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Ministère de la Santé et de la Protection Sociale

NATIONAL STRATEGIC PLAN FOR TUBERCULOSIS PREVENTION AND CONTROL IN MOROCCO

2024-2030

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Royaume du Maroc
Programme d'Appui
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INITIATIVE 5%
SIDA, TUBERCULOSE, PALUDISME

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PREFACE

ACKNOWLEDGMENTS LIST OF ABBREVIATIONS

PAL	The Practical Approach to Lung Health
DTCRD	Diagnostic and Treatment Center for Respiratory Diseases
UHC	University Hospital Centers
PPHC	Provincial/Prefectural Hospital Centers
NCHR	National Council for Human Rights
IHC	Integrated Health Center
DEDC	Directorate of Epidemiology and Disease Control
GDPAR	General Delegation for Prison Administration and Rehabilitation
DMH	Prefectural or Provincial Health Directorate of the Ministry of Health
RHD	Regional Health Directorate
DOTS	Directly Observed Treatment Short-Course
PHC	Primary Health Care facilities
RAF	Royal Armed Forces
GF	Global Fund
HCP	High Commission for Planning
NIH	National Institute of Hygiene
LTBI	Latent Tuberculosis Infection
TBC	TB Control
NRL	National Reference Laboratory
OCP	Office Chérifien des Phosphates
SDG	Sustainable Development Goals 2030
WHO	World Health Organization
NGO	Non-Governmental Organization
EPS	Essential Package of Services
NTCP	National Tuberculosis Control Program
NSP	National Strategic Plan
PLHIV	People Living with HIV
RAMED	Medical Assistance Scheme for the economically disadvantaged people
NPHCF	Network of Primary Health Care Facilities
RDS	Respiratory Diseases Service
AIDS	Acquired Immunodeficiency Syndrome
RDS	Respiratory Diseases Service
NHFS	Network of Health Facilities Service
PHS	Public Health Services (regional)
TB	Tuberculosis
DR-TB	Drug-Resistant Tuberculosis
MDR-TB	Multidrug-Resistant Tuberculosis
MDR/RR-TB	Multidrug-Resistant / Rifampicin Resistant Tuberculosis
RR-TB	Rifampicin Resistant Tuberculosis

XDR-TB	Extensively Drug-Resistant Tuberculosis
ST	Sensitivity Test
EPTB	Extra-pulmonary TB
BC-PTB	Bacteriologically Confirmed Pulmonary Tuberculosis
IPT	Isoniazid Preventive Therapy
TPT	TB Preventive Treatment
HIV	Human Immunodeficiency Virus

I. INTRODUCTION

Tuberculosis-related disease and mortality remains high in Morocco and it therefore constitutes a serious public health concern arousing particular interest to health authorities, which has resulted in a steady increase in the budget for the national response and the country's commitments to the Sustainable Development Goals (SDGs) and TB elimination strategies.

The National Tuberculosis Control Program (NTCP) is the institutional framework set up by the Ministry of Health and Social Protection to plan, pilot and coordinate activities against tuberculosis through a specific organization centered on the Diagnostic and Treatment Centers Respiratory Diseases (DTCRDs) with a tangible integration in Primary Health Care (PHC) facilities and technical and programmatic management at all levels of the health system. The strategies implemented by the NTCP have evolved steadily in line with the evolution of global TB control strategies and are designed, implemented and evaluated in a participatory, holistic and patient-centered manner that respects human rights and gender.

The response efforts of the Ministry of Health and Social Welfare, supported by its institutional partners and civil society, have broadened the scope of the NTCP over the years, with priority given to at-risk and vulnerable groups, to prevention activities and to the management of drug-resistant TB and TB/HIV co-infection. There has also been an improvement in the technical platform and steady investment in innovations, particularly in diagnostics and treatment. This has led to a steady decline in the incidence of the disease, especially among children and younger age groups, indicating a steady decline in disease transmission. Good performances were achieved in terms of screening, diagnosis and treatment with a treatment coverage rate (detection of cases) constantly increasing and a treatment success rate maintained around 90%.

In this drive to improve performance, innovative initiatives are needed to overcome the challenges and constraints hampering the optimal implementation of the program, in terms of prevention, detection, treatment, surveillance, human resources management, supply of medicines and health products, maintenance of medical equipment, action on social determinants of health and program governance in the light of the reforms undertaken by the public authorities in terms of universal health coverage and the overhaul of the health system. The challenge is to mobilize the necessary resources and tools and undertake appropriate public health actions with the aim of reducing the TB incidence rate by 35% and the mortality rate by 60% by 2030 compared to 2015.

The intervention logic of the National Strategic Plan (NSP) for Tuberculosis Control, in the light of the results of the program review and the analysis of epidemiological data, is based on a set of measures aimed primarily at strengthening systems for detecting tuberculosis, improving treatment

and the therapeutic management of patients with tuberculosis disease and those with latent tuberculosis infection, the improvement of management capacities of the program at all levels of the health system and the strengthening and organization of multisectoral action within an accountability framework under which all relevant sectors in tuberculosis control commit themselves to play their full role in the national response and to report on the actions and results they have committed to accomplish.

II. CONTEXT

A. General country context

1. Geographical and demographic characteristics

Located on the northwestern tip of the African continent, Morocco has an area of 710,850km². It is bounded in the North by the Strait of Gibraltar and the Mediterranean Sea, in the South by Mauritania, in the East by Algeria and in the West by the Atlantic Ocean. The Moroccan coast stretches over 3,500km. According to CERED projections, the Kingdom's population in 2021 was 36.3 million, with a feminization rate of 50.2% and an urbanization rate of 63.9%. This large increase in urbanization is a combined result of the rural exodus, the development of the urban perimeter and the reclassification of certain rural localities. This represents a major challenge for the health system to ensure access to health services and care while maintaining a balance between rural and urban environments. The structure of the population by age is distinguished by a fall of more than half of the share of the population of children (under 15 years) since 1960 to 25.6% in 2021, due to falling fertility and longer life expectancy. The elderly population (aged 60 and over) and the population of working age (aged 15-59) increased by 11.7% and 62.7% respectively.

Morocco, due to its geographical location between Africa and Europe, is subject to a new migration dynamic, shifting its status from a country of departure to a country of transit and reception of migrants and refugees. It is currently facing a complex situation and is faced with the challenge of implementing a holistic and integrated migration policy, be it economic migration, movements of refugees and asylum seekers or irregular migration. The management of all these migratory flows is a real challenge in terms of public policies, including those relating to health.

2. Political and socio-economic context

Morocco's constitution enshrines far-reaching institutional reforms and paves the way for the participation of citizens, including women and youth, and civil society organizations (CSOs) in the democratic management of public life in the economic, social and political spheres. It enshrines the right to health as a constitutional right, as stipulated in article 31, according to which "the state, public institutions and local and regional authorities shall work to mobilize all available means to facilitate equal access for citizens to the conditions enabling them to enjoy the right to health care, social protection, medical coverage and mutual or state-organized solidarity". On the economic front, Morocco's GDP stood at USD 131 billion in 2021, recording growth of 7.2%, according to the IMF. This is due to the recovery of economic activities after the recession caused by the health crisis. This growth will decelerate in 2022, mainly due to the war in Ukraine. While the IMF forecasts growth of 1.1% in 2022, the Central Bank of Morocco remains less optimistic, forecasting growth of only 0.7%. The Government's growth forecasts remain the most optimistic (1.7%). The subsidy policy adopted by the State mitigates the effects of

inflation, which remains relatively contained, compared to other countries in the region. The unemployment rate reached 11.9% in 2020 compared to 12.3% in 2021, according to the International Monetary Fund (IMF). Statistics provided by the High Commission for Planning confirm a rise in the unemployment rate from 11.9% in 2020 to 12.3% in 2021. In this context, the Moroccan government intends to expand entrepreneurship support programs to build the capacity of young people and equip them with tools and skills to facilitate job creation.

B. Health context

1. The main causes of morbidity and mortality

In recent years, the health status of the Moroccan population has undergone significant changes. This includes improving living conditions, expanding care provision and improving access to health care and services.

Mortality indicators have developed very positively. According to data from the Ministry of Health and Social Welfare, the mortality rate of children under 5 years of age fell significantly during the period 2004-2018, from 47 to 22 deaths per 1,000 live births. The maternal mortality ratio has also seen a significant reduction from 227 to 72.6 deaths per 100,000 live births between 2004 and 2018. Life expectancy is 6 years higher in urban areas than in rural areas, and infant and maternal mortality rates are 2 times higher in rural areas and 30% higher in urban areas, respectively.

In parallel with the demographic transition, the country's epidemiological structure is also undergoing profound changes that are translating into an increased burden of disease and mortality related to non-communicable diseases(NCDs). In fact, three categories of disease characterize the epidemiological profile in Morocco: non-communicable diseases account for 75%; communicable, maternal and perinatal diseases account for 19%; and intentional and unintentional injuries account for 6%. The evolution of morbidity associated with communicable diseases is characterized by: i) an elimination or an elimination trend of certain infectious diseases such as trachoma, schistosomiasis, leprosy, diphtheria, poliomyelitis, neonatal tetanus, pertussis and malaria; ii) the persistence of diseases such as tuberculosis, acute respiratory infections, cerebrospinal meningitis, viral hepatitis (B and C) and Sexually Transmitted Infections (STI)/AIDS.

2. Organization of care in Morocco

Morocco’s health system is largely organized in two sectors: the public sector, largely represented by the Ministry of Health and Social Protection (MHSP) and the Royal Armed Forces (RAF) health services, and the private for-profit and not-for-profit health sectors. Responsibility for the implementation of the government’s health policy rests with the MHSP. The geographical boundaries of the 12 health regions as well as the provinces and health prefectures correspond to those of the administrative division.

Under the framework law No. 06-22 on the national health system, the two public and private sectors “are organized in a synergistic manner in order to respond effectively to health needs through the provision of complementary, integrated and coherent care and services”. Since 12 December 2022, the national health system has been governed by Framework Law No. 06-22, which repeals Framework Law No. 34-09 on the health system and the provision of care. This new law defines the State’s commitments in the field of health, the rules and standards for the management of health facilities,

the organization of care provision at territorial level and the governance bodies. These, as stipulated in the law, aim to strengthen the State's action on health through the creation of a high health authority responsible for providing technical supervision of Compulsory Health Insurance (CHI) and for assessing the quality of services in health facilities, and the establishment of Territorial Health Groupings (THG) whose main mission is to implement the State's health policy.

Since independence, important progress has been made in expanding the provision of care. These advances include the expansion of the hospital network, primary health care facilities, clinics and private practices.

In 2019, Morocco had 159 hospitals with a bed capacity of 25,385 and 2,888 urban and rural primary health-care facilities. Also, private health-care provision is expanding at an accelerating pace. There are a total of 359 clinics, 9,671 medical consulting rooms, 3,614 dental surgeries and 8,997 pharmacies. As for medical personnel, Morocco has in 2019, in public health facilities, 12,034 doctors of all specialties, including 160 pharmacists and 458 dental surgeons practicing outside the UHC and a staff of 31,657 nurses and health technicians, compared to a staff of 13,545 doctors practicing in the private sector, including 8,355 specialists.

Despite these efforts, geographic accessibility remains a major challenge, with 20% of the population living more than 10 kilometers from a primary health care facility and indicators of service availability and utilization strongly favoring urban areas.

In terms of financing for health, the latest report on the National Health Accounts estimates total health expenditures (THE) for 2018 at around MAD 60.9 billion, compared with 52 billion in 2013 with a growth rate of 17.1%, an average annual development of 3.2% between 2013 and 2018 compared with 2.9% between 2010 and 2013. This increased rate indicates a positive trend towards improving health financing through the contribution of all health donors in Morocco. In addition, total per capita health expenditure in 2018 was MAD 1,730, an increase of 9.6% compared to 2013. The share of Gross Domestic Product (GDP) devoted to health fell from 5.8% in 2013 to only 5.5% in 2018. This share remains very low by international standards.

3. Towards Universal Health Coverage

Under the High Guidelines of H.M. King Med 6, may God assist him, the high authorities of the State are working to ensure that the Royal project of the generalization of social security coverage for the benefit of all Moroccans progressively moves towards the generalization of compulsory medical coverage, in accordance with the provisions of the framework law 09.21 on social protection, which in its article 5 provides for the extension of Compulsory Health Insurance (CHI) to cover beneficiaries of RAMED.

This project provides that persons covered by the RAMED benefit automatically from the CHI dedicated to persons unable to pay the membership fees, while preserving all the benefits offered by the RAMED. The text stipulates that the State will bear the costs of subscription of these persons. The draft law also sets out the guaranteed services on the basis of the principle of non-discrimination in access to social protection services, by allowing those unable to pay the subscription costs to benefit from the same package of care as civil servants and agents of the State and public institutions, as well as employees in the private sector. Similarly, the text provides for the adoption of the Unified Social Register as regards the registration bases, in order to better target the categories eligible to benefit from the services of the CHI scheme

dedicated to people unable to pay the subscription costs, and entrust the National Social Security Fund (CNSS) with the management of this scheme.

4. Health system reform

Framework Law No. 06-22 on the National Health System aims to reform the health sector with a multi-dimensional approach. The reform is based on four pillars:

- the adoption of good governance aimed at strengthening the mechanisms for regulating the action of the actors, the consolidation of hospital governance and the territorial planning of the health provision;
- human resources development, in particular through the drafting of the new law on the public health service;
- upgrading the health provision;
- and the dematerialization of the health system, by setting up an integrated computerized system for collecting, processing and using key information related to the health system.

The aim is to facilitate citizens' access to health services and to improve their quality, and to ensure an equal and equitable distribution of health care provision throughout the national territory. This reform also aims at "a territorial implementation of the public health service and improvement of its governance through the establishment of territorial health groupings, and the guarantee of medical sovereignty and the availability of medicines and health products as well as their safety and quality".

III. EPIDEMIOLOGY OF TUBERCULOSIS

Morocco is one of the countries with a medium incidence of tuberculosis. The WHO estimated incidence in 2021 is 35,000 cases, corresponding to an incidence rate of 94 per 100,000 population. For HIV-associated TB, these figures are 410 cases and a rate of 1.1 per 100,000 population, respectively.

The incidence rate per 100,000 population has decreased from 115 in 2000 to 94 in 2021.

Though steadily declining, TB incidence is not falling fast enough (the average annual rate of decline is only 1% between 2015 and 2021) so that the country can achieve the targets set for 2030 under the End TB Strategy and the Sustainable Development Goals.

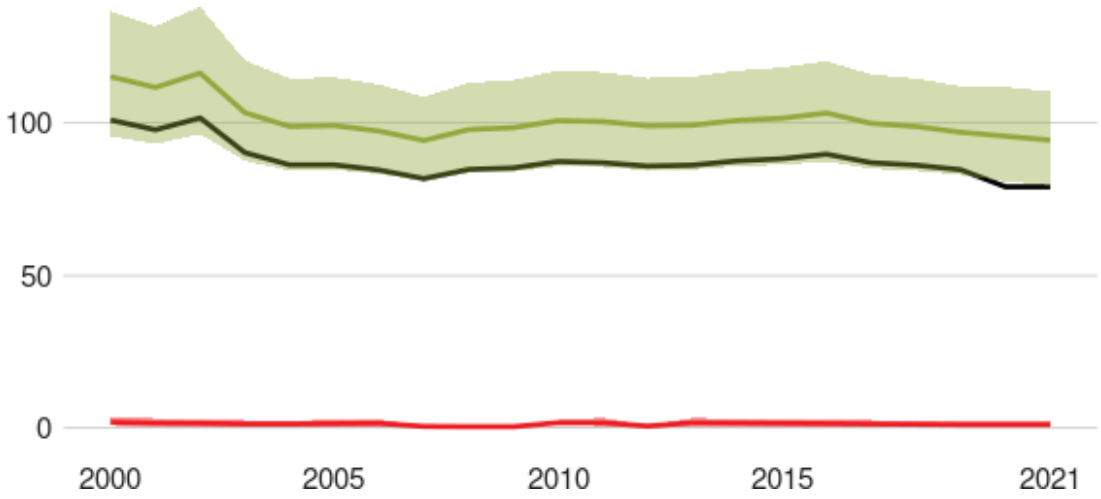

Figure 1 WHO estimates of TB incidence rate and notification rate of new and relapse cases, Morocco 2000-2021

As with most countries in the Eastern Mediterranean sub-region, more men than women were screened in 2021. The age group most affected is 25 to 34 years of age. The missing cases (white part of the graph below) are found much more in younger populations. Screening efforts will need to focus on youth and children.

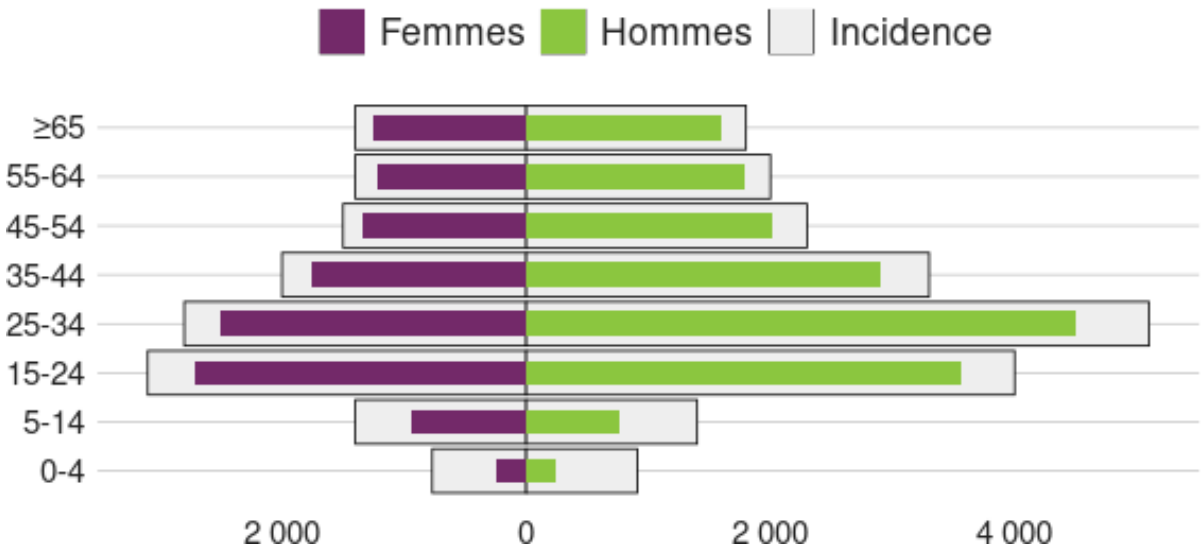

Figure 2 WHO TB incidence estimates by age group and sex and number of notified cases in 2021, Morocco

In the same year, mortality among TB patients not co-infected with HIV was estimated at 3,300 cases, a mortality rate of 8.8 per 100,000 population, while for HIV co-infected patients the number of deaths was 84, a rate of 0.23 per 100,000 population.

