator of NTP - Andrei Corloteanu, phthisiopneumologist, CD NTP - Sofia Alexandru, phthisiopneumologist, CD NTP - Tatiana Gulpe, phthisiopneumologist, CD NTP - Cula Evghenia, phthisiopneumologist, CD NTP - Plamadeala Oxana, phthisiopneumologist, CD NTP - Sclifos Olga, phthisiopneumologist, CD NTP - Axenti Ecaterina, phthisiopneumologist, CD NTP - Mariana Macari, chief accountant	***Mission members:*** Andrei Mosneaga Saro Tsaturyan Alexander Voloc
11.30 – 12.30	Meeting with the USAID team	***Mission members:*** Andrei Mosneaga, Saro Tsaturyan
13.00 – 14.00	Lunch	
14.30 – 16.30 Parallel sessions/meetings	Visit to the clinical wards of the public medical-sanitary institution, the Institute of Pneumology: - Ana Donica, deputy director of the Institute of Pneumology - Olga Crasnova, Head of TB MDR section - Liuba Nepoliuc, Head of Phthisiopneumology section no. 2 - Serghei Ciobanu, Head of Phthisiopneumology section no. 1 - Olga Caraiani, Head of Phthisiopneumology section no. 3	***Mission members:*** Liga Kuksa
	Meeting with the AO AFI team Svetlana Doltu, Director, AO AFI	***Mission members:*** Sayohat Hasanova
	Meeting with the Center for Centralized Public Procurement in Health, MoH: Gheorghe Gorceag, Director, Center for Centralized Public Procurement in Health	***Mission members:*** Andrei Mosneaga, Saro Tsaturyan, Alexander Voloc

Day 2: 26.11.24		
9:00 – 10:00	Ministry of Health, initial meeting with key partners involved in the external evaluation of the NTP: - Angela Paraschiv, Secretary of State, MoH, Republic of Moldova; - Mariana Gîncu, Directorate of Public Health Policies and Public Health Emergencies - Valentina Vilc, Valentina Vilc, Coordinator of NTP, - Doina Rusu, INSTITUTE OF PNEUMOLOGY, Director - Victor Burinschi, Public Institution Unit for Coordination, Implementation and Monitoring of Health Projects, director - Sergiu Gherman, PAS Center, Director - Andrei Corloteanu, Coordination Department of the NTP, the INSTITUTE OF PNEUMOLOGY	***Mission members:*** All team members
10.30 – 11.30	Meeting with the UN team in Moldova - WHO, UNAIDS	***Mission members:*** All team members, except Liga Kuksa
11.45 – 13.30	Joint meeting with Public Institution Unit for Coordination, Implementation and Monitoring of Health Projects teams, PAS Center, CCM Secretariat: - Victor Burinschi, Public Institution Unit for Coordination, Implementation and Monitoring of Health Projects, Director - Sergiu Gherman, PAS Center, Director - Silvia Stratulat, CCM secretariat coordinator	***Mission members:*** *All team members, except Liga Kuksa*
10.30 – 13.30	Visit to the IMSP children's ward of the public medical-sanitary institution Municipal Phthisiopneumology Clinical Hospital: - Vasile Popa, Director IMSP SCMFP - Marina Stanceva, Vice director for curative issues	***Mission members:*** Liga Kuksa
13.30 – 14.30	Lunch	
15.00 – 17.00 Parallel sessions/meetings	MoH, meeting with the financial and political directions in public health: - Mariana Gîncu, Directorate of Public Health Policies and Public Health Emergencies - Mariana Zadnipru, Head of the Department of Budget Policy and Medical Insurance - Anatolie Gudumac, head of the financial and administrative department	***Mission members:*** Andrei Mosneaga Saro Tsaturyan
	Visit to the clinical departments of the public medical-sanitary institution Municipal Phthisiopneumology Clinical Hospital: - Vasile Popa, Director IMSP SCMFP - Marina Stanceva, Vice director for curative issues	***Mission members:*** Liga Kuksa
	Meeting with the PCIMU team: - Victor Burinschi, Public Institution Unit for Coordination, Implementation and Monitoring of Health Projects, Director - Veronica Zorila, NGO Coordinator -	***Mission members:*** Sayohat Hasanova
Day 3: 27.11.24 **Left Bank, Tiraspol/Bender**		
10.00 – 16.00 Parallel sessions/meetings	Visit to TB specialized medical institutions, Left Bank, Tiraspol/Bender TB Dispensary: - Osadcii Serghei, Director of the TB Hospital in Tighina, PTRT Coordinator - Pankrushev Sergei, head of the TB Dispensary, Tighina - Vercenco Nina, deputy director of the TB Hospital in Tighina - Maxim Tatiana, head of the Regional Reference Laboratory - Alexandr Gribanov, deputy director of the TB Hospital in Tighina - Tatiana Stoiceva, head of the TB Dispensary, Tiraspol Clinical Hospital	***Mission members:*** Askar Yedilbayev Liga Kuksa Alexander Voloc Sayohat Hasanova