Thus, the lethality rate is 10% for total tuberculosis cases and 20% for TB patients co-infected with HIV.

The death rate per 100,000 population has fallen from 9.3 in 2000 to 7.9 in 2019. In 2020, the rate rose to 10 deaths per 100,000 population (coinciding with the COVID-19 outbreak), then fell again in 2021, to 8.8 deaths per 100,000 population.

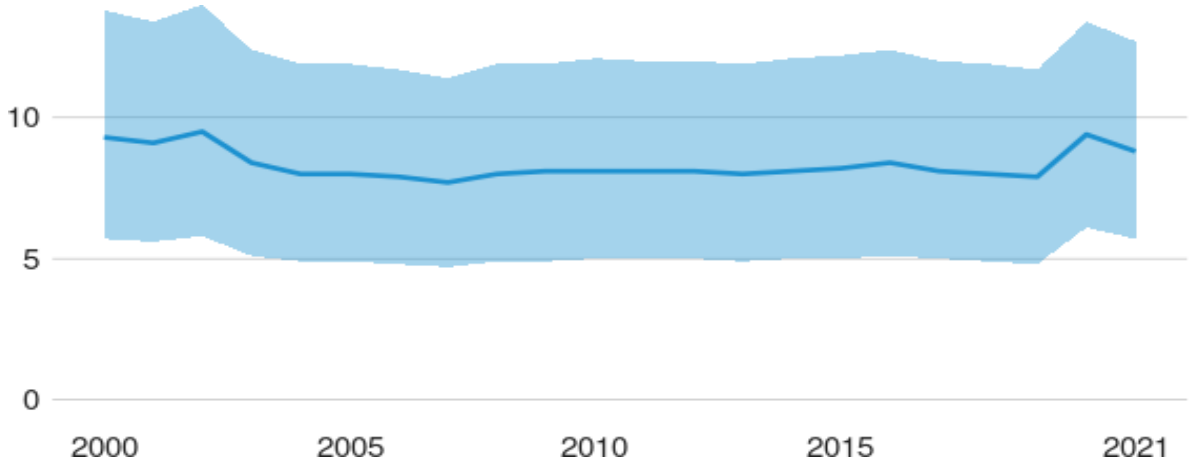

Figure 3 WHO TB mortality rate estimates (excluding HIV+TB) with confidence intervals in Morocco, 2000-2021

As a result, incidence and mortality remain high enough in Morocco and the annual rate of decline is not high enough to achieve the goal of ending the disease by 2030. It is likely that the COVID-19 pandemic has exacerbated this phenomenon with increased incidence and mortality and significant weakening of performance in terms of case detection.

The number of TB cases notified in 2021 is 29,327, a notification rate of 80 cases per 100,000 population with a male predominance of 59% compared to 41% in the female population.

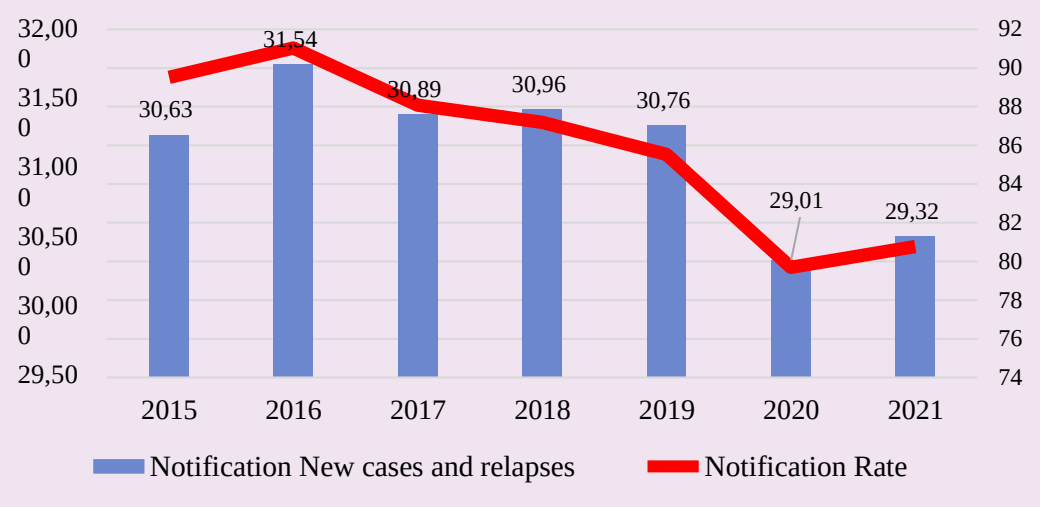

Figure 4 Evolution of the notification of new and relapse cases in Morocco 2015-2021

The distribution of TB cases by location shows a high proportion of extrapulmonary TB (49% vs 51% pulmonary forms).

The regional case notification rate for 2021 is shown in Figure 5.

Région:	Taux de Notification pour 100000
Tanger-Tetouan-Al Hoceima	111
Rabat-Salé-Kénitra	106
Grand Casablanca-Settat	98
Eddakhla-Oued Eddahab	86
Fès-Meknès	81
Guelmim-Oued Noun	80
Souss-Massa	58
Laayoune-Sakia El Hamra	57
Oriental	52
Béni Mellal-Khénifra	51
Marrakech-Safi	50
Drâa-Tafilalet	27

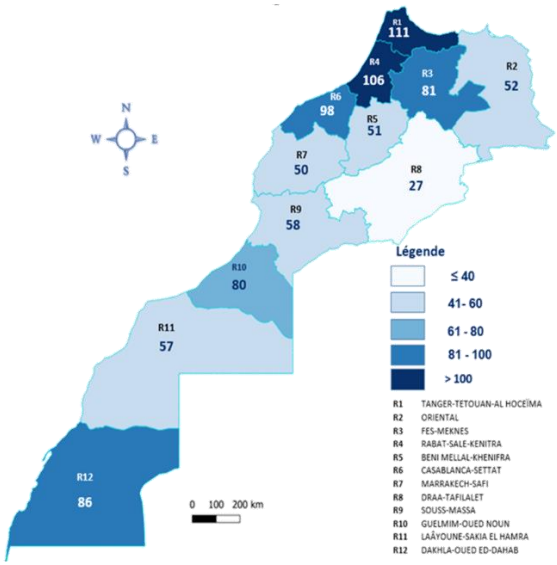

Figure 5 Case notification rates by region in 2021 in Morocco

IV. ORGANIZATION OF TUBERCULOSIS CONTROL

The national TB control program is the institutional framework within which the TB response in the country is organized and led. Since its inception, it has consistently adhered to WHO guidelines and guidance, including the **DOTS Strategy initiated in 1991,** the **Stop TB Strategy** adopted in 2006, and the **End TB Strategy,** which builds on a

a multisectoral approach targeting in particular large urban agglomerations through the "**National Plan to Accelerate TB Reduction 2013-2016**".

The 2017-2021 period was covered by the National Strategic Plan for Tuberculosis Prevention, Care and Control which was extended to 2023. The main goal of the expansion plan is to reduce the number of TB deaths by 60% compared to 2015 through a package of interventions aimed at strengthening disease prevention and detection, improving treatment success rates and consolidating governance and the multisectoral approach involving relevant ministerial departments, local and regional authorities, the private sector and civil society organizations.

The NTCP is managed by **a central coordination unit** coordinated by the Head of the Respiratory Diseases Service (RDS) and under the responsibility of the Directorate of Epidemiology and Disease Control (DEDC). The NTCP Central Unit is supported by the National TB Technical Committee and the National TB/HIV Collaborative Activities Committee, which are advisory bodies gathering a comprehensive panel of national experts.

The regional coordination unit of the NTCP is located at the level of the capital of each region. Under the authority of the Regional Director of Health and Social Protection and the technical supervision of the NTCP Central Unit, it is responsible for strengthening, coordinating and supporting TB control activities carried out by the different provinces and prefectures of the region. The unit is also responsible for the epidemiological and programmatic follow-up of TB in the region. The Regional Coordinating Unit of the NTCP is composed of the Head of the Public Health Unit, a Regional TB Focal Point, the Head of the Regional Supply and Pharmacy Unit and a representative of the Regional TB Laboratory Network.

Each province and prefecture must have a **provincial or prefectural unit for coordinating the NTCP**, under the responsibility of the delegate of the Ministry of Health and consisting of the head of the Network of Health Facilities Service (NHFS), the chief medical officer of the DTCRD, the facilitator of TB control, the provincial or prefectural pharmacist and a representative of the provincial or prefectural network of TB laboratories.

This unit ensures the coordination of the NTCP and the supervision, monitoring and evaluation of the implementation of national guidelines at the provincial or prefectural level.

The **Diagnostic and Treatment Centers for Respiratory Diseases (DTCRDs)** are the specialized structures supporting primary healthcare facilities. The **DTCRDs** are located in the capitals of the provinces and prefectures and constitute the linchpin for the implementation of the NTCP and for the coordination between the various stakeholders, both at the ambulatory and hospital level, of prevention activities, care and control of tuberculosis and other acute and chronic respiratory diseases as part of the practical approach to respiratory health.

DTCRDs are most often under the responsibility of a physician specialized in pneumophthisology assisted by a head nurse and a team of nurses and health technicians and supported by a TB control facilitator who is usually part of the Health Facilities Networks Service. The DTCRD management and the facilitator ensure the coordination of the NTCP at the provincial or prefecture level.

Theoretically, each province and prefecture should have its own DTCRD. However, at present there are only 63, spread across the entire national territory, some covering more than one province or prefecture. The DTCRD have an X-ray machine and a microbiology laboratory that carries out diagnostic tests ranging from bacilloscopy to Xpert-MTB/RIF tests at the provincial and prefectural level, and solid culture, or even phenotypic sensitivity tests for the cases of Marrakech and Fez, at the regional level.

Several provinces or prefectures also have Level 1 or 2 Health Centers with Bacilloscopy Laboratories, commonly referred to as **Integrated Health Centers (IHCs).** Each of these centers, 45 in total, is a unit for diagnosing and registering cases of tuberculosis and prescribing anti-tuberculosis treatment to diagnosed patients.

The primary healthcare network is responsible for identifying and managing suspected tuberculosis patients, diagnosing tuberculosis, treating and monitoring tuberculosis patients, systematically screening contacts, prophylactic treatment and evaluating the activities of the NTCP at the local level.

The National Laboratory Network of the National Tuberculosis Control Program of Morocco comprises:

- 126 **microscopy** laboratories with 16 laboratories in the prison system;
- 18 **culture** laboratories including 5 with LPA for molecular detection of resistance to 1st and 2nd line anti-tuberculosis drugs;
- 2 laboratories performing **sensitivity tests (ST) on solid phenotypic media:** Pasteur Institute of Morocco and the National Reference Laboratory (NRL) at the National Institute of Hygiene (**liquid ST** are performed by NRL at INH);
- **The NRL,** which since 2020 has benefited from a laboratory with biological safety standards adapted to handling operations at high risk of TB infection, following WHO recommendations and which, as a national reference laboratory, coordinates and supports the activities of the network of TB laboratories at the technical level (expertise, training) as well as at the organizational level (management, supervision and external quality assessment);

The country is widely equipped with GeneXpert machines, initially used for detection of MDR-TB and generalized to the initial diagnosis of TB since the 2020 Ministerial Circular, with:

- 64 GeneXpert sites present in all regions, including 50 DTCRD, 7 health centers, 2 hospitals, 3 prisons, the Pasteur Institute of Morocco and the NRL
- 87 GeneXpert RIF machines (including 8 GeneXpert 16).
- 12 newly acquired GeneXpert XDR (including 2 GeneXpert 16) for rapid detection of resistance to anti-TB drugs in the MDR-TB regimen. It is also planned to acquire 23 GeneXpert machines in 2023 for new sites.

V. Analysis of the National Strategy 2021-2023

A. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

Strengths

- Tuberculosis control is a priority in the health programs of the Ministry of Health and Social Protection. Almost all funding (95%) for TB control comes from internal sources.
- The NTCP has a core team with expertise in all areas of strategic interventions related to TB control and respiratory diseases. There are also specialists in pneumophysiology, general practitioners, TB control focal points, nurses and health technicians at the UHC, regional and provincial levels and prefectures who are familiar with the technical and programmatic aspects of tuberculosis.

- The provision of TB control care covers the whole country and is well structured with an integration of care in primary healthcare facilities and a clear scheme from health centers to hospital facilities along the cascade of care.
- There is generally good application of national guidelines on diagnosis, treatment, patient support and use of data collection materials. The teams benefited from training from the NTCP central team.
- The TB control strategies and interventions adopted by the NTCP are generally in line with international recommendations and the necessary tools and equipment to implement these strategies are available.
- The country has a network of laboratories with all molecular and conventional TB diagnostic techniques, an improved information system and well-trained staff.
- There is good collaboration with private sector pneumologists, who refer suspected TB patients or those with proven TB to the NTCP. A public-private partnership has existed since 2010 under which patients are monitored by their private doctor through the provision of medicines by the national program structures. Partnership agreements at national and regional level are signed with professional associations of private doctors (pneumologists, general practitioners, pediatricians, etc.).
- TB prevention, care and control services for the prison population are well structured with good collaboration with the NTCP. Systematic TB screening, diagnosis and management are carried out in accordance with the NTCP guidelines.
- There is good cooperation between the NTCP and other health sectors outside the MHSP network, namely the Royal Armed Forces (RAF) health services and the General Delegation for Prison Administration and Rehabilitation (GDPAR).
- There are two referral centers for drug-resistant TB (DR-TB), located at the Rabat and Casablanca UHCs. Both centers are treating severe and complicated cases of DR-TB requiring hospitalization, while the remainder are primarily treated in outpatient settings at the level of DTCRD.
- For several years there has been a National Coordinating Committee for TB control and a National Coordinating Committee for Collaborative Activities on Tuberculosis/HIV. Semi-annual meetings of their members are held. A ministerial circular to specify the mission, the members and the functioning of this committee is currently being prepared.
- There is a strategy for the programmatic management of TB Preventive Treatment (TPT) with the inclusion of guidelines in the guide for the management of TB in children, adolescents and adults; development of algorithms and standard operating procedures; and definition of target groups in accordance with WHO guidelines.
- Pharmacovigilance is generally well developed; a reporting card and an interactive exchange network are used for reporting adverse reactions to the National Pharmacovigilance Center. In addition, a circular has been drawn up making it compulsory to report all cases of adverse reactions likely to be linked to the use of anti-tuberculosis drugs and it has been distributed to all the structures providing treatment and care to tuberculosis patients.

- The information system has the capacity to generate reliable information. It has been revised in line with WHO guidelines. All TB treatment and care sites use the standardized reporting tools of the NTCP.
- Several NGOs carry out activities related to the control or prevention of tuberculosis. There is good cooperation between MHSP and NGOs.
- The NTCP is committed to providing care and treatment to patients in accordance with the guidelines of the National Framework Document on Human Rights in relation to Tuberculosis established in collaboration with the National Council for Human Rights (NCHR).

Areas for improvement

- The treatment coverage rate (TB case detection rate) is below the WHO global and national targets.
- The use of rapid diagnostic tests for TB diagnosis is not yet optimal with only 36% in 2021 compared to 72% in 2020. This is due to a temporary stock-out in Xpert MTB/RIF cartridges and the lack of maintenance of molecular diagnostic devices (GeneXpert) recently upgraded as part of the program for the initial diagnisis of TB.
- Routine TB screening of high-risk people is not yet widespread and in a systematic manner, particularly among contacts, diabetics, and the miners exposed to silica dust.
- The treatment success rate of MDR/RR-TB cases is below the global average and that of the EMRO region.
- The national rate of lost to follow-up is 8% for the 2020 cohort of new and relapse cases. This value is greater than the expected value, which must be less than 5%.
- In contrast to the treatment success rate of new and relapse cases which is 88%, the treatment success rate of retreatment cases excluding relapse cases was only 67% for the 2020 cohort with a very high rate of lost to follow-up (28%).
- The number of bacteriologically confirmed drug-resistant TB cases detected (262) is below the WHO estimate (720) and the TB NSP target 2021-2023 (423).
- HIV testing of TB patients is not yet optimal (40% of cases in 2021 for an NSP target of 70%). This screening is done late in some DTCRD due to staff shortages and in some centers, it is not done at a satisfactory rate due to lack of reagents.
- LTBI management activities are not well established or absent in some provinces and prefectures.
- The supply cycle for medicines and laboratory products is constrained mainly by the lack of budget security for their acquisition, by the absence of an integrated pharmaceutical information system at central and local level (Supply Division and NTCP) that would allow real-time monitoring of supplies and stocks by the central level.
- Storage conditions of the drugs are not satisfactory (lack of temperature control and monitoring, lack of standard operating procedures, consequences of lack of space) at the level of the warehouses.
- There is no specific budget line for the procurement of medicines and health products for the NTCP.

- Drugs to manage adverse effects, other than vitamin B6, are often unavailable, which may be a risk in increasing the number of lost to follow-up.
- The Ministerial Circular relating to the exemption of radiology and laboratory tests costs at the level of hospital centers for tuberculosis patients is not always applied.
- The framework for cross-sectoral accountability and regional and national monitoring seems insufficient, with little capitalization of the work done.
- There are no clear plans to operationalize and expand NGO activities.
- There is no clear and quantified visibility of the cost/benefit balance of NGO interventions; this quantification would be useful and necessary to support convincing advocacy with decision makers.

Opportunities

- Within the framework of the reform of the health sector, some rigidities currently identified as obstacles to the implementation of the strategy of the NTCP could potentially be loosened, notably by improving centralized public procurement rules, shortening the circuit of distribution, improving the responsiveness of the allocation of human resources and the perspectives of local recruitment.
- These reforms are expected to motivate the health professionals' teams and encourage creativity, the initiatives adapted to local problems and situations, with greater responsiveness to local epidemiological data.
- Outsourcing some services (care, prevention, communication) will allow for faster and more flexible use of private providers and locally based NGOs to sustainably improve community connections and access to TB for all populations at risk.
- Local authorities, through regional, prefectural/provincial and communal councils, have specific budgets for strengthening health security and developing health services for the benefit of the population under the framework laws governing them. This should be taken into account when mobilizing funds for the implementation of the TB control strategy.
- The National Human Development Initiative includes an important component on the fight against poverty and has allowed for TB control efforts.
- The gratuity established by the new health coverage system will improve screening by removing the barrier of paying for tests when patients go to hospital and will probably make it possible to introduce certain screening tests for latent tuberculosis infection which are difficult to put in place at DTCRD level.

Threats

- Access to healthcare for the population remains a challenge, given that 20% of the population resides more than 10km from the nearest health facility.
- The health sector reform may also pose challenges to TB control. TB is a low-publicized disease; it may not be a priority for territorial decision-makers if they are not prepared, especially in low-incidence areas.
- TB affects relatively poor and sometimes marginalized populations with low social representation; which justifies that its control, and a fortiori its elimination, remains in the domain of the State.

- The management of TB is both specific and governed by standards; the setting and adaptation of these standards is the responsibility of the NTCP Central Unit. The new organizational context of the health system in Morocco will include an increased degree of decentralization of decision-making and management, and it is essential that sufficient capacity be maintained at the central level to carry out the key missions necessary for TB control.
- Due to the epidemiological transition in Morocco, communicable diseases are at risk of losing their priority over chronic diseases.
- Until reliable data is routinely available, issues of stigma may receive insufficient attention from decision makers, given that stigma against TB and those affected by it are potential barriers to accessing health services.
- In the absence of a preparedness plan for epidemic emergencies and natural disasters, the occurrence of the latter could pose a risk of disrupting TB control operations and of having an impact on the disease burden.

B. GAP ANALYSIS

1. The monitoring system does not yet allow direct measurement of incidence and mortality

The best way to measure TB incidence and mortality is by direct measurement through a certified TB surveillance system. In the absence of this, and in the absence of a prevalence survey and an inventory or capture/recapture study, the program relies on estimates produced by WHO, which are based on the method with the highest uncertainty, that one calling for expert opinion.

Improving the surveillance system towards excellence will allow a better understanding of the scale of the TB problem and help to find answers to the paradox that the annual rate of reduction in incidence (1%) and hence mortality is below the expected value, considering the excellent rates of treatment coverage (detection rate) and treatment success combined with sustained improvement in socio-economic conditions.

The certification of the surveillance system, as being capable of directly measuring impact, is based on the evidence that almost all diagnosed cases are notified, and the evidence that almost all of the existing cases are diagnosed; this means that there is adequate coverage by quality diagnostic services with a negligible proportion of under-diagnosed and over-diagnosed cases - a hypothesis raised to explain the high proportion of extrapulmonary TB cases in Morocco.

The strengthening of the surveillance system is hampered by a lack of coverage of the needs to improve the capacity of regional and provincial units to manage and analyze data; to strengthen the supervision and to use of the information system; to verify the data received at each level of the health system; and to conduct data quality audits.

One hypothesis which has not yet been explored in order to elucidate the causes of the problem of the low rate in the reduction of the incidence is the possibility of delays in diagnosis - the last study on delays in treatment was carried out in 2012. The same is true of other causes that need to be explored through a thorough analysis of the programmatic data such as the sub-optimal cure rate (i.e. proportion of

people whose cure is bacteriologically confirmed) of bacteriologically confirmed pulmonary tuberculosis, this form being the most contagious.

2. Performance in TB preventive treatment falls short of targets.

Because people who are eligible for TB preventive treatment are feeling well, acceptability of preventive treatment is more difficult than for the treatment of TB as a disease. Therefore, the role of counseling actions is essential. However, educational activities around the importance of preventive treatment is not systematic and structured. Furthermore, training of the staff involved in communication techniques and counseling is not provided.

One option to improve treatment acceptability is to introduce a short-course treatment. Such short-course treatments have recently been adopted by the NTCP and are in the process of being procured.

The gaps in routine screening identified below also apply to programmatic management of latent TB infection.

3. Routine screening of people at high risk for tuberculosis is not yet applied to sufficient scale

Education of index cases and their families about TB and its symptoms, as well as the importance of contact examination and preventive treatment for the person and the family are not systematic and structured.

Care providers working outside the MHSP network are insufficiently involved in TB screening of contacts.

Added to this, a major constraint is the often-unreplaced retirement of health-care professionals who had a good grasp of the case-investigation procedures. These retirements have also affected the quality of data entry and data entry verification procedures; this is the consequence of the lack of command of contact investigation procedures and the related definitions, as well as of the expected values of indicators.

Coaching of outreach NGOs to identify contacts and invite them to come to health centers for examination is not yet optimal. In addition, the number of these associations is too small to cover the entire national territory and their operations are heavily dependent on Global Fund financing. In this respect, few measures have been taken to improve the attractiveness of tuberculosis to associations and to engage as many of them as possible in the fight against tuberculosis and to promote the sustainability of these measures.

Insufficient systematic documentation and evaluation of screening activities has been undertaken.

The prioritization of risk groups is hardly based on an in-depth analysis taking into account the relative risk of TB and the size of each group, as well as screening algorithms and approaches.

The screening strategy sometimes targets groups for whom the probability of TB infection before testing is not high enough to allow sufficient yield as mentioned in the evaluation report of screening campaigns in high-incidence areas 2014-2019 during which a low number of TB cases were detected as a result of screening activities in child protection centers (CPCs) and social welfare institutions (SWIs).

Given the existing resources and the capacity to implement in terms of human resources and limited funding, a realistic prioritization of target groups and actions has been somehow lacking. In this respect, diabetics, who constitute the group with the highest potential number of TB cases and who are relatively easy to access for screening activities, have not been given the priority they deserve.

While screening and diagnostic algorithms are technically sound, they are difficult to use. Indeed, these algorithms are numerous despite the possibility of merging some of them (one option for this would be to separate screening/preventive treatment algorithms from diagnostic algorithms). In addition, there are several cross-references between the different algorithms.

4. The capacity to manage suspected TB cases is not optimal

The training needs of health workers in charge of identifying suspected cases of tuberculosis among the consultants for respiratory symptoms are not fully covered, which has led to insufficient identification of suspected cases of tuberculosis. As analyzed in the 2022 program review report, there is a tendency to select the most likely cases as presumptive tuberculosis cases.

In some sites, where the X-ray equipment is not available at the DTCRD level, the examination is carried out in the hospital and can sometimes require payment, while all TB diagnostic services are free at the DTCRD.

Furthermore, the supervision of the peripheral level and the community level (NGO) by the DTCRD is not sufficient and sometimes non-existent (through on-site visits, meetings, telephone communications and feedback on patients transferred to the DTCRD).

In addition, the referral system for presumptive tuberculosis cases between care providers operating outside the MHSP and the structures of the NTCP is not optimally organized, including the absence of a referral sheet.

5. Diagnosis and extent of extrapulmonary TB is a challenge for the NTCP

The high proportion of extrapulmonary TB among all TB cases (based on the literature and compared to the global average) raises questions about the quality of the diagnosis (supported by the results of the 2022 extrapulmonary TB management procedures evaluation study) and the possibility of Mycobacterium bovis infections through ingestion of raw/unpasteurized milk or milk derivatives (based on the assumption that animal TB control is not optimal). The possible over-diagnosis may lead to an increase in WHO disease burden estimates while possible zoonotic transmission (to be confirmed by molecular bacteriological studies) leads to an authentic increase in incidence.

In general, bacteriological testing (Xpert MTB/RIF or microscopy) is requested in 22% according to the evaluation study of the management procedures of extrapulmonary tuberculosis. This study shows that only 6% of cases of extrapulmonary tuberculosis are bacteriologically confirmed.

For diagnosis, which is much more difficult than in the pulmonary forms, there are gaps which are currently being addressed by the NTCP, namely

- the lack of use of standard criteria based on good practice by the doctors diagnosing extrapulmonary tuberculosis , such as bacteriological confirmation of extrapulmonary forms for which a sample can be taken for bacteriological examination;

- insufficient coverage of the training and awareness needs of the specialists and scientific societies concerned.
- With regard to bovine tuberculosis, it is known that for economic reasons activities to combat animal tuberculosis are still insufficient.

In addition, little has been done to educate and raise public awareness about zoonotic tuberculosis and the danger of ingesting raw milk and milk derivatives. And limited activities have been undertaken to establish coordination between the MHSP with the Ministry of Agriculture, including the National Office for Health Safety of Food Products to put in place measures to combat animal tuberculosis. Moroever, there have been no studies on the role of mycobacterium bovis in the occurrence of human tuberculosis.

6. Weaknesses in the maintenance system affecting TB diagnostic activities

Despite the existence of a regional and prefecture/provincial department responsible for managing equipment, the absence of maintenance contracts jeopardizes the resolution of problems, including breakdowns, which could affect certain medical equipment such as Xpert MTB/RIF machine modules and radiology equipment.

7. There are constraints in the management of procurements that have an impact on the TB diagnostic and treatment capacities

Due to constraints inherent in the national regulations in force (the public procurement code is not adapted to the particularity of medicines and health products), the procurement of medicines for the treatment of tuberculosis and laboratory consumables for the diagnosis of tuberculosis is frequently disrupted and delays occur in the availability of these health products. These delays have specifically resulted in shortages of first-line drugs and Xpert MTB/RIF cartridges, among other things. In fact, procedures for the procurement of anti-tuberculosis drugs and laboratory products from the State budget are characterized by very long lead times.

In addition, there is no special budget line for anti-tuberculosis drugs and diagnostic inputs used in tuberculosis.

8. There are gaps in support for patients on treatment

There is significant potential to improve the treatment success rate of new and relapse drug-sensitive TB cases, other retreatment cases, and patients with DR-TB/RR-TB. Despite the high rate of lost to follow-up in all these categories (slightly high for new and relapse cases of drug-sensitive TB), the directly observed treatment is not applied during outpatient treatment. The opportunity to use new technologies such as video-assisted treatment support has not yet been seized.

With the exception of drug-resistant TB patients who have been receiving food aid since 2022, other categories of patients do not receive transport or food aid.

With regard to the monitoring of patients in the periphery, the supervision by DTC of the health centers and NGOs that contribute to the monitoring of patients is limited. The involvement of NGOs in this task needs to be further organized.

9. There is an untapped potential to improve care for women, children and adolescents

The current guidelines on the management of tuberculosis in children and in adolescents were published prior to the publication of the WHO recommendation for the 4-month regimen - (2HRZ(E)/2HR) - for tuberculosis forms in children and in adolescents (aged 3 months to 16 years) that are not severe and for which MDR/RR-TB is not proven or suspected. As a result, these guidelines do not recommend such treatment. However, the NTCP has recently adopted this regime and the guidelines relevant to this change are currently being circulated.

Also, the diagnostic capacity for TB in children, particularly those under 5 years of age, is not optimal. In addition to the difficulty of diagnosing TB, especially in young people, the training of health professionals involved in the diagnosis of tuberculosis is insufficient..

Similarly, there are no specific actions for adolescents, in particular the introduction of community care models which are family-centered and appropriate to their development stage.

For women, further analysis of epidemiological data, disaggregated by age and sex, is needed to explore or reverse the potential for gender inequalities. The issue of equal representation of women and men in the planning, implementation and evaluation of TB control activities has also not been addressed. Moreover, screening of HIV-positive pregnant women for TB in sites offering PMTCT is not yet routine.

10. Needs are not yet met in programmatic management of drug-resistant TB

The treatment of patients with drug-resistant TB requiring hospitalization is centralized in Rabat and Casablanca, causing problems of movement for patients and their families.

Although management of drug-resistant TB is decentralized, there is a lack of hospital isolation units for drug-resistant TB patients in regions and provinces.

The TB drug resistance surveillance system still does not meet the criteria to test for rifampicin resistance at least 80% of new and retreatment cases that are bacteriologically confirmed, and the last national resistance survey was in 2014. Although TB preventive treatment in contacts of MDR-TB patients is being implemented in Morocco after consultation with experts from the national technical committee, there are no national guidelines for this treatment.

Active monitoring of adverse drug reactions [Active Drug Safety Monitoring (aDSM)] is not sufficiently developed.

The directly observed treatment and the social support offered to patients with drug-resistant TB are not applied during outpatient treatment with the consequent risk of loss to follow up and development of resistance to bedaquiline.

11. Collaborative TB/HIV activities are not yet sufficiently developed

There are no coordination committees for collaborative tuberculosis/HIV activities at regional level and in provinces and prefectures with HIV Referral Centers (23 in total).

This has an impact on the performance of activities to combat TB/HIV co-infection, in particular TPT and, to a much lesser extent, HIV testing among TB patients. In addition, the success rate of TB treatment in PLHIV was 59% for the 2019 cohort and 56% for the 2018 cohort after reaching 88% for the 2018 cohort. Unfavorable treatment outcomes were represented by deaths at 11%, which should prompt efforts to ensure that PLHIV with TB are diagnosed and treated early and that they are enrolled early in antiretroviral therapy and in cotrimoxazole preventive treatment; and lost to follow-up and non-evaluated patients being at 8% and 22%, respectively, which should prompt improved follow-up of patients on treatment and better coordination with the care facilities to which the patients were transferred.

In addition, there is a lack of harmonization between the information systems of the two programs with data being fragmented.

12. The management and governance of the NTCP need to be strengthened

Health personnel dedicated to tuberculosis control, whether program managers or clinicians, are insufficient. This deficiency is of course generalized, but it affects TB control activities in an acute way because of the low attractiveness of the specialist in pneumophysiology and of the services of TB control, as well as the massive retirements which are not all replaced.

In addition, the human resources needs of the DTCRDs are not being met and the NTCP Coordination Units are not being established in all regions. In addition, staff of the NTCP Coordination Units at the provincial and prefectural level are not fully trained in the management of a TB program.

Supervision remains insufficient and is not being carried out as planned. There is no supervision guide and the supervision grid is not up to date.

In response to the multisectoral dynamics of TB and in harmony with the guidance of the National Strategic Plan (NSP), the national program engages a range of health and non-health actors. Coordination mechanisms exist and are formalized through contracts and partnership agreements between the MHSP and a few stakeholders, which determine precisely the responsibility, commitments and nature of each party's interventions. This coordination, although effective, is neither generalized nor formalized with all the stakeholders and is not regularly subject to monitoring and evaluation of the accountability of each actor and the performance of the programs implemented in order to make the necessary improvements and adjustments in time.

Despite the efforts undertaken by the national program in terms of planning, information, communication and skills development, the action in the field suffers from many shortcomings, particularly in terms of personnel management, maintenance of material and equipment and organization of activities between DTCRDs, health centers and university hospitals centers (UHC).

Coordination with non-healthcare providers and other sectors is very limited. To this end, it is important that national and regional bodies be established to coordinate and harmonize the responses of all actors in the national TB response.

Information, Education and Communication (IEC) activities for the benefit of the general population are not sufficient for better information and awareness of the general public on the problems of tuberculosis, its preventive measures, symptoms

which should encourage consultation with facilities providing TB care; in addition, there are few actions to fight stigma.

Operational research needs to be further developed.

13. Multisectoral action for TB control is not yet optimal

There has been no advocacy to raise awareness of the critical importance of universal health coverage and social protection in improving the impact on TB morbidity and mortality.

Gender analysis of TB control is insufficient, both in terms of sex disaggregation of outcome and coverage indicators, and in terms of carrying out evaluation studies such as the "Community, rights and gender issues" evaluation.

The management and organizational capacity of thematic NGOs needs to be strengthened to adapt to donor guidelines and procedures.

The multi-sectoral accountability framework already considered relevant and planned is not yet in place.

There has been no assessment of the magnitude of the catastrophic costs borne by TB patients and their households as a result of the disease.

VI. Foundations of the 2024-2030 Strategic Plan

The number of TB incident cases in Morocco was estimated by WHO at 35,000 in 2021, i.e. an incidence rate of 94 cases per 100,000. The number of deaths excluding TB/HIV co-infection was estimated at 3,300 cases in the same year, a rate of 8.8 per 100,000 population. Treatment coverage (case detection) remained at the same level. The same is true for the treatment success rate of new and relapse cases which remained at the same level for the 2019 and 2020 cohorts at 84% and 88% respectively. Since 1980, the disease surveillance system has shown that the distribution by age group and the evolution of the average age of patients indicate a clear shift towards the most advanced ages, which indicates a decrease of disease transmission. There is a high degree of variability between regions and provinces and prefectures, as well as a reported high incidence in densely populated urban areas. The rate of lost to follow-up is estimated at 8% as the national average over the period 2018-2020, which supports the hypothesis of insufficient active search for treatment defaulters.

The efforts of the MHSP through the national TB control program have helped consolidate gains in treatment coverage and treatment success and lower the incidence curve, albeit by around 1% per year between 2015 and 2021, which will delay and even undermine the achievement of the 2030 End TB Strategy and Sustainable Development goals.

It is clear that to effectively address this challenge, priority should be given within the NSP to activities that can have a high impact on the incidence of TB in the sense of its gradual decline from 2% and then 3% and 4% every two years to 5% by 2030 with a view to achieving an incidence rate of 66 per 100,000 population, considered as satisfactory with reference to the WHO/EMRO target of 69% for the region as a whole.

Achieving this objective of accelerating the decline in incidence rates and deaths linked to tuberculosis remains dependent on the progress to be made in the areas of early detection of cases and this, through the intensification of this activity in urbanized neighborhoods with a high incidence of tuberculosis, particularly in the regions of Tangier-Tetouan-Al Hoceima, Rabat-Salé-Kénitra and Casablanca-Settat, and among high-risk groups and vulnerable populations. Care providers outside the Ministry of Health and Social Welfare structures, mandated to provide clinical and biological services for suspected TB patients, should see their involvement in these detection efforts significantly improved and in line with the guidelines and procedures established under the national TB strategy. The extension of CHI to the general population will further strengthen the role of the private sector in the provision of care and its role in detecting cases, given that about one third of patients with suspected or confirmed tuberculosis referred to DTCRD come from the private sector.

In line with WHO recommendations, management of Latent TB Infection through TB preventive therapy targeting the reservoir of tuberculosis is integrated into the national strategy. The performance achieved remains below the expectations of the NTCP, since the proportions reached do not exceed 18% for PLHIV and 20% for children under 5 years of age who are contacts of tuberculosis cases. Prevention is a highly strategic lever that needs to be invested on in order to better control disease transmission and reduce the disease burden and mortality. In order to achieve this, it is important to further raise the level of performance of the LTBI strategy for the benefit of TPT -eligible populations and to broaden its scope to cover other groups not targeted so far. The vaccine production scheduled for around 2025 is an opportunity to be considered in order to support the prevention momentum initiated in the fight against LTBI as well as the prevention and infection control. Extrapulmonary tuberculosis accounts for half of the cases reported in Morocco and is therefore of particular interest because of:

- its high impact;
- the uncertainty that characterizes its dynamics;
- and unreliable diagnosis.

This diagnosis is usually made without bacteriological confirmation. The implementation of the recently developed guidelines and algorithms is expected to increase the accuracy of the actual incidence of this form of tuberculosis and consequently reduce the number of false diagnoses which may likely bring the incidence of extrapulmonary TB back to its proper value if combined with animal tuberculosis control and the education of the population on the danger of ingesting raw/unpasteurized milk and milk products.