	The meeting with the NGO, left bank: - Svetlana Lebedeva, Blagoye Delo - Natalia Antoniuc, Kovceg Dobry Del - Marina Mihailova, Medical-Social Programs	***Mission members:*** Sayohat Hasanova
10.00 – 11.00	Ministry of Finance, meeting with the direction of sectoral budgetary policies/health, Head of Sectoral Budget Policy Directorate	***Mission members:*** Andrei Mosneaga Saro Tsaturyan
11.30 – 14.00	The National Medical Insurance Company, PNRT funding: - Ion Dodon, director - Doina Maria Rotaru, deputy director	***Mission members:*** Andrei Mosneaga Saro Tsaturyan
Day 4: 28.11.24		
09.00 – 11.30	The public medical-sanitary institution, Cimișlia District Clinical Hospital: - Vitaly Gorodnitchi, Director - Aurelia Iacubitchi, Vice director	***Mission members:*** Askar Yedilbayev, Liga Kuksa Alexander Voloc, Andrei Mosneaga, Saro Tsaturyan
10.00 – 12.30 Parallel sessions/meetings	Meeting with the National TB CSOs Platform: - Oxana Rucșineanu, SMIT - Sergiu Gherman, PAS Center - Svetlana Doltu, AFI - Vera Ciuchitu, Association of Psychologists from Tighina - Valentina Onica, Social Assistance Center "Casa Speranței" - Radu Craciun, Help Me - Feodora Rodiucova, Speranta Terrai - Ala Iatco, Union for Equity and Health - Svetlana Lebedeva, Blagoye Delo - Natalia Antoniuc, Kovceg Dobry Del - Marina Mihailova, Medical-Social Programs	***Mission members:*** Sayohat Hasanova
13.00 – 14.00	Lunch	
15.00 – 16.30	Joint meeting with representatives of the National Penitentiary Administration of the Penitentiary Hospital within the Ministry of Justice (MJ): - Irina Barbîros, head of the ANP Medical Directorate; - Nelea Caras, deputy head of ANP; - Natalia Gospodarenco, deputy director for curative activity, P16-Pruncul	***Mission members:*** All team members
Day 5: 29.11.24		
09:00 – 10:30	Meeting with the TB/HIV management team: - Iurie Climaševschi, NP HIV/AIDS coordinator; - Elena Golovco, infectious disease doctor, ARV Treatment section,	***Mission members:*** *All members*
11:30 – 13:00	Totalization meeting with the Coordination Department of the NTP: Valentina Vilc, NTRP coordinator;	***Mission members:*** All team members
13:00 – 14:00	Lunch	
14:00 – 15:00	MoH: Mission summary meeting, conclusions and recommendations: - Angela Paraschiv, Secretary of State, MS; - Alexandru Voloc, health program coordinator, WHO Moldova - Valentina Vilc, NTP coordinator; - Doina Rusu, director of INSTITUTE OF PNEUMOLOGY "Chiril Draganiuc"	***Mission members:*** All team members

Annex II

Table 1. Main health financing Indicators in the Republic of Moldova (2000-2021, selected years)