The programmatic management of drug-resistant TB is continually progressing supported by the development of the technical plateau necessary for the bacteriological confirmation of tuberculosis and the performance of susceptibility tests to anti-tuberculosis drugs. During 2021, all detected patients were put on treatment. The data of the national program reveals a number of 267 detected and treated cases, which is quite far from the WHO estimate of 720 incident cases. The NTCP is called upon to intensify the response to drug-resistant TB by strengthening detection activities and through the notification of rifampicin resistance in new cases, which is currently at 61%, as well as to significantly improve the treatment success rate beyond the 63% achieved for the 2020 cohort of patients with the aim of reducing mortality related to this form of tuberculosis.

The data relating to TB/HIV co-infection in terms of ARV treatment for co-infected patients and in terms of coverage with co-trimoxazole which represent 96% and 91% respectively are very satisfactory. However, efforts are needed to expand HIV testing coverage among TB patients to the rate of which does not exceed 40%, which falls far short of the NTCP expressed need to reach a 70% coverage.

Because TB is a health event with a multi-factor dynamic, it requires that the response includes all institutional and civil society actors whose contribution could be used to mitigate the effects of social determinants on disease burden and mortality. In parallel with the biomedical measures that fall within the remit of the MHSP, which should be stepped up as described above, actions to provide the necessary social and economic support, as well as actions on the determinants of the disease, which fall within the remit of other sectors, should be implemented in a way that tends to bring all actors together to achieve the objectives of reducing the incidence of tuberculosis or even eliminating it.

The optimal implementation of the PSN will depend, in fact, on the commitments of the MSPS to acquire the sufficient human and material resources required for the management on the technical and organizational levels and on the effective involvement of other care providers and of civil society organizations within the framework of a participatory approach based on integrated, quality and patient-centered services. The context in which the implementation of the NSP is taking place offers important opportunities that can be real levers that should be seized and considered in the national response to support the achievement of the expected outcomes of the various policy interventions:

The overhaul of the health system: the measures taken by the State to strengthen the principle of deconcentration are an opportunity to enable the regions to invest more in the dynamics of combating tuberculosis throughout the whole process of planning interventions and resources, patient care and monitoring-evaluation, as well as contracting with the local authorities under the rules in force. Particular attention should be paid to regions where the incidence remains quite high and to areas and groups at risk, such as the outskirts of large urban agglomerations, vulnerable populations, prisoners and migrants.

Universal health coverage and extension of social protection: measures should be taken to extend basic health coverage to cover TB needs and to ensure access to all quality TB prevention and treatment services for TB patients. It is important, as part of the new prerogatives of the Ministry of Health and Social Protection in relation to social protection, to put in place programs that contribute to the reduction of poverty, risk factors and catastrophic cost reduction related to the disease in accordance with the principles of human rights and gender.

Mobilizing funds to ensure a sustainable TB response: The nature of TB interventions covering technical areas and addressing social determinants requires strong and sustained government support and diversification of funds, which is a major challenge to sustain interventions, including those led by CSOs. The organic laws governing local and regional authorities represent an opportunity that must be seized to ensure the financing of activities of social importance within the framework of social contracts to be developed with CSOs.

Promotion of research and innovation: In order to have the strategic information needed to improve the performance of the NSP and optimize its implementation, it is important for the NTCP to develop research and invest in innovations in prevention, diagnosis and treatment.

VII. GOALS

- Reducing TB mortality rate by 60% between 2015 and 2030
- Reduce TB incidence rate by 35% between 2015 and 2030

VIII. STRATEGIC OBJECTIVES

- Objective 1: Increase the treatment coverage rate of drug-sensitive TB to at least 95% and the detection rate of MDR/RR-TB cases to at least 75% by 2030
- Objective 2: Increase drug-sensitive TB treatment success rate to 95% and that of MDR/RR-TB to 90% by 2030
- Objective 3: Provide TB preventive treatment in at least 90% of the people eligible by 2030
- Objective 4: Improve the governance of the NTCP and promote multisectoral action

IX. STRATEGIC AXES AND INTERVENTIONS

1. Objective 1: Increase the treatment coverage rate of drug-sensitive TB to at least 95% and the detection rate of MDR/RR-TB cases to at least 75% by 2030

A key action to reduce TB transmission is the early detection of as many of contagious cases TB as possible, followed by prompt treatment.

Objective 1 relates to the detection of tuberculosis cases. To this end, a range of approaches will be used to ensure the early detection of the maximum number of TB cases among those already in existence, namely 95% by 2030 for drug-sensitive TB and 75% for drug-resistant TB.

The basic approach is to improve the patient-initiated TB diagnostic pathway to ensure that patients seeking spontaneous care for respiratory symptoms receive adequate care at all health facilities at all levels and in all sectors of care.

In this way, long-term systems will be established which will enable anyone who comes to the clinic voluntarily for the treatment of respiratory symptoms to benefit from diagnostic tests for tuberculosis. These systems will also provide a solid basis for the successful implementation of systematic screening.

To this end, health center staff will be trained on the procedures for identifying and managing suspected cases of tuberculosis as per the guidelines of the NTCP and will be sensitized on the importance of this intervention as a measure to improve the quality of TB care and to prevent infection at the level of the care structure and within the community.

These trainings and awareness-raising activities will concern both health care providers working outside the MHSP network and community representatives.

In addition, the laboratory network will be strengthened quantitatively, through the scaling up of research facilities through the scale-up of rapid molecular diagnosis of tuberculosis, and qualitatively, through the improvement of the quality of bacteriological diagnosis of tuberculosis. The same process will apply to fixed and mobile radiological means.

The network of laboratories will be optimized in terms of the location of equipment and the appropriate choice of sampling transport circuits. These circuits will also be reinforced.

Program achievements in the diagnosis of childhood TB, extrapulmonary TB
and clinical diagnosis of cases not bacteriologically confirmed will be maintained and reinforced.

Screening activities will target the groups most at risk of developing TB and among which there are the highest number of TB cases. The target groups in Morocco are contacts, people living with HIV, other groups targeted by TPT (silicotics, patients with renal insufficiency on haemodialysis, patients on anti-TNF alpha...), prisoners, silicotics, diabetics and migrants and refugees. In addition to these groups, there are people living in geographic areas where TB incidence rates are significantly higher than the national average.

Vulnerable groups, namely women, children and adolescents, will benefit from specific actions to ensure equity in opportunities for early diagnosis of tuberculosis.

1.1. STRATEGIC AXIS 1.1: Identification of suspected cases of tuberculosis among consultants for respiratory signs

This strategic focus aims to establish and strengthen procedures for the identification and management of suspected cases of tuberculosis among respiratory signs consultants. The aim is to ensure equitable access to TB diagnosis for anyone seeking treatment for respiratory symptoms and to shorten the time between the patient's decision to seek care and diagnosis.

This can be achieved by improving the capacity of medical and paramedical staff to identify and manage suspected cases of tuberculosis, which also raises awareness of the importance of early detection of tuberculosis and raises their suspicion of the disease. This training will involve health workers in all care sectors and NGOs. DTCRDs will be encouraged to mentor health center teams in the screening and identification of suspected tuberculosis patients among those seeking treatment for respiratory symptoms.

The organization of the services involved in the identification and management of suspected cases of tuberculosis and the cooperation between the different actors involved are also of paramount importance, as some structures operating outside the MHSP network are responsible for referring suspected cases of tuberculosis to the structures of the NTCP. Considering the hypothesis according to which delays in diagnosis are a possible cause of the paradox of slow decrease in the incidence as opposed to the good coverage and treatment success rates plus a steady increase in GNP, a study on the time to diagnosis will be carried out.

In addition, the identification of a care pathway is important to ensure that the demand for care matches the availability of TB triage and diagnosis services, while rationalizing the use of care for a better organization of the latter..

Given the importance of radiological examination in the algorithm for triage and diagnosis of tuberculosis in people using health care facilities and are presenting symptoms suggestive of tuberculosis, radiology makes it possible to improve the specificity of the algorithm and to reduce the number of presumed TB patients to be examined by Xpert MTB/RIF, it is necessary to equip the structures concerned with means to ensure radiological examination.

Strategic interventions

- Develop skills in identifying and managing suspected cases of TB in all healthcare settings
- Improve the organization and coordination of activities to deal with suspected cases of tuberculosis in all health-care settings
- Equip health facilities to identify and manage suspected cases of tuberculosis

1.2. STRATEGIC AXIS 1.2: Systematic testing of contacts, people living with HIV, and other high-risk groups identified

The aim is to extend case detection to patients who fail to seek care, seek care late or seek care without being diagnosed with TB disease, as well as to also identify latent TB infection and eliminate active TB disease prior to TPT of eligible individuals.

The NTCP targeted risk groups that have a high relative risk of TB and for which WHO strongly recommends routine screening, namely contacts, people living with HIV, prisoners and patients with silicosis.

In addition, other groups were targeted based on their large size (diabetics), high susceptibility (patients who are candidates for treatment with anti-TNF alpha or other biotherapies that suppress immunity to TB; patients with renal failure receiving haemodialysis or peritoneal dialysis; patients in preparation for hematological or organ transplantation) or exposure to socioeconomic determinants of the disease (refugees and migrants).

The algorithms used for screening and diagnosis are characterized by their good sensitivity and specificity and provide a good return on screening.

The overall screening strategy will be strengthened. This will focus on improving the capacity of all health professionals involved in TB control as well as NGO staff and on providing resources for screening activities.

NGOs will be involved in screening activities. Actions to make the fight against tuberculosis more attractive to associations will be undertaken with a view to engaging as many associations as possible in the disease control and to promote the sustainability of these actions.

Screening actions will be documented and evaluated with a view to building the evidence base and adjusting screening approaches, as appropriate. Indeed, screening approaches are not static and need to be revised over time to reflect the changing TB epidemiology and its risk factors in the country as well as screening tools. As such, the prioritization of groups at-risk will always be based on a thorough analysis based on their size, their TB prevalence, and the anticipated yield and cost of screening.

The user-friendliness of algorithms for screening and diagnosis of tuberculosis will be improved by their digitalization.

Given the challenges in the case investigation cascade and considering that contact testing is a high impact public health intervention (the group with the highest yield of testing after diabetes and prisoners, because of the high relative risk of tuberculosis), the investigation of contacts is one of the priorities of the national strategy; it is also important for detection of early cases of tuberculosis, detection of children with tuberculosis, and identification of TB preventive treatment eligible contacts.

As a result, contact tracing will benefit from several actions, namely strengthening the role of the NGOs involved; differentiated establishment of care pathways in different provinces; educational measures targeting the specific characteristics of the target population with improved communication and counseling skills of staff; involvement of care providers working outside the MHSP network; advocacy for addressing the human resource deficit; and use of an alternative symptom-based screening approach in case of non-availability of radiology.
Routine screening and diagnosis of TB in people living with HIV will also be strengthened given the high risk of TB mortality in this group, in addition to the high rate of progression of infection to the disease. Improving the capacity of the National AIDS Control Program (NACP) to screen and diagnose TB will be ensured through training of health personnel, use of the screening questionnaire and provision of TB diagnostic facilities.
Screening for tuberculosis in the prison population will be prioritized and will include three components: entry screening, annual periodic screening and contact testing of inmates diagnosed with tuberculosis. In addition, anyone detained who complains of symptoms suggestive of tuberculosis will be evaluated for tuberculosis.
Diabetics, who constitute a very large population, are the group that potentially has the greatest number of TB patients and will therefore be considered a priority group. Capacity-building actions for diabetes-related health teams will be implemented. Routine screening for TB in people with diabetes is planned whenever the person contacts the healthcare team.
Actions to strengthen TB screening in silicosis patients will be carried out with the help of NGOs. Healthcare providers will be made aware of the risks of infection with atypical mycobacteria in silicotics. Tuberculosis will be routinely screened in current and former patients exposed to silica at each follow-up visit by pulmonologists.
Enhanced case detection sessions (i.e. consultations by medical teams in mobile units or fixed health facilities with information to the target population on the symptoms of tuberculosis that should prompt consultation and the place of consultation) will be organized for migrants and refugees, people living in geographical areas where the prevalence of tuberculosis is significantly higher than the national average and people living in remote geographical areas.

Strategic interventions

- Strengthen the overall screening strategy
- Ensure systematic contact tracing
- Ensure routine screening and diagnosis of TB among people living with HIV
- Ensure routine screening of the prison population for tuberculosis
- Ensure routine screening for tuberculosis in people with diabetes
- Ensure routine screening of patients with silicosis for tuberculosis
- Ensure routine screening for TB among other groups at risk of TB and vulnerable populations: migrants, refugees, people living in geographic areas where

1.3. STRATEGIC AXIS 1.3: Diagnosis of tuberculosis, including drug-resistant tuberculosis

The aim of this strategic area is to ensure early diagnosis of tuberculosis and to detect possible drug resistance in suspected tuberculosis cases identified among patients spontaneously seeking treatment for respiratory symptoms and those who have undergone systematic screening or improved detection.

This will be achieved by scaling up rapid diagnostic tests for tuberculosis and rifampicin resistance (Xpert MTB/RIF). Testing for resistance to second-line drugs (LPA and Xpert MTB/RIF XDR) will be available for the vast majority of patients.

To this end, the laboratory network will be strengthened in terms of capacity improvement, quality assurance, acquisition of laboratory equipment and inputs, equipment maintenance, infrastructure, biosecurity and sample transportation.

Physicians will be trained on the overall diagnostic approach including clinical diagnosis in cases of negative bacteriological examination in patients with persistent tuberculosis symptoms (see 2.1.2.1).

Strategic interventions

- Ensure adequate infrastructure for initial diagnostic and culture laboratories and biosecurity of culture laboratories
- Ensure the supply of laboratory inputs
- Provide the necessary equipment for the laboratories of the network
- Expand access to bacteriological diagnosis of tuberculosis
- Strengthen the human resources of the laboratory network and their capacity
- Strengthen bacteriological surveillance for drug-resistant TB
- Maintain Quality Assurance in all laboratories of the network
- Ensure supervision of all laboratories of the network

1.4. STRATEGIC AXIS 1.4: Prevention and management of extrapulmonary tuberculosis

The planned interventions in this area aim to improve the quality of the diagnosis and to explore the role of bovine bacilli in the occurrence of these forms, while educating the population on the dangers of ingesting milk and its raw/unpasteurized derivatives.

Indeed, extrapulmonary tuberculosis is a priority problem. The proportion of these forms among the total TB cases is significantly high compared to the global average, approaching 50%, raising the hypothesis of over-diagnosis and questioning the share of forms caused by bovine TB bacteria.

It is therefore essential to strengthen the diagnostic capacity for these forms and to monitor the effectiveness of these actions through the realization of audits. In addition, specialists will be sensitized on the need for bacteriological confirmation of the diagnosis. Equipment and consumables for diagnosis of extrapulmonary TB will be acquired and procedures for bacteriological confirmation of extrapulmonary TB will be disseminated.

It is also important to explore the role of Mycobacterium bovis in the occurrence of these forms and to ensure cooperation with the agricultural sector to control the problem of tuberculosis in livestock.

In this context, meetings will be organized with representatives of the agricultural sector and all stakeholders. This will make it possible to draw up strategic guidelines for combating bovine tuberculosis and its impact on people in Morocco and to establish protocols for collaboration on the basis of an epidemiological survey.

Educational actions targeting the population concerning the danger of ingestion of raw/unpasteurized milk and milk derivatives and on the need to consume food products from approved establishments should be carried out.

Strategic interventions

- Improve diagnostic capacity for extrapulmonary TB
- Improve monitoring of management of extrapulmonary TB
- Work with the agricultural and other sectors involved in the control of bovine TB

2. Objective 2: Increase drug-sensitive TB treatment success rate to 95% and that of MDR/RR-TB to 90% by 2030

This objective of improving the quality of treatment is also closely linked to Objective 1, with early detection and treatment of TB cases going hand in hand to ensure an impact on TB transmission in the community and a substantial annual rate of reduction in prevalence, mortality and incidence.

This objective can be achieved by:

- immediately initiating treatment of all diagnosed TB cases;
- addressing comorbidities including those related to HIV and diabetes;
- ensuring rigorous, patient-centered monitoring to achieve adherence to treatment;
- promptly contacting treatment defaulters and providing supportive measures that also serve to encourage continuing treatment.

In addition to adherence to treatment, clinical and bacteriological follow-up of the patient will be ensured, so as to guarantee a therapeutic success rate:

- 95% of all forms of drug-sensitive TB and 85% of bacteriologically confirmed drug-sensitive pulmonary TB (according to good practice standards);
- 90% MDR/RR-TB cases.

Putting patients on treatment implies the continuous supply of anti-tuberculosis medicines of guaranteed quality and in sufficient quantities to treat all diagnosed patients and to ensure adequate stock levels.

It also implies strict adherence to the therapeutic regimes adopted by the national program.

All of this will require training and re-education of providers involved in TB treatment.

2.1. STRATEGIC AXIS 2.1: Treatment of all people with TB, including drug-resistant TB and TB/HIV, and psychosocial and financial support for patients

The aim of this strategic area is to operationalize the principles governing the therapeutic management of patients diagnosed with TB described above and to put into practice the treatment and follow-up procedures. These modalities will be differentiated according to the patient's conditions including geographical constraints.

Thus, the drugs will be acquired for all categories of patients to be treated in accordance with the therapeutic regimes adopted by the NTCP.

Adherence to treatment will be ensured by patient-centered support. The directly observed treatment will be maintained and consolidated in a hospital setting and will be extended to the phase of outpatient treatment thanks to family, community or digital support. It will cover both drug-resistant and drug-sensitive tuberculosis.

The DTCRDs will provide guidance to health center teams in terms of monitoring patients and managing anti-tuberculosis drugs, while the role of NGOs in bringing back treatment defaulters will be strengthened.

DTCRDs physicians will be trained in the treatment of tuberculosis in accordance with the treatment protocols of the NTCP.

Therapeutic management of drug-resistant tuberculosis will be ensured in line with its specific characteristics. Thus, patients detected with resistance to rifampicin will benefit from the second-line treatment regimen and the sensitivity tests necessary for the detection of resistance to isoniazid and to second-line drugs with a view to adjusting their treatment accordingly.

Second-line treatment regimens will be regularly adjusted according to new international recommendations and in consultation with the National TB Technical Committee. Research studies will be conducted on the use of new therapeutic protocols recommended by WHO under the conditions of operational research.

Monitoring and evaluation of the programmatic management of drug-resistant TB will be maintained and consolidated and the NTCP will continue to assess this management in close collaboration with the Green Light Committee.
The programmatic capacity to manage drug-resistant TB will be improved through training of all the doctors and nurses involved.

Drug-resistant TB referral centers in hospitals will be decentralized to bring services closer to where patients live and to relieve congestion in existing centers. Similarly, hospital units to isolate patients with drug-resistant TB will be established in areas that still lack them.

As Morocco is quite advanced in the conduct of susceptibility testing, it makes sense to strengthen the existing system for monitoring resistance to anti-TB drugs rather than opting for prevalence surveys. The advantage of this system over periodic surveys is that it builds on the existing routine system, which is quite efficient, provides more accurate information on the prevalence of resistance, and guarantees sustainability.

Pharmacovigilance activities will continue and active pharmacovigilance will be introduced. Active pharmacovigilance differs from routine pharmacovigilance by actively monitoring for adverse drug reactions through cohort follow-up. Patients will be subjected to active clinical and laboratory investigation for adverse effects of second-line drugs; adverse effects should be managed quickly; and standard data will be systematically collected and reported for each serious adverse reaction detected.

Management of TB/HIV comorbidity should be provided for co-infected patients. To do this, all cases diagnosed with TB will be tested for HIV. Positive HIV cases detected will be treated with co-trimoxazole and ARVs. Doctors and nurses at DTCRDs involved in the management of co-infection will be trained.

The same is true of the management of tuberculosis and diabetes comorbidities. The monitoring of these patients will thus be strengthened and the quality of their care will be improved, through the training of pneumophtisiologists, the systematic clinical screening of diabetes in patients suffering from tuberculosis, the monitoring of glycaemic control and the prevention of peripheral neuropathies in patients who are on anti-tuberculosis treatment.

The management of anti-tuberculosis drugs will be the subject of multiple actions to address the problem of

procurement management and the consequent risk of drug disruption. Planned activities include advocacy for the revision of procurement procedures and the law on public procurement; the identification of a special budget line for TB drugs and diagnostic inputs; and the transition to a three-year procurement mode for TB drugs and diagnostics.

Other actions concern the improvement of the quantification and storage conditions of anti-tuberculosis drugs and the computerization of the recently revised pharmaceutical information system.

National TB drug producers will be sensitized for WHO prequalification, the essential medicines list will be updated, and the registration of essential TB drugs will be promoted.

The TB medication management capacity of pharmacists from MHSP Delegations to Provinces and Prefectures and NTCP officials will be improved.

A quality assurance plan for TB drugs will be put in place.

The NTCP will continue to provide periodic evaluation of the TB drug management process by the Global Drug Facility (GDF).

Strategic interventions

- Ensure treatment and follow-up of drug-sensitive TB
- Consolidate efforts to improve the capacity of health workers involved in the management of drug-sensitive TB
- Ensuring treatment and follow-up of drug-resistant TB
- Consolidate capacity-building efforts of health workers involved in programmatic management of drug-resistant TB
- Decentralize Referral Centers for drug-resistant TB
- Maintain and strengthen the TB drug resistance surveillance system
- Strengthen the pharmacovigilance system and establish an active pharmacovigilance system (aDSM)
- Provide psychosocial and financial support to patients
- Strengthen HIV testing of TB patients and antiretroviral therapy and co-trimoxazole prevention in TB/HIV co-infected patients
- Strengthen follow-up and improve the quality of care for patients with comorbidities of tuberculosis and diabetes
- Improve the management of anti-tuberculosis drugs

2.2. STRATEGIC AXIS 2.2: Consolidation and strengthening of TB prevention, care and control services for children, adolescents, women and other vulnerable groups

The most vulnerable groups have specific needs to be taken into consideration in their management, which is intended to be holistic and differentiated. Diagnosis of tuberculosis in children, especially young children, is more difficult than in adults because of the non-specificity of symptoms, the predominance of bacteriologically negative pulmonary forms, the difficulty of young children in producing sputum, and the difficulty of interpreting radiological images in children. In this respect, epidemiological analysis has shown that there is an under-diagnosis of tuberculosis in children under 5 years of age.

Thus, improving the capacity to diagnose children with TB is of paramount importance. To this end, the doctors

and nurses concerned will be provided with training in the management of the TB in children and the concerned health care facilities will be provided with the necessary means for diagnosis.

The treatment of young children will use the pediatric forms of anti-tuberculosis medicines available in the country.

For the evaluation of capacity building actions, audits on the management of tuberculosis in children will be carried out periodically.

Adolescents have specific needs that relate to their experience of the disease and of attending healthcare facilities that are completely different from those of people in other age groups. They are more vulnerable to stigma, suffer from peer pressure, resent hospitalization, and do not end up in institutions frequented by people of their own age. For example, the NTCP will work to develop family-centered community-based care models for adolescents that provide treatment support in models appropriate to their stage of development.

An important entry point for routine TB screening of HIV-positive pregnant women and TB preventive treatment includes consultation at sites offering PMTCT. SOPs on the prevention, diagnosis and treatment of tuberculosis in women will be developed, as a basis for training personnel involved in maternal and child health and in PMTCT.

Irregular migrants live in precarious conditions. They are guided and supported by NGOs to facilitate their access to health care facilities. The NSP plans to integrate refugee and migrant data into the information system, which will provide insight into the TB prevalence in this population. Technical instructions on the TB management among migrants and refugees will be developed. These sheets will also provide information on DTCRDs where the patient will be managed and monitored for tuberculosis.

In addition to enhanced case detection sessions among migrants and refugees, the NTCP will also ensure that these populations have indiscriminate access to TB care whenever they need it.

Strategic Interventions

- Improve the capacity of healthcare providers involved in the management of TB
  In children and adolescents
- Ensure appropriate diagnostic and therapeutic management for children and adolescents
- Consolidate and strengthen TB prevention, care and control services in favor of women
- Consolidate and strengthen TB prevention, care and response services in favor of refugees and migrants

3.Objective 3: Provide TB preventive treatment in at least 90% of the people eligible by 2030

In addition to case detection and treatment, TB preventive treatment is the essential complement in order to significantly reduce the burden of TB disease. This means acting upstream on the TB problem by dealing with the disease at the reservoir level. Indeed, TB preventive treatment is currently the best intervention to prevent the progression from TB infection to TB disease. This progression affects an average of 5 to 10% of people infected with TB during their lifetime, most of them during the first 5 years after infection.

As it is not possible to treat all persons with latent TB infection due to the scale of the action, to its prohibitive cost and its unfavorable risk-benefit ratio, the TB preventive treatment will target populations at greatest risk of progression from latent TB infection to TB disease. These include contacts, people living with HIV, patients who are candidates for treatment with anti-TNF alpha blockers or other biotherapies that suppress immunity to TB,

patients with renal impairment receiving haemodialysis or peritoneal dialysis, patients in preparation for hematological or organ transplantation, and patients with silicosis.

Another way to address TB head-on is through primary prevention. Actions will consist of public education on TB and its transmission, focusing on risk behaviors, morbidity leading to latent TB infection and disease progression of infected individuals, structural determinants of the disease such as socio-economic conditions, overcrowded and unventilated housing, and barriers to access to care including stigma.

Primary prevention actions will also include the prevention and infection control in Health care structures managing tuberculosis.

To implement these different actions, the health care workers involved will be trained and sensitized on the importance of prevention and its specificities compared to the treatment of tuberculosis disease. This is because it is much more difficult to persuade healthy people to adhere to preventive measures. As a result, educational actions need to be carried out in a more sustained and detailed manner and with more diligence.

3.1. STRATEGIC AXIS 3.1: Improving the capacity of staff involved in the management of latent tuberculosis infection

Interventions under this axis aim to improve the capacity of staff involved in the management of latent TB infection in all sectors of care by focusing on communication and counseling techniques to convince people with latent TB infection, who by definition are feeling well, to accept TPT. Training modules on the management of LTBI
developed by the NTCP (those for e-learning and in-person training) will be used for this training, targeting public and private sector health care workers.

It is also critical to improve the capacity for screening and diagnosis of active tuberculosis to rule out the disease before TPT is initiated.

It is also planned to improve the capacity of staff involved in the management of latent TB infection to monitor and evaluate related activities throughout the cascade of preventive care. The cascade logic is important for the overall understanding of the approach adopted in the TB preventive treatment. The know-how of the cascade concept will allow to obtain reliable data and it will also improve the management of LTBI.

National guidelines on TB preventive treatment for contacts of cases with drug-resistant TB will be developed.

Strategic interventions

- Improve staff capacity to manage latent TB infection
- Improve the capacity of staff involved in the management of latent tuberculosis infection to monitor and evaluate related activities throughout the cascade of preventive care

3.2. STRATEGIC AXIS 3.2: Programmatic management of latent TB infection; and infection prevention and control

The aim of this strategic axis is to prevent exposure to the bacterium tuberculosis in the care facilities for TB patients, in particular those with drug-resistant forms, by means of administrative, environmental and personal protection measures, and also by improving the provision of the necessary care for people suffering from latent

tuberculosis infection and the organization of this care.

Structures involved in TB preventive treatment will be provided with diagnostic facilities for latent tuberculosis infection (tuberculin) and drugs. In order to ensure better compliance with treatment, the short schemes recently adopted should be introduced. Similarly, TB preventive treatment for tuberculosis in contacts of patients with drug-resistant TB will be introduced.

Given the importance of TB preventive treatment in further bending the TB incidence curve, this treatment will be directly observed and will be subject to strict follow-up measures.
The proper use of data collection tools and monitoring of the implementation of the LTBI control will be ensured. Counseling sessions for TB preventive treatment eligible individuals and their families will be provided on a regular basis.

The organization and coordination of measures to manage latent TB infection will be improved through better involvement of NGOs in preventive activities. These NGOs will benefit from information sessions and capacity building on LTBI. The NTCP will continue to coordinate with NGOs on screening, case investigation and recovery activities for TB preventive treatment defaulters and the collection of relevant data.

The private sector and other health care providers operating outside the MHSP network will be involved in management of latent tuberculosis infection.

Improving the performance of the NTCP in TB preventive treatment will also require strengthening the contact tracing activities; promotion of strict adherence to the guidelines to optimize health team efforts and ensuring the efficiency of actions; and leveraging the perspective of strengthening coordination between TB and HIV programs.

Messages and educational materials on prevention of TB exposure and latent tuberculosis infection and its treatment will be developed.

In the context of infection prevention and control, administrative and individual protective measures will be continued, while environmental measures will be strengthened.

Strategic interventions

- Provide people with latent TB infection with the necessary care for screening, diagnosis, treatment, support and follow-up
- Improve the organization and coordination of actions to manage latent TB infection
- Develop messages and educational materials on prevention of TB exposure and on latent TB infection and treatment
- Strengthen infection prevention and control measures

4.Objective 4: Improving the governance of the NTCP and promoting multisectoral action

The interventions and activities planned under this objective are cross-cutting and contribute to the achievement of the other objectives through the strengthening of the health and community systems and the sustainability and empowerment of the national program.

through the reinvigoration of existing partnerships and the development of new partnership agreements; the improvement of the capacity of providers in TB control, differentiated by the role of each category of care provider; and support in terms of equipment and consumables.

The NTCP and its partners will work to improve the monitoring and evaluation system and make the surveillance system able to directly measure the extent of the TB problem, in terms of incidence and mortality, and to move away from reliance on estimates.

Operational research efforts to identify the best approaches for implementing TB tools and strategies, including new diagnostic tests, treatment regimens and vaccines planned to be developed during the end of the Global Strategy to End TB, will be strengthened.

Actions to strengthen cooperation with thematic and local NGOs and their capacity, as well as to improve the attractiveness of TB control among these NGOs will make it possible to increase the scope and scale of community actions. Advocacy, communication and social mobilization will play a crucial role in all biomedical components of TB control and will improve the supply and demand of care and adherence to treatment for latent TB infection and TB disease.

The same is true of the reduction in the percentage of households affected by TB that face catastrophic costs due to the disease. This reflects protection against financial risks, which is one of the two key elements of universal health coverage, and social protection for households affected by TB. Addressing the determinants of these catastrophic costs will improve patients' access to TB diagnosis and treatment.

Ending TB as a public-health problem requires a long-term, multisectoral commitment. This elimination logic implies a paradigm shift from a biomedical approach that allows for a gradual reduction in incidence to strengthened and multi-sectoral measures that allow for an accelerated reduction in incidence.

For example, the MHSP will organize and lead the development of the country's committed multisectoral accountability framework for TB.

The NTCP and its partners will continue to promote human rights and gender issues with a view to preventing related barriers to access to TB services and to highlight the right to prevention of the socio-economic determinants of the disease in line with the multisectoral dimension of TB control.

In the area of governance, the aim is to strengthen technical and administrative management and to develop the management capacities of the NTCP. In addition, there are plans to promote TB prevention and control within the framework of the universal health coverage and social protection extension projects, while contributing directly to these projects by specifically improving the quality of TB care, laboratory testing and data collection. Therefore, coordination between programs will be strengthened in the context of addressing comorbidities.

The engagement of the private sector and other care providers outside the MHSP network will be strengthened

4.1. STRATEGIC AXIS 4.1: Technical and administrative management of the NTCP

This focus is justified by the need to strengthen managerial actions in support of specific TB control measures in order to achieve the expected impact in terms of rapid reduction of incidence and mortality.
To this end, the NTCP will work to improve the management of human resources involved in TB control through innovative mechanisms such as pooling resources, making TB services more attractive to staff, and assigning doctors to TB services, as needed.

A specific cell dedicated to the TB control at PHC facilities level will be created.

The capacity in terms of the technical management of the national program will be improved for program managers at all levels. Management and evaluation of the program will be strengthened through the organization of regular meetings.

Regions will be supported in the development of their strategic, operational and monitoring and evaluation plans.

The problem of the maintenance of biomedical screening and diagnostic equipment will be addressed by improving the coverage of this equipment through maintenance contracts by ensuring strict monitoring in order to avoid any interruption of service.

The organization of TB care and control measures will be improved. Within this framework, national standards for the set-up, construction, equipment and human resources of TB services will be defined.

An integrated approach in the management of health programs will be promoted to address the shortcomings in human and financial resources.

A coordinating body for the TB control activities at the level of high incidence regions will be established.

Advocacy for TB control will be undertaken. Also, a strategy and a plan for advocacy and fundraising for TB control will be developed. Training activities on advocacy and social mobilization will be organized for CSOs and managers of central, regional, provincial and prefectural MHSP.

Elected officials and decision-makers in local communities will be sensitized to identify TB as a national and local priority and allocate the necessary budget.

Coordination between TB and AIDS programs will be strengthened at all levels. This will facilitate the exchange of experience between the two programs at the level of the different provinces and prefectures. Mechanisms for coordinating TB/HIV co-infection management between the DTCRDs and National AIDS Control Program RC teams will be established.

The National Coordinating Committee for Collaborative Activities on Tuberculosis/HIV will continue to function on a regular basis and regional committees will be established.

Joint planning and oversight between the two programs will be ensured.

Strategic interventions

Strengthen human resources staffing and skills
- Develop the NTCP managerial capacities
- Improve the organization of TB care and control measures
- Advocate for TB control
- Strengthen coordination between TB and AIDS programs at all levels

4.2. STRATEGIC AXIS 4.2: Partnering with the private sector and other care providers outside the MHSP network

About one third of reported cases of tuberculosis are referred by the private doctors to the services of the NTCP. Partnership agreements are drawn up between the MHSP and professional associations and private doctors' unions (pneumologists, pediatricians, general practitioners).

There has been collaboration between the NTCP and RAF health services for over 20 years now. This collaboration was embodied in a partnership agreement established between the National Defense Administration and the Ministry of Health as part of the National Accelerated TB Incidence Reduction Plan 2013-2016. These services adhere to the NTCP directives and strategy within the specific context governed by the prerogatives of the National Defense Administration. The NTCP supplies them with anti-tuberculosis drugs and laboratory products. Under this NSP, this collaboration will be consolidated and strengthened.

The Office Chérifien des Phosphates (OCP) has health facilities providing health services to employees and their family members in the provinces where its mining and industrial activities are located (El-Jadida, Khouribga or Safi). There is fairly good cooperation between these health facilities and the DTCRDs at the provincial level. They usually refer patients with suspected or confirmed TB for further management. However, collaboration between the health services of the OCP and the structures of the NTCP is neither regulated nor formalized.
Successful collaboration between the services of the NTCP and the medical services of the prisons has also been maintained for several decades. A partnership agreement was signed between the Ministry of Health and the GDPAR in 2013 to support TB control activities in prison settings.

The aim of this strategic focus is to enable patients in care outside the NTCP network to benefit equitably from TB services, to improve detection rates and to reduce delays in diagnosis, which will also impact on the improvement of treatment success and on the reduction of deaths.

Thus, the NTCP will continue to maintain a privileged partnership with care facilities outside the MHSP network, improve the capacity of doctors and nurses working in these facilities and equip them with the necessary means to implement TB control actions.

The referral system between these structures and the services of the NTCP will be strengthened.

Strategic interventions

• Strengthen cooperation with the private sector
• Strengthen cooperation with the health services of the prison system
• Strengthen cooperation with the Royal Armed Forces (RAF) health services
• Strengthen cooperation with providers outside the NTCP network other than the private sector, RAF and prison systems

4.3. STRATEGIC AXIS 4.3: Monitoring and evaluation system and research

In order to achieve the strategic objectives of the program, it is crucial to have a robust system for monitoring and evaluating the implementation of TB control interventions to ensure epidemiological surveillance of the disease, to measure the impact of the actions undertaken and to guide operational research aimed at optimizing approaches and at the use of tools within the conditions of the program.

Thus, the actions foreseen under this axis will strengthen capacities for monitoring and evaluation at all levels in terms of analysis and interpretation of epidemiological data as well as data related to process, coverage of services and outcome of TB control actions. The health care professionals concerned will be trained on the DHIS2 and its settings. In addition, staff involved in the use of the information system will receive refresher training.

Similarly, the TB/HIV coinfection monitoring and evaluation system will be strengthened in terms of joint supervision, harmonization of the data collection process between the two programs, and joint data evaluation and validation.

Supervisory activities will be more structured and better organized through the development of a supervisory guide and grid, as well as annual plans. They will be undertaken at all levels, from the central to the community level, by staff trained in the technical and organizational modalities of supervision. They will be conducted, as far as possible, in an integrated manner between the NTCP Central Unit team and the NRL management. They will also include supervision of the use of the information system and of the implementation of specific policy interventions.

Epidemiological surveillance and monitoring and evaluation of the implementation of the NTCP strategy will be insured at all levels through:
- updating the Information System Reference Manual;
- regular validation of the quality of tuberculosis data (data quality audit)
- extending DHIS2 to all DTCRDs and Integrated Health Centers;
- strengthening TB death surveillance;
- regular evaluation of the NTCP.

Operational research will be strengthened through better organization and management. It will be planned as part of a national strategic plan. Priority operational research studies include estimating the burden of TB, estimating the proportion of households with catastrophic TB costs, estimating the time to diagnosis of TB, and assessing the quality of diagnosis of TB in children and extrapulmonary TB.