Indicator	*2000*	*2005*	*2010*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*	*2022*
Current health expenditure as % of GDP	5.9	9.6	10.1	9.14	8.68	8.63	8.56	7.54	7.13	6.71	6.50	7.00	7.75	6.97
Current health expenditure, MDL per capita				2,708.3	2,915.9	3,239.0	3,508.4	3,410.7	4,512.7	4,645.3	4,996.2	5,311.7	7,251.2	7,523.9
Current health expenditure, USD per capita				223.6	231.7	230.8	186.4	171.2	243.9	276.5	284.3	306.6	410.1	398.1
Domestic general government health expenditure, MDL million				4,678.5	4,847.1	5,686.2	5,680.1	5,912.8	6,349.8	7,168.4	7,996.1	9,068.6	12,240.6	12,393.5
Domestic general government health expenditure as % of current health expenditure	49.0	52.7	45.9	48.5	46.7	49.3	45.5	48.8	50.6	56.5	59.7	64.8	65.3	64.8
Out-of-pocket payments as % of current health expenditure	47.2	42.8	40.4	42.2	42.6	38.3	46.2	46.3	43.6	40.0	35.7	30.9	29.4	31.7
Domestic general government health expenditure, MDL per capita				1,314.3	1,361.7	1,598.3	1,597.7	1,664.2	2,284.1	2,625.8	2,981.4	3,442.9	4,731.6	4,877.4
Domestic general government health expenditure, USD per capita				108.5	108.2	113.9	84.9	83.5	123.5	156.3	169.7	198.8	267.6	258.1
Domestic general government health expenditure as % of general government expenditure	8.5	13.6	13.6	13.2	12.5	12.8	12.2	12.2	11.6	12.0	12.1	12.4	14.6	12.3
Domestic general government health expenditure as % of GDP	2.9	5.0	4.6	4.44	4.05	4.26	3.90	3.68	3.61	3.79	3.88	4.54	5.06	4.52

Source: WHO Global Health Expenditure Database, https://apps.who.int/nha/database (accessed 30 December 2024)

Table 2. Health budget allocations 2023-2027 according to the 2025-2027 Medium-Term Expenditure Framework (in MDL thousands)

Sub-program	2023 Executed	2024 Approved	2025 Estimated	2026 Estimated	2027 Estimated
8001 Health care policies and management	28,848.3	50,352.0	39,024.1	39,024.1	39,024.1
8002 Administration of compulsory health insurance funds	110,647.3	131,436.6	132,941.0	134,180.0	135,483.0
8004 Public health	276,672.0	313,785.8	319,784.3	320,234.0	320,706.2
8005 Primary health care	2,888,540.2	3,131,285.5	3,285,228.5	3,517,220.8	3,748,040.9
8006 Specialized outpatient medical care	1,208,282.0	1,408.967.0	1,484,190.4	1,572,559.2	1,677,954.1
8008 Community and home health care	104,773.5	130,364.3	136,100.0	145,660.2	155,407.6
8009 Pre-hospital emergency medical care	1,162,105.4	1,312,486.7	1,394,266.4	1,477,204.6	1,577,061.9
8010 Hospital medical care	7,268,582.9	7,926,016.8	8,902,222.3	9,613,231.1	10,372,230.0
8011 High tech medical services	244,565.0	365,897.0	469,518.8	497,265.2	528,380.5
8013 Rehabilitation and recovery medical care	215,378.1	151,432.9	158,266.3	160,915.8	163,721.9
8014 Forensic Medicine	72,717.2	88,638.7	102,202.4	102,392.8	102,592.2
8015 Palliative medical services	70,566.7	94,831.9	99,582.3	106,577.3	113,709.4
8016 Rational management of medicines and medical devices	37,907.4	45,650.2	57,975.9	57,975.9	57,975.9
8017 Management of the compulsory health insurance reserve fund	0	10,000.0	10,000.0	10,000.0	10,000.0
8018 National and special programs in the field of health protection	543,338.7	632,032.1	622,080.0	647,368.0	487,687.3
8019 Development and modernization of health care institutions	750,824.9	699,667.5	578,829.9	775,209.1	863,617.9
8022 Services for reimbursement of drugs and medical devices	914,907.0	1,080,435.0	1,059,425.2	1,147,218.4	1,235,646.5
Total	**15,898,656.6**	**17,573,280.0**	**18,851,637.8**	**20,324,236.5**	**21,589,239.4**

Source: Government Decision N561 of 07.08.2024 "On approval of the medium-term budgetary framework 2025-2027" of the Republic of Moldova, appendix 19.

Annex 3: Epidemiological review of the tuberculosis situation in the Republic of Moldova, WHO Regional Office for Europe, 2024

The Report is attached as a separate Annex.