Strategic interventions
- Strengthen monitoring and evaluation capacity at all levels
- Strengthen the TB/HIV Coinfection Monitoring and Evaluation System
- Implement oversight activities at all levels

- Ensure epidemiological surveillance and monitoring and evaluation of the implementation of the NTCP at all levels
- Strengthen operational research

4.4. STRATEGIC AXIS 4.4: Community Action and TB

The health system alone cannot provide TB care equitably to the entire population. Certain population groups could be served more efficiently in collaboration with community stakeholders. For example, the NTCP will work to improve the community's capacity to expand the scope of the NTCP beyond care settings by helping to raise awareness and referral to care facilities for patients with symptoms of tuberculosis and contacts; to provide support to patients on treatment and to re-engage the treatment defaulters; and to contribute to public education about TB.

The coordination of NGOs contributing to tuberculosis control at community level will be improved and their role will be strengthened through the identification of all NGOs working in the field of tuberculosis and the improvement of the monitoring of their activities. The NTCP will collaborate with MHSP departments that have expertise in collaboration and partnership with NGOs. A guide on community-based TB control activities will be developed and funding will be mobilized to ensure the sustainability of NGO actions.

An annual communication plan will be established. Communication tools tailored to the needs of the national TB response will be developed and disseminated. World Tuberculosis Day will continue to be commemorated annually.

Strategic interventions

• Improving coordination and strengthening the role of NGOs in the fight against TB
• Undertake advocacy, communication and social mobilization actions

4.5. STRATEGIC AXIS 4.5: Contribution to strengthening universal health coverage and social protection and the reduction of catastrophic costs for tuberculosis patients and their households

As part of the End TB Strategy, the elimination of catastrophic costs for TB patients and their families by 2020 is an indicator of progress towards universal health coverage and social protection.

As part of this strategic axis, an assessment will be carried out and will serve as a baseline of the proportion of TB patients and their households incurring catastrophic disease-related costs, and evaluate the results of actions implemented to reduce this proportion. Actions will focus on reducing the financial risks posed by tuberculosis to TB patients. This will be achieved through direct support to patients and advocacy for social protection (aiming at compensation for non-medical costs, i.e. costs caused by loss of employment or income and indirect medical costs such as transport, accommodation and catering) and universal health coverage (insurance covering direct medical costs). The NTCP will directly contribute to universal health coverage by implementing actions to improve the quality of TB care, including the quality of bacteriological examinations and the quality of data.

Strategic interventions

• Conduct investigations into catastrophic costs of TB
• ProvideTB patients with direct support to reduce costs and to improve adherence to treatment

• Ensure proper integration of TB patients into social protection systems
• Implement actions to improve the quality of TB care

4.6. STRATEGIC AXIS 4.6: Implementation of a multi-sectoral accountability framework and implementation relevant multi-sectoral approaches

The biomedical approach alone is not sufficient to achieve annual incidence reduction rates over 5% per year.

As part of the End TB Strategy, the annual reduction in TB incidence globally must accelerate from 2% annually by 2015 to 6% by 2020, and 10% annually by 2025. The target rate of 10% per year is the fastest decline recorded so far at the national level. Indeed, comparable rates were achieved in some parts of Western Europe in the late 1940s and 1950s, during a time of considerable progress in terms of health care coverage, social protection, and socioeconomic development.

Advocacy alone has not been sufficient to engage stakeholders in the dynamics of multisectoral action. A multi-sectoral accountability framework is essential to this end. Under this accountability framework, each sector is accountable for the objectives and actions it has committed to achieve.

The role of the MHSP and the NTCP is to plan, organize, steer, monitor and evaluate the actions that the partners have committed to carry out. The four components of a multisectoral accountability framework (1. commitments already made by the country; 2. Actions; 3. monitoring and reporting; 4. Review) will guide all actions that will be carried out jointly by the various stakeholders to ensure that Morocco has a multisectoral accountability framework.

At the same time, the NTCP will continue to implement the relevant multisectoral approaches identified.

Strategic interventions

• Establish a multi-sectoral accountability framework
• Implement relevant multi-sectoral approaches

4.7. STRATEGIC AXIS 4.7: Addressing gender and human rights in the fight against TB

While no serious gender issues were reported during the 2022 program review, both quantitative and qualitative data are needed to explore the issue in depth and monitor the situation. Indeed, it is essential to confirm and verify, with supporting evidence, that there are no problems of inequalities and barriers to access services related to gender and human rights. This requires ensuring sufficient capacity to regularly and systematically monitor and report on the impact of the country's gender equality provisions on TB control. Civil society should also be involved in this monitoring.

It also includes further promotion of human rights and explicit extension of the population's health rights to protection against the socio-economic determinants of TB.

It will also aim to ensure that there are no missed opportunities for early diagnosis of TB due to accessibility issues resulting from stigma or issues of inequality or inequity based on geographic location, gender or other factors to be determined through the disaggregation of program data and through qualitative data. To this end,

the monitoring and evaluation system will be strengthened, which will also inform and improve the programming and outcomes of human rights-based TB interventions. This will promote comprehensive, rights-based TB services.

The human rights approach is based on patients' rights and responsibilities, as well as the state's human rights obligations with respect to TB. These obligations form the basis of the multisectoral accountability framework to end TB in Morocco.

A framework for action has been defined by the partnership agreement between the MHSP and the NCHR in tuberculosis control, which provides for: (i) access by vulnerable population groups to services for the prevention, diagnosis and care of tuberculosis,
(ii) combating discrimination, stigmatization and social exclusion of TB patients and their communities; (iii) reducing gender inequalities and any form of social construct that may hinder efforts to prevent and control TB; and (iv) effectively mobilizing all stakeholders, both governmental and non-governmental, in a framework of intersectionality and accountability, to address the socio-cultural, economic and environmental barriers that delay the elimination of TB in Morocco.

Successful implementation of this approach will require several actions and instruments. Thus, a "Community, Rights and Gender" evaluation study will be carried out. Equal representation of women and men in the planning, implementation and evaluation of TB control actions will be ensured.

As part of the consolidation, promotion and strengthening of human rights, awareness-raising activities, promotion of the application of the legal provisions inherent in human rights, capacity-building of key actors and monitoring of the situation will be undertaken. To this end, NGOs will be mobilized and coordination with the relevant bodies will be strengthened. A stigma index study on tuberculosis will be carried out.

Strategic interventions

- Explore the role of gender in TB and ensure gender equality in TB control
- Consolidate, promote and strengthen human rights

X. OPERATIONAL PLAN (ACTIVITIES)

1. Objective 1: Increase the treatment coverage rate of drug-sensitive TB to at least 95% and the detection rate of MDR/RR-TB cases to at least 75% by 2030

1.1. STRATEGIC AXIS 1.1: Identification of suspected cases of tuberculosis among consultants for respiratory signs

1.1.1. Develop competences for the identification and management of suspected cases of tuberculosis in all care facilities

Activities

1.1.1.1. Integrate TB presumption criteria into acute low respiratory infections (French acronym-IRABC) case management algorithm for primary care physicians in PHC facilities and the private sector

1.1.1.2. Produce algorithms for screening and diagnosis of TB in low-risk groups and consulting for signs suggestive of TB in the form of posters for MHSP, RAF and GDPAR health facilities

1.1.1.3. Provide e-learning training for all general practitioners and nurses of the TB control cells in PHC facilities on procedures for identifying and managing suspected cases of tuberculosis, on the diagnosis and the management of drug-sensitive TB and LTBI, on TB/HIV co-infection, on comorbidity of tuberculosis and diabetes and on combating stigma.

- 2500 nurses distributed over the first 3 years;
- 2500 doctors distributed over the first 3 years

1.1.1.4. Provide training to NGO field workers on how to refer identified individuals to TB facilities, and how to re-engage treatment defaulters, on education of the general population, patients, and their communities

1.1.1.5. Provide training for private sector doctors (e-learning for general practitioners and in-person training for pulmonary specialists) on procedures for identifying and managing suspected cases of tuberculosis, systematic screening for TB of contacts and diabetics, and management of LTBI

1.1.1.6. Train RAF GPs and nurses on TB screening, diagnosis and management procedures and LTBI management

1.1.1.7. Train pneumophysiologists in the 7 RAF hospitals on TB screening, diagnosis and management and LTBI management: a single session of 25 people

1.1.1.8. Train general practitioners and prison nurses on screening, diagnosis, TB management and LTBI management: two or four sessions of 25 people in person over 3 years

1.1.1.9. Organize 2 3-day refresher training workshops for doctors practicing in OCP health and medical facilities on screening, identification of suspected cases of tuberculosis among respiratory symptom consultants and management of LTBI

1.1.1.10. Organize 2 training workshops for nurses at OCP health and medical facilities to update knowledge on screening, identification of suspected cases of tuberculosis among respiratory symptom consultants and management of LTBI

1.1.1.11. Ensure, by staff of DTCRDs, the supervision of health center teams in terms of screening, identification of suspected tuberculosis patients among those consulted for respiratory symptoms, administration and follow-up of treatment, reactivation of defaulters from treatment and management of anti-tuberculosis drugs through site visits,

meetings, telephone communications and patient feedback transferred to the DTCRD.

1.1.2. Improve the organization and coordination of activities for the management of suspected cases of tuberculosis in all care facilities

Activities

1.1.2.1. Conduct a study on the time to diagnosis of tuberculosis (see 4.3.5.5)

1.1.2.2. Identify a specific care pathway facilitating rapid access to care facilities for suspected cases of tuberculosis

1.1.2.3. Identify and manage suspected cases of TB in all health care settings, including PHC facilities, addictology settings, general practitioners and specialists in the private sector and RAF and GDPAR structures.

1.1.2.4. Create a virtual platform at the regional level that integrates private and public sector GPs and pulmonologists to discuss management of suspected and actual TB cases

1.1.2.5. Improve the referral system for suspected TB cases between private physicians and NTCP services through the development and use of a referral sheet (see 4.2.1.7)

1.1.2.6. Establish and implement a plan for supervision and training by PHC facilities pneumologists (see 4.3.3)

1.1.3. Equipping health facilities with the means to identify and manage suspected cases of tuberculosis

Activities

1.1.3.1. Extend digital radiology equipment to DTCRDs not yet equipped

1.1.3.2. Begin construction and sealing of the premises where new digital radiology equipment will be placed at the level of DTCRDs and of IHCs that do not have radiology rooms

1.1.3.3. Ensure availability of radiology films at the DTCRDs network level to conduct 561,713 chest x-rays in 2024, 552,722 in 2025, 543,768 in 2026, 529,343 in 2027, 515,204 in 2028, 501,352 in 2029, 482,706 in 2030. Renew and/or acquire the necessary radiation protection equipment for staff of DTCRDs

1.1.3.4. Maintain fixed and mobile digital radiology equipment

1.1.3.5. Acquire software solutions compatible with digital radiology to automate the reading of chest x-rays and support medical decision support by selecting abnormal chest x-rays

1.1.3.6. Identify a free and fluid pathway to benefit from radiology services at the hospital level where this benefit is not available at the level of the RDDTC/IHC.

1.2. STRATEGIC AXIS 1.2: Ensure routine testing of contacts, people living with HIV and other identified high-risk groups

1.2.1. Strengthen the overall screening strategy

Activities

1.2.1.1. Acquire 3 mobile digital radiology devices for routine TB screening in high-risk groups for high TB burden and non-TB burden areas; Y1

1.2.1.2. Complete training and refresher workshops for untrained doctors and nurses of the DTCRDs and the provincial and prefectural coordination units of the NTCP on systematic screening activities for tuberculosis in contact subjects and other groups at

risk, including communication techniques and advice and the adequate collection of the relevant information

1.2.1.3. Strengthen the capacity of care providers operating outside the MHSP network and NGOs in screening (see 1.1.1.4; 1.1.1.5; 1.1.1.6; 1.1.1.7; 1.1.1.8; 1.1.1.9; 1.1.1.10)

1.2.1.4. Continue to incorporate the topic of routine screening for tuberculosis in contact and other at-risk groups into continuing education programs and scientific events

1.2.1.5. Undertake measures to improve the attractiveness of TB among associations with a view to obtaining maximum commitment to the fight against TB and to promote the sustainability of these measures. (see 4.4.1)

1.2.1.6. Document screening activities and evaluate, for each affected target group, the screening and TPT cascade to determine the prevalence of TB in the affected target group, the performance of screening and its cost, and adjust screening approaches

1.2.1.7. Review, as necessary, priority target groups for TB screening and the selection of the most appropriate screening and diagnostic algorithms based on a thorough analysis of risk groups based on their size, their TB prevalence of TB and the expected performance and cost of screening (based on the evolution of TB epidemiology and risk factors in the country as well as available screening tools),

1.2.1.8. Identify key populations for which routine screening is not appropriate, based on established prioritization criteria, that will benefit from the enhanced case finding approach, including hard-to-reach populations with limited access to care facilities.

1.2.1.9. Digitalize TB diagnostic and screening algorithms (creating a smartphone app) to facilitate cross-referencing between algorithms

1.2.2. Ensure systematic contact tracing

A Activities

1.2.2.1. Implement the provisions of the operational plan to revitalize and expand routine screening activities of TB contacts

1.2.2.2. Provide better guidance to local NGOs responsible for identifying contacts and inviting them to come to health centers for examination. (see 4.4.1)

1.2.2.3. Involve local authorities in organizing TB screening among contacts

1.2.2.4. Establish a pathway for care of contacts according to the particularities of each province under the Territorial Health Grouping (French acronym – GST)

1.2.2.5. Ensure education of index cases and their families about TB and its symptoms and the importance of contact testing and TPT for the individuals and the family

1.2.2.6. Involve care providers working outside the MHSP network in screening contacts for TB through training courses and ministerial circulars to be disseminated through the college of physicians

1.2.2.7. Advocate for the recruitment of staff to compensate for the departure of health professionals involved in the investigation of contact subjects (See 4.1.1)

1.2.2.8. Revise the algorithm for screening and diagnosing tuberculosis in contacts by specifying in the approach: i) that in case of unavailability of radiology, the symptoms should be used to identify presumed cases of tuberculosis, ii) and that radiology should remain an indispensable element (refer the patient for radiological examination to a structure with radio) to tuberculosis,

rule out tuberculosis prior to TPT and to establish clinical diagnosis as needed

1.2.3. Ensure systematic screening and diagnosis of TB among people living with HIV

Activities

1.2.3.1. Convert to e-book the new practical guide and the TB/HIV Co-infection SOPs developed in the NSP 2021-2023 into Y1

1.2.3.2. Update the national TB/HIV co-infection management guide and SOPs in line with WHO recommendations in Y6

1.2.3.3. Organize a 1-day training workshop for physicians in the 23 HIV referral centers not yet trained on TB screening and diagnosis, TPT in PLHIV and on infection control.

1.2.3.4. Organize 1 training workshop (1 day) of 25 non-trained nurses and therapeutic educators working at the 23 HIV referral centers on screening and diagnosis of TB in PLHIV as well as on infection control

1.2.3.5. Integrate and use the questionnaire for TB screening among PLHIV in the electronic follow-up file of PLHIV

1.2.3.6. Supply the NACP sites with sputum collection containers and coolers for sample transportation of samples from sites without Xpert devices and with Xpert MTB/RIF cartridges for sites with Xpert devices (see 1.3.2)

1.2.3.7. Acquire urine testing for Lateral Flow Lipoarabinomannan (LF-LAM). (Diagnosis of TB in HIV HIV referral centers)

1.2.3.8. Ensure transport of specimens to microscopy laboratories and DTCRDs equipped with a GeneXpert apparatus. (see 1.3.4)

1.2.3.9. Provide feedback the NACP sites for PLHIV referred patients to DTCRD for TB screening or diagnostic evaluation

1.2.4. Ensure systematic TB screening of the prison population

Activities

1.2.4.1. Ensure TB screening among the prison population upon entry into the prison structure

1.2.4.2. Undertake systematic radiological screening for TB in all prisons at least once a year with the technical support of thematic NGOs

1.2.4.3. Ensure contact tracing of newly admitted diagnosed TB cases in a correctional facility

1.2.4.4. Systematically screen all inmates in the same cell as index cases

1.2.4.5. Continue to ensure the identification and management of suspected cases of TB among prisoners who show symptoms of TB during their incarceration

1.2.5. Ensure systematic TB screening of diabetics

Activities

1.2.5.1. Update, jointly by the NTCP and the National Diabetes Prevention and Control Program, the practical guide and develop the algorithms and SOPs for the prevention, care and control of tuberculosis in diabetic patients, taking into account that diabetics are the group with the highest incidence of tuberculosis, taking into account

the high prevalence of diabetes in the general population: 2 national consultants (Pulmonologist and endocrinologist)

1.2.5.2. Print 3,000 copies of the Practical Guide to the Prevention, Care and Control of Tuberculosis in Diabetic Patients

1.2.5.3. Convert the updated practical guide for the prevention, care and control of tuberculosis in diabetic patients to ebook

1.2.5.4. Include TB and diabetes in the E-learning training module for physicians and nurses practicing in PHC facilities, RAF, GDPAR and OCP health services; and in the symposia of pulmonologists, endocrinologists and general practitioners

1.2.5.5. Organize training and refresher sessions on TB and diabetes for health care professionals who manage diabetes in PHC facilities (to be integrated with e-learning training for PHC facilities health care staff)

1.2.5.6. Conduct refresher training sessions on tuberculosis and diabetes for endocrinologists (100 endocrinologists)

1.2.5.7. Strengthen training of private sector GPs on TB screening and management in diabetic patients (see 1.1.1.5)

1.2.5.8. Ensure routine clinical screening for TB in every diabetic every time they seek care

1.2.5.9. Develop leaflets and posters to inform and educate diabetic patients about TB

1.2.6. Ensure systematic TB screening of patients with silicosis

Activities

1.2.6.1. Organize a workshop on systematic TB screening among underground miners, bringing together MHSP and NTCP managers with representatives of relevant ministries and agencies as well as thematic NGOs, with a view to clarifying how to conduct systematic TB screening among miners exposed to silica dust and the role of each entity represented in the workshop

1.2.6.2. Include a chapter on the management of TB/silicosis comorbidity in the national the TB control guide

1.2.6.3. Raise awareness of the risk of infection with atypical mycobacteria among pneumoniologists who manage tuberculosis in silicotic patients

1.2.6.4. Systematically screen underground miners exposed to silica dust for tuberculosis annually, with the assistance of national mining companies, using the algorithm developed for this purpose by the NTCP

1.2.6.5. To carry out, by involving the 2 thematic NGOs (Moroccan Anti-Tuberculosis League and SOS Tuberculosis and Respiratory Diseases), the annual screening of miners of customary mining operations and artisanal miners for tuberculosis using the algorithm developed for this purpose by the NTCP

1.2.6.6. Routinely screen current and former patients exposed to silica for tuberculosis at each follow-up visit by pulmonologists

1.2.7. Ensure systematic screening for TB among other groups at risk of TB and vulnerable populations: migrants, refugees, people living in geographic areas where TB prevalence is significantly above the national average and populations living in remote geographic areas

Activities

1.2.7.1. Organize once a year, involving thematic NGOs and community groups, enhanced case detection sessions for migrants and refugees

1.2.7.2. Organize once a year, with the participation of thematic NGOs and grassroots organizations, enhanced case detection sessions for people living in geographic areas where TB prevalence is significantly higher than the national average

1.2.7.3. Organize once a year, with the support of thematic NGOs and community-based organizations, enhanced case detection sessions for populations living in remote geographical areas

1.3. STRATEGIC AXIS 1.3: Diagnosis of tuberculosis, including drug-resistant tuberculosis

1.3.1. Ensure adequate infrastructure of initial diagnostic and culture laboratories and biosecurity of culture laboratories

Activities

1.3.1.1. Align initial diagnostic laboratories that do not have 2 separate rooms, one for sample handling ("dirty" activities) and one for GeneXpert microscopy and testing ("clean" activities); Y1-2

1.3.1.2. Ensure stable power supply to initial diagnostic laboratories; Y1-2

1.3.1.3. Equip all initial diagnostic laboratories with air conditioners; Y1-2

1.3.1.4. Equipping laboratories that do not have the necessary furniture (pedal washbasins, furniture under straw, shelves, straw stools); Y1-2

1.3.1.5. Verify that each TB culture laboratory is in accordance with WHO standards with 6-12 air changes per hour (vents in the access door); Y1-2

1.3.1.6. Verify the annual certification of the biological safety hoods of all cultivation laboratories and urgently replace defective stations Y1-7

1.3.1.7. Ensure the provision of surgical-type masks for all patients in consultation and awaiting laboratory tests in the NTCP network (see 3.2.4.4); Y1-7

1.3.1.8. Ensure the supply of gowns, FFP2 respirator masks and gloves for all laboratory staff in the network; Y1-7

1.3.1.9. Ensure the supply of additional personal protective equipment (shoe guards, blankets, etc.) for all technicians working in cultivation laboratories; Y1-7

1.3.1.10. Provide all laboratories with autoclaves for waste decontamination so that no laboratory waste is burned outdoors; Y1-7

1.3.2. Ensure the supply of laboratory inputs

Activities

1.3.2.1. Create a specific budget line to secure the supply of laboratory inputs; Y1 (see 2.1.11.3)

1.3.2.2. Adopt the procurement rules most appropriate for the supply of time-limited and recurrent critical inputs: e.g. 3-year framework market for the supply of Xpert MTB/RIF cartridges and solid growing media; Y1 (see 2.1.11)

1.3.2.3. Ensure continued supply of consumables for microscopy for treatment follow-up of TB patients and initial diagnosis of suspected cases without access to molecular diagnosis; Y1-7

1.3.2.4. Ensure continued supply of consumables for initial diagnostic testing of pulmonary TB with Xpert MTB/RIF; Y1-7

1.3.2.5. Ensure continued supply of consumables for extrapulmonary TB diagnostic testing; Y1-7
1.3.2.6. Ensure continued supply of consumables for identification of mycobacterial agents of Xpert MTB/RIF TB positive extrapulmonary TB cases or MGIT positive culture; Y1-7
1.3.2.7. Ensure continued supply of consumables to grow crops for the treatment follow-up of drug-resistant TB; Y1-7
1.3.2.8. Ensure continued supply of consumables for testing for resistance to isoniazid and 2nd line anti-tuberculosis drugs with Xpert MTB/RIF XDR; Y1-7
1.3.2.9. Plan to supply MTBDRplus/sl LPA as an alternative to Xpert MTB/RIF XDR; Y1-7
1.3.2.10. Ensure continued supply of consumables for phenotypic susceptibility testing for all suspected cases of resistance but not detected by molecular method Y1-7
1.3.2.11. Ensure the continued supply of consumables for the sequencing of phenotypic resistance strains and mutations not detected by Xpert MTB/RIF XDR

1.3.3. Provide the necessary equipment for the laboratories of the network

A Activities

1.3.3.1. Acquire 80 LED fluorescence microscopes for microscopy laboratories not yet equipped and for training purposes; Y1
1.3.3.2. Acquire 20 distillers to replace aging distillers; Y1
1.3.3.3. Ensure national coverage of Xpert MTB/RIF by equipping each initial diagnostic laboratory; Y1
1.3.3.4. Acquire Xpert MTB/XDR machines for confirming drug-resistant TB cases and for testing for resistance to fluoroquinolones and second-line injectable drugs (1 per region or 2 in high-incidence regions including those with LPA to replace them) and Xpert MTB/RIF16 machines for extrapulmonary TB diagnostics (to equip each culture laboratory); Y1-2
1.3.3.5. Ensure replacement of defective modules; Y1-7
1.3.3.6. Ensure connectivity of all Xpert MTB/RIF machines with DataToCare; Y1-2
1.3.3.7. Provide each culture laboratory with the necessary basic equipment (centrifuges, ovens, etc.); Y1
1.3.3.8. Purchase inverters with batteries to equip each microbiological safety hood; Y1
1.3.3.9. Equip culture laboratories with manual liquid culture systems (UV lamp ramp, ...); Y1-2
1.3.3.10. Acquire laboratory data management software with features covering network management and quality assurance activities; Y1
1.3.3.11. Equip all laboratories using the LPA technique with suitable functional equipment and replacing obsolete equipment (strip reader, PCR hood, Twin incubator, thermocycler, centrifuge...); Y2
1.3.3.12. Replace the liquid culture machine MGIT at the level of the NTRL and Pasteur Institute of Morocco; Y1
1.3.3.13. Acquire a dedicated NTRL sequencer for the determination of all mutations conferring resistance to anti-tuberculosis drugs; Y2
1.3.3.14. Ensure the maintenance and annual certification of the microbiological safety stations of the culture laboratories and the NTRL; Y1-7

1.3.3.15. Ensure annual calibration of all Xpert MTB/RIF automata; Y1-7

1.3.3.16. Maintain specific equipment in the culture laboratories to avoid any interruption of activity due to a failure; Y1-7

1.3.3.17. Maintain the inverters and their batteries throughout the TB laboratory network, in particular for critical equipment (microbiological safety hoods, Xpert MTB/RIF and MGIT automata); Y1-7

1.3.3.18. Ensure reliable internet connection of all laboratories in the network, possibly via Modem; Y1-2

1.3.4. Expanding access to bacteriological diagnosis of tuberculosis

Activities

1.3.4.1. Involve in the activities of the NTCP volunteering laboratories of hospitals, public health and private laboratories equipped with Xpert MTB/RIF, following the model applied by the laboratories in the prison sector, in line with a common convention: compliance with algorithms, follow-up of standard procedures, training and/or retraining in network techniques by the NRL, adherence to quality controls organized within the network, annual activity reports in accordance with standard models of the NTCP, participation in the coordination meetings of the NTCP; Y1-2

1.3.4.2. Reserve the use of Xpert MTB/RIF machines (multi-purpose platforms for other conditions) at each site, and at regional level, for the realization of TB tests (initial diagnosis of pulmonary TB and extrapulmonary TB and detection of MDR-TB) in line with the targets defined by the NTCP; Y1-7

1.3.4.3. Raise awareness among physicians of pulmonary and extrapulmonary TB diagnostic algorithms and the importance of clinical information accompanying their bacteriological examination requests, including an information component in any scientific societal event or medical day; Y1-2

1.3.4.4. Update the circuit of sample transportation to reflect the guidance extrapulmonary TB samples and the participation of new sites associated with the NTCP; Y1-3

1.3.4.5. Ensure that the coolers necessary for transporting samples are available in all laboratories in the network; Y1-7

1.3.4.6. Update the contract with Amana to take account of the increase in demand; Y1-3

1.3.4.7. Implement alternative sample pick-up solutions for sites not covered by Amana: NGO, delegation drivers; Y1-3

1.3.4.8. Set up a procedure for monitoring the sample transportation (records at the laboratories of departure and arrival of the number of samples, date/time of taking over and reception, time limits for distribution and collection, complaints) with six-monthly evaluation; Y1

1.3.5. Strengthen the human resources of the laboratory network and their capacity

Activities

1.3.5.1. Recruit laboratory staff to ensure that labs that are currently not operating due to the lack of staff can perform initial diagnostic activities

1.3.5.2. Recruit laboratory staff to compensate for the retirement of a generation of microscopists and avoid the closure of their laboratories; Y1-3

1.3.5.3. Ensure availability of 2 technicians per site to avoid disruption of service in the event of absence or incapacity of a person; Y2-3

1.3.5.4. Plan to redirect specimens to the nearest functional site in the event that a laboratory at a site is non-functional to ensure continuity of patient services (identify an alternative solution under degraded conditions); Y1-3

1.3.5.5. Provide initial training by the NRL for laboratory staff in the network on initial diagnostic techniques (microscopy and Xpert MTB/RIF) for pulmonary TB and extrapulmonary TB integrating the various functionalities of the DataToCare software

- Two 5-day initial training workshops (including training when installing Xpert MTB/RIF machines), every 2 years
- 15 technicians per workshop

1.3.5.6. Provide training by the NTRL to upgrade the staff of the laboratories of the network to the initial diagnostic techniques (microscopy and Xpert MTB/RIF) for pulmonary TB and extrapulmonary TB integrating the various functionalities of the DataToCare software

- Six 3-day refresher workshops every 2 years
- 15 technicians per workshop

1.3.5.7. Provide initial training by NTRL to culture laboratory personnel including manual use of liquid medium

- 2 workshops per year, 9 technicians per session for all culture laboratories, 10 days; Y1 and 2

1.3.5.8. Provide refresher training by NTRL for culture laboratory personnel including manual use of liquid medium

- 2 workshops per year every 2 years, 9 technicians per session for all culture laboratories, 4 days, organized by NTRL Y1; 3; 5; 7

1.3.5.9. Train Pasteur Institute of Morocco staff on MGIT first and second line drug susceptibility testing

- 5-day workshop, 2 technicians, organized by NTRL; Y2

1.3.5.10. Provide training for regional supervisors/trainers to train staff of newly associated structures in the NTCP, organizational and technical procedures for initial diagnosis in the NTCP network

- 1 workshop per year, 3 days, organized by NTRL; Y1-3

1.3.5.11. Conduct initial training (5-day workshops) on organizational and technical procedures for initial diagnosis in the NTCP network for personnel in newly associated structures of the NTCP (including training when installing Xpert MTB/RIF machines)

- Annual workshops, staff of 6 technicians per workshop, organized at regional level
- The number of workshops will depend on the number of new laboratories associated with the NTCP; Y2-7

1.3.5.12. Organize familiarization training (3-day workshops) on organizational and technical procedures for initial diagnosis in the NTCP network for staff of newly associated NTCP structures

- Annual workshops, staff of 6 technicians per workshop, organized at regional level
- The number of workshops will depend on the number of new laboratories associated with the NTCP; Y2-7

1.3.5.13. Train additional regional supervisors based on the number of new sites associated with the NTCP, 1 workshop every 2 years, 15 people, 3 days; Y2-4-6

1.3.5.14. Train NTRL staff in sequencing and genotyping of drug-resistant TB and XDR-TB strains on site, 1 workshop with national consultant and international consultant, 5 days; Y1

1.3.5.15. Ensure the participation of the NTRL leader in the annual conference of the International Union against Tuberculosis and Respiratory Diseases; Y1-7

1.3.5.16. Ensure the participation of a person from the NRL in the “Tuberculosis” course of the Institut Pasteur in Paris; Y1, Y2

1.3.5.17. Train laboratory workers on how to do the Xpert MTB/RIF stool test

1.3.6. Strengthen bacteriological surveillance for drug-resistant TB
Activities
1.3.6.1. Ensure by the NTRL the sequencing of the strains with molecular tests discordant between Xpert MTB/RIF and LPA 1.3.6.2. Assure phenotypic ST for suspected resistance in high-risk drug resistance groups that were not detected by genotypic testing 1.3.6.3. Direct the Xpert MTB/RIF rifampicin-resistant specimens to 1 Xpert MTB/XDR site to determine the range of resistance by this technique in preference to LPA testing; Y2 1.3.6.4. Organize surveillance of drug-resistant TB by molecular epidemiology by ensuring genomic sequencing of Xpert MTB/RIF strains resistant to rifampicin by the NRL; Y3
1.3.7. Maintain Quality Assurance in all laboratories in the network
Activities
1.3.7.1. Generalize quality control of smears in all laboratories of the NTCP network: Annual QC organized by the NTRL, set of 10 blades; Y1-7 1.3.7.2. Organize quality control of LPA , Xpert MTB/RIF MTB/RIF and Xpert MTB/RIF MTB/XDR susceptibility testing by the NTRL (batch constitution and distribution, data analysis and discrepancies); Y1-7 1.3.7.3. Ensure the participation of the NTRL in the quality control of sensitivity tests organized by the network WHO supranational laboratories; Y1-7 1.3.7.4. Organize an external audit of the NTRL for accreditation according to ISO 15189; Y1
1.3.8. Supervise all laboratories in the network
Activities
1.3.8.1. Include the evaluation of the transportation system in the monitoring grid; Y1 1.3.8.2. Include verification of the reading of the LPA strips in the supervision grid; Y1 1.3.8.3. Provide semi-annual monitoring visits to sites in each region (visits by regional supervisors, of which 34 are already trained); Y1-7 1.3.8.4. Organize annual supervision visits of the cultivation laboratories and the laboratories where the regional supervisors are present (carried out by the NTRL); Y1-7 1.3.8.5. Develop a supervision plan for other laboratories associated with the NTCP (who are willing to participate): hospitals, private laboratories and others; Y1-3 1.3.8.6. Include a specific budget line to secure the supervisory budget at regional level; Y1 1.3.8.7. Monitor and evaluate Xpert MTB/RIF tests by analyzing data collected by the Data To Care software (by regional supervisors for the regional level; and the NTRL for the regional laboratories); Y1-7 1.3.8.8. To draw up an annual report on the activities of the laboratory network on the basis of the six-monthly data transmitted by the regional supervisors; Y1-7
1.4. STRATEGIC AXIS 1.4: Prevention and management of extrapulmonary tuberculosis
1.4.1. Improve diagnostic capabilities for extrapulmonary tuberculosis
Activities
1.4.1.1. Issue an information note to all clinicians to reiterate the diagnostic criteria for extrapulmonary TB, along with the SOPs that have been established 1.4.1.2. Continue to promote bacteriological confirmation for the diagnosis of extrapulmonary TB, regardless of its location and adherence to the criteria for diagnosis, among the specialists and the scientific societies concerned

Diagnosis in accordance with SOPs developed by the program and to raise awareness that the pathology examination is not a confirmatory examination

1.4.1.3. Train pneumoniologists and specialists involved in the diagnosis of the most common (ganglionic) and serious forms of extrapulmonary tuberculosis (meningeal, abdominal, osteoarticular tuberculosis) on the criteria for diagnosis of extrapulmonary tuberculosis

1.4.1.4. Acquire 300 Abrams trocars to perform pleural biopsies; Y1

1.4.1.5. Acquire the equipment and tests of the new techniques that have been adopted by the NTCP for the diagnosis of extrapulmonary TB in accordance with the national reference document and the SOPs (Xpert, intradermal reaction, LF-LAM ...). (see 1.3.2)

1.4.1.6. Include manual culture on liquid medium, performed in conjunction with Xpert MTB/RIF, in regional culture laboratories for extrapulmonary TB diagnosis (to increase the probability of detection and for further investigation); Y1

1.4.1.7. Define and disseminate procedures for bacteriological confirmation of extrapulmonary TB:

- Indications and collection modalities for CSF, pleurisy, ascites, osteoarticular fluid, biopsy, and lymph node aspiration
- Pathway for transfer of specimens to the nearest RDDTC except for solid biopsies to be sent to a culture laboratory
- Special conditions of transport of the extrapulmonary TB samples: speed of transfer after sampling, respect of the cold chain.

YEAR 1

1.4.2. Improving the monitoring of the management of extrapulmonary tuberculosis

Activities

1.4.2.1. Conduct a clinical audit of the management of extrapulmonary TB to assess adherence to the NTCP guidelines (see 4.3.5.6)

1.4.2.2. Integrate management of extrapulmonary TB cases into the NTCP supervision grid

1.4.3. Collaborate with the agricultural sector and other relevant sectors in the fight against bovine TB

Activities

1.4.3.1. Organize a 2-day meeting on bovine tuberculosis with 35 participants representing the Ministry of Agriculture, IAV Hassan II, Academic Health Institutions, DEDC/NTCP: supervised by an international consultant

1.4.3.2. Recruit an international consultant to oversee the 2-day meeting on bovine TB and develop a document on strategic directions for addressing bovine TB and its impact on humans in Morocco

1.4.3.3. Identify and field test innovative bovine TB interventions

1.4.3.4. Evaluate the results of innovative interventions implemented.

1.4.3.5. Implement a collaborative action plan with National Office for Health Safety of Food Products (ONSSA) for the consumption of registered food products

1.4.3.6. Implement educational actions on the danger of ingesting raw/unpasteurized milk and milk derivatives (see 3.2.3.1)

2. Objective 2: Increase drug-sensitive TB treatment success rate to 95% and that of MDR/RR-TB to 90% by 2030

2.1. STRATEGIC AXIS 2.1: Treatment of all people with TB, including drug-resistant TB and TB/HIV, and psychosocial and financial support for patients

2.1.1. Ensure treatment and follow-up of drug-sensitive TB

Activities

2.1.1.1. Acquire first-line anti-TB drugs in fixed proportions (combined forms) for the treatment of drug-susceptible TB

2.1.1.2. Secure sufficient supplies of 1st-line pediatric TB drugs to treat all children with diagnosed TB (5% of the amount ordered for the total number of new adult cases reported)

2.1.1.3. Obtain first-line TB drugs in uncombined presentations (single forms) with WHO recommended dosages for 3% of new cases

2.1.1.4. Ensure the supply of adjuvant drugsto treat 1st line anti-TB drug adverse reactions for 3% of new cases.

2.1.1.5. Clinical and bacteriological follow-up of patients treated for drug-sensitive TB

2.1.1.6. Initiate directly observed treatment at least during the intensive phase of treatment for both susceptible and resistant TB: supervision of treatment of hospitalized patients will be provided by hospital staff; whereas for outpatient cases direct supervision will be provided either by a family member or by an NGO or by video-assisted supervised treatment

2.1.1.7. Provide guidance to health center teams by DTCRD staff. (see 1.1.1.11)

2.1.1.8. Identify and implement a targeted and differentiated approach for monitoring and recovery of treatment defaulters, including in large territories with dispersed housing and in rural areas

2.1.2. Consolidate actions to improve the capacity of health personnel involved in the management of drug-sensitive tuberculosis

Activities

2.1.2.1. Train DTCRDs physicians on TB screening, diagnosis and treatment in accordance with NTCP screening and diagnostic algorithms and treatment protocols, and on stigma reduction

2.1.3. Ensure treatment and follow-up of drug-resistant TB

Activities

2.1.3.1. Ensure for each tuberculous patient in whom the Xpert MTB/RIF test has shown resistance to rifampicin:

- drug susceptibility testing for 2nd-line anti-tuberculosis drugs and isoniazid
- pre-treatment assessment
- adequate treatment with second-line drugs as directed by the program
- bacteriological examinations by microscopy and culture at the deadlines provided for in the protocol for the therapeutic management of drug-resistant TB patients
- the tests necessary for monitoring for adverse drug reactions

2.1.3.2. Acquire 2nd-line anti-TB drugs to treat all TB cases

- Patients on a short diet: 319 in 2024; 346 in 2025; 366 in 2026; 384 in 2027; 401 in 2028; 415 in 2029 and 425 in 2030

- patients on a long treatment: 54 in 2024; 55 in 2025; 60 in 2026; 62 in 2027; 64 in 2028; 68 in 2029; 69 in 2030
- patients on another treatment: 4 in 2024; 4 in 2025; 5 in 2026; 6 in 2027; 6 in 2028; 6 in 2029 and 6 in 2030

2.1.3.3. Maintain the supply of pediatric medicines to cover treatment needs for 3% of drug-resistant TB reported annually

2.1.3.4. Ensure the introduction of all 2nd line drugs in pediatric forms available (including newly developed new formulations) and validated by WHO

2.1.3.5. Adapt treatment regimens for DR-TB according to new international recommendations taking into account the country context and after validation and agreement of the national technical committee for DR-TB

2.1.3.6. Provide all drug-resistant TB patients under treatment and their families with a monthly food basket and provide compensation to cover their travel costs to the treatment facility

2.1.3.7. Initiate treatment directly observed during at least the intensive phase of treatment for both susceptible and resistant TB: supervision of treatment of hospitalized patients will be provided by hospital staff; whereas for outpatient cases direct supervision will be provided either by a family member or by an NGO or by video-assisted supervised treatment

2.1.3.8. Conduct clinical studies of new WHO-recommended short-term treatment regimens in collaboration with centers specialized in the management of drug-resistant TB

2.1.3.9. Maintain and capitalize on the Green Light Committee annual assessment of drug-resistant TB management activities

2.1.4. Consolidate actions to improve the capacity of the health personnel involved in the programmatic management of drug-resistant tuberculosis

Activities

2.1.4.1. Continue to train and update the knowledge of all medical specialists of DTCRDs on Programmatic Management of Drug-Resistant Tuberculosis (PMDRTB) in accordance with the new national guidelines in 3 sessions of 25 people per year in person, 2 to 3 days per session Y1-4

2.1.4.2. Train and update the knowledge of paramedics in charge of drug-resistant TB to the administration and direct supervision of 2nd line treatments and to the identification of their adverse effects, at the rate of 2 sessions of 25 people per year (senior nurse of the DCTRDs and provincial animator of TB control) in person, 1 day per session, Y1-4

2.1.4.3. Supervision and monitoring of TB patient identification activities DCTRDs level drug resistant (see 4.3.3)

2.1.4.4. Ensure, through the coordination structures of the NTCP at all levels, the follow-up of the activities of care of patients with drug-resistant TB at the level of DCTRDs and hospital referral services

2.1.5. Decentralize referral centers for drug-resistant TB

Activities

2.1.5.1. Establish referral centers for drug-resistant TB at the decentralized level through the creation of regional referral centers, in particular at the level of Marrakech and Fez

2.1.5.2. Establish in each region, except Casablanca and Rabat, at least one drug-resistant TB isolation hospital unit (see possibility of operating currently available COVID isolation units)

2.1.6. Maintain and strengthen the TB drug resistance surveillance system

Activities

2.1.6.1. Expanding the electronic DR-TB registry to all outpatient and hospital settings for the management of DR-TB

2.1.6.2. Ensure initial diagnosis of tuberculosis with Xpert MTB/RIF in at least 80% of new and retreated cases (see 1.3.6)

2.1.7. Strengthen the pharmacovigilance system and establish an active pharmacovigilance system (aDSM)

Activities

2.1.7.1. Continue to report drug-related adverse events in drug-sensitive and drug-resistant TB patients to the Moroccan Anti-Poison and Pharmacovigilance Center (French acronym - CAPM) through all TB patient management structures using the mobile application developed for this purpose; and to ensure that pharmacists and pharmacovigilance correspondents collect reports at regional and provincial level

2.1.7.2. Use severity-based classification to report and classify adverse reactions

2.1.7.3. Establish a pharmacovigilance database on second-line drugs by standardizing the nomenclature of adverse reactions

2.1.7.4. Develop technical guidelines for the establishment of an active safety monitoring and management system for anti-tuberculosis drugs (aDSM) for the treatment of drug-resistant TB patients

2.1.7.5. Develop standard operating procedures for aDSM implementation

2.1.7.6. Develop a data collection tool for the aDSM

2.1.7.7. Train MDR.-TB physicians on clinical and laboratory evaluation of patients treated for drug-resistant TB in an active and systematic manner to detect, manage, and report known or suspected drug toxicities: 3 sessions of 25 people per year in person, 1 day per session, Y1-4

2.1.7.8. Provide feedback to health care providers, national regulatory authorities and the pharmaceutical industry

2.1.7.9. Update the current reporting system to meet the specific requirements of the aDSM

2.1.8. Providing psychosocial and financial support to patients

Activities

2.1.8.1. Further organize the involvement of NGOs involved in monitoring patients to ensure that these NGOs only intervene once the health professionals at the health center and the DCTRD have exhausted all the recovery measures available at their level

2.1.8.2. Ensure food and transport assistance to the poorest TB patients by defining precise eligibility criteria

2.1.8.3. Strengthen psychosocial support and therapeutic education of the patient and his/her entourage throughout the treatment period

2.1.8.4. NTCP to advocate for scaling up of the initiative to hire social workers at the level of DCTRDs

2.1.9. Strengthen HIV testing of TB patients and antiretroviral therapy and prevention of cotrimoxazole in TB/HIV co-infected patients
Activities
2.1.9.1. Train and retrain doctors and nurses at DCTRDs on HIV testing for TB patients and antiretroviral therapy 2.1.9.2. Include specific sessions on the role of the NTCP in HIV/AIDS activities in training and symposia for relevant health professionals 2.1.9.3. Organize and implement at the level of DCTRDs and PHC facilities activities for the systematic screening of HIV infection in TB patients and ensure the care of persons with a positive HIV test according to national guidelines: i) reference to HIV referral center to manage TB patients with a positive HIV test; ii) follow-up of referred patients to ensure that they are registered in HIV RC; iii) obtaining with feedback from the HIV RC regarding the confirmation of HIV infection and the enrolment in ARVs 2.1.9.4. Acquire cotrimoxazole and ARVs (provided by the NACP) for TB/HIV co-infected patients 2.1.9.5. Acquire vitamin B6 preventive therapy for peripheral neuropathy (provided by NTCP) for TB/HIV co-infected patients on isoniazid-containing anti-tuberculosis therapy
2.1.10. Strengthen the follow-up and improve the quality of care for patients with comorbidities of tuberculosis and diabetes.
Activities
2.1.10.1. Organize training workshops for pneumophtisiologists on tuberculosis and diabetes: screening for diabetes in tuberculosis patients and management of patients with comorbidities of tuberculosis and diabetes 2.1.10.2. Ensure routine clinical screening for diabetes in patients with TB in accordance with the NTCP and National Diabetes Prevention and Control Program guidelines 2.1.10.3. Check the quality of glycaemic control in tuberculosis patients already known to have diabetes, and follow up with the endocrinologist for possible adjustment of diabetes treatment. 2.1.10.4. Preventive treatment of peripheral neuropathies with vitamin B6 (provided by the NTCP), tuberculosis patients and diabetes who are on anti-tuberculosis therapy including isoniazid
2.1.11. Improving the management of anti-tuberculosis drugs
Activities
2.1.11.1. Ensure that procurement procedures are revised to adapt the terms of public procurement to the specificities of pharmaceutical products 2.1.11.2. Revise the law on public procurement to revise the deadlines for specific calls for tender drugs and health products and adapt the texts to the purchase of drugs 2.1.11.3. Identify a special budget line for TB drugs and diagnostic inputs used for TB 2.1.11.4. Obtain a waiver to switch, on the basis of the 'annual' needs expressed by the NTCP and National Institute of Hygiene, to a three-year procurement mode (framework or rolling contracts) for TB drugs and diagnostics 2.1.11.5. Establish and institutionalize a Quantification Committee, comprising the DEDC, NTCP, DP, DPFR, DMP, National Institute of Hygiene, the heads of pharmacy of the warehouses of Berrechid and Beauséjour, Global Fund Management Unit

- This committee is to meet on a quarterly basis to provide an update on stockpiles of TB health products, monitor consumption, and ensure availability of safety stocks defined by health product family.

2.1.11.6. Strengthen the coordination mechanisms between DP, DEDC and DMP for the availability of administrative documents relating to AO (marketing authorizations, CE, ATU)

2.1.11.7. Raise awareness among domestic producers of anti-TB drugs to obtain WHO prequalification through the standard prequalification process

2.1.11.8. Include a review of storage conditions and site assessment based on the Model Quality Assurance System (MQAS) for Procurement Agencies and WHO Good Storage Practices in all supervised drug management visits

2.1.11.9. Organize 2 workshops, each lasting 2 days, for pharmacists from the MHSP Delegations to Provinces and Prefectures who have not yet been trained

2.1.11.10. Include a session on TB medication management in the Executive Training Program of the Provincial and Prefectural Units of the NTCP on the Programmatic Management of the TB control

2.1.11.11. Train 15 Central and Regional Drug Managers on QuanTB (Certifying Training)

- If a course is planned by GDF/UNOPS
- Alternative: training in Morocco facilitated by GDF/UNOPS /MSF

2.1.11.12. Update essential medicines list based on updated treatment regimens

2.1.11.13. Include anti-tuberculosis drugs and additional tests (laboratory and radiological tests) in the lists of drugs and tests reimbursable by the Compulsory Health Insurance (CHI)

2.1.11.14. Continuing the advocacy for VAT exemption for anti-tuberculosis drugs

2.1.11.15. Promote registration of pharmaceuticals essential for TB care and provide incentives for pharmaceutical companies to register monopoly drugs (product availability and price competition)

2.1.11.16. Computerizing the recently revised pharmaceutical information system

2.1.11.17. Evaluate, periodically by the GDF, the TB drug management process

2.1.11.18. Ensure availability and free of charge of drugs for the management of the side effects of DR-TB patients at the level of the DTCRD.

2.1.11.19. Implement a quality assurance plan for TB drugs throughout the supply chain and for organizational and operational procedures

2.2. STRATEGIC AXIS 2.2: Consolidating and strengthening TB prevention, care and control services for children, adolescents, women and other vulnerable groups

2.2.1. Improve the capacity of care providers involved in the management tuberculosis among children and adolescent

Activities

2.2.1.1. Conduct 6 refresher workshops on the management of childhood TB, including routine screening surveys and TPT in children, for new DTCRDs-assigned pulmonologists and resident pneumologists in training

2.2.1.2. Conduct 6 refresher workshops on the management of childhood TB, including routine screening surveys and TPT in children, for new pediatric staff assigned to DTCRDs and resident pediatricians in training (2-day workshops)
2.2.1.3. Train and update nurses on how to conduct, read and interpret the intradermal reaction
2.2.1.4. Conduct an audit of the diagnosis of tuberculosis in children in the relevant facilities (see 4.3.5.7)

2.2.2. Ensuring diagnostic and therapeutic care adapted to the needs of children and adolescents

Activities

2.2.2.1. Acquiring tuberculin for diagnosis of tuberculosis in children
2.2.2.2. Acquire the products necessary for the production of gastric tubing (consumables, reagents, medicines, other supplies, personal protective equipment)
2.2.2.3. Train nurses who are involved in the management of childhood tuberculosis (TB) about how to use stomach tubing
2.2.2.4. Acquire the products needed to perform stool sampling in children <10 years.
2.2.2.5. Train laboratory staff on how to perform the Xpert MTB/RIF stool test (see 1.3.5.17)
2.2.2.6. Acquire pediatric anti-tuberculosis drugs necessary for the treatment of children (see 2.1.1).
2.2.2.7. Acquire isoniazid-rifampicin tablets for TPT in children exposed to index cases but free of active TB (see 3.2.1.5)
2.2.2.8. Routinely provide supervision, monitoring and evaluation of TB management activities in children and adolescents. (see 4.3.3)
2.2.2.9. Establish family-centered community-based care models for adolescents to provide treatment support as part of treatment models appropriate to their stage of development (support for treatment provided by an NGO member or trained peer or family member; use of video-assisted treatment)

2.2.3. Consolidate and strengthen TB prevention, care and control services for women

Activities

2.2.3.1. Develop, in collaboration with the National Family Planning Program, the National Pregnancy and Childbirth Surveillance Program and the National Nutrition Program (breastfeeding component), SOPs for the prevention, diagnosis and treatment of tuberculosis in women
- These SOPs will include components on the systematic and active screening of TB for HIV-infected women and on TPT of HIV-positive women who are free of active TB.

2.2.3.2. Print 2,000 copies of these SOPs and make them available to health personnel working in health units that provide reproductive and maternal health services
2.2.3.3. Train personnel involved in maternal and child health and PMTCT on SOPs related to the prevention, screening, diagnosis and treatment of TB in women
2.2.3.4. Ensure routine TB screening of pregnant women in PMTCT sites
2.2.3.5. Consider gender in all aspects of TB control (see 4.7.1)

2.2.4. Consolidate and strengthen TB prevention, care and control services for refugees and migrants

Activities

2.2.4.1. Integrate refugee and migrant data into the program's information system and track TB data and activities related to these groups (including the maintenance of the list of NGOs involved in, or are able to be involved in TB control for refugees and foreign migrants in an irregular administrative situation.)

2.2.4.2. Develop, adapt and disseminate technical data sheets describing: (i) how to identify a refugee or a foreign migrant suspected of having tuberculosis, (ii) the procedure to be followed to refer or accompany him or her to the appropriate health structure where the diagnosis will be made and (iii) the rules and steps to be followed, if found to have tuberculosis, to ensure systematic HIV testing and therapeutic management, including arrangements for direct supervision of treatment and bacteriological follow-up at the scheduled times. This card will also include the list of DTCRDs where the patient can be followed and the health centers where the anti-tuberculosis drugs will be provided.

2.2.4.3. Provide TB screening, diagnosis, treatment and care for refugees and migrants in TB care facilities

2.2.4.4. Report annually a summary of the NGO TB control interventions for refugees, migrants and foreigners in irregular administrative situations and their impact

2.2.4.5. Collect available data annually: (DHIS2, specialized NGO, academic research) on the epidemiology in Morocco of tuberculosis in people born in another country (different groups of migrants according to their administrative status, and according to their length of stay)

2.2.4.6. Propose and define relevant interventions to strengthen and improve the services of the NTCP for refugees and foreign migrants in relation to NGOs supporting these populations, including persons in an irregular administrative situation

3. Objective 3: Ensure TB preventive treatment in at least 90% of the people eligible by 2030

3.1. STRATEGIC AXIS 3.1: Improved capacity of personnel involved in the management of latent TB infection

3.1.1. Improve staff capacity to manage latent TB infection

Activities

3.1.1.1. Include a component on communication techniques to improve staff capacity in the physician and nurse training materials on LTBI management to:

- raise awareness among those eligible for TPT of the importance of this intervention on an individual and family level
- ensure confidentiality
- obtain informed oral consent from TPT eligible persons
- educate index cases and their families about tuberculosis and its symptoms and the importance of contact testing and TPT for the person and family
- educate the person on TPT about drug collection and administration, follow-up testing, and drug side effects

3.1.1.2. Include guidelines for LTBI support in the National NTCP Guide being finalized

3.1.1.3. Develop, in consultation with the National Technical Committee, national guidelines on TPT for contacts of cases with drug-resistant TB, taking into account the scientific evidence in this field

3.1.1.4. Conduct 6 one-day training and refresher workshops on latent TB infection management (25 participants and 2 facilitators per workshop) for new doctors and nurses from DTCRDs and IHCs

3.1.1.5. Include a specific session on LTBI detection and support in the training (and e-learning) workshops that will be organized for health care professionals

- of the PHC facilities (see 1.1.1.3)
- private sector (see 1.1.1.5)
- RAF Health Services (see 1.1.1.6; 1.1.1.7)
- GDPAR health services (see 1.1.1.8)
- the health services of the OCP (see 1.1.1.9; 1.1.1.10)
- health facilities providing National Diabetes Prevention and Control Program services (French acronym PNLD) (see 1.2.5.5)

3.1.1.6. To include a specific session on the detection and management of LTBI in the symposia and congresses of doctors ensuring the management of patients targeted by TPT (nephrologists, rheumatologists, pneumophysiologists, gastroenterologists...)

3.1.2. Improve the capacity of staff involved in the management of latent TB infection monitoring and evaluation of related activities throughout the cascade of preventive care

Activities

3.1.2.1. Include in the training materials for staff involved in the management of latent TB infection training on the appropriate use of data collection tools (TB Screening and Prophylaxis Registry and Reporting); and process, coverage (output) and effect indicators throughout the cascade of preventive care

3.1.2.2. Train staff involved in the management of latent TB infection on the appropriate use of data collection tools (TB Screening and Prophylaxis Registry and Reporting); and on the process, coverage (output) and outcome indicators throughout the cascade of preventive care

3.2. STRATEGIC AXIS 3.2: Programmatic management of latent TB infection; and infection prevention and control

3.2.1. Provide people with latent TB infection with the necessary care for screening, diagnosis, treatment, support and follow-up

Activities

3.2.1.1. Acquire tuberculin

3.2.1.2. Organize a 2-day consultation workshop with the medical societies (of nephrology, rheumatology, pneumonology, gastroenterology, oncology...) of the medical doctors providing care for patients targeted with TPT, other than contacts and PLHIV, to identify the numbers of these populations and the drug needs necessary to ensure TPT

3.2.1.3. Obtain isoniazid tablets for TPT (6-month diet) and vitamin B6 for the prevention of peripheral neuropathy in PLHIV

3.2.1.4. Obtain tablets for contacts older than 5 years (diet: 3PH weekly for patients aged 15 years and older; 3RH for patients aged 5-15 years) who do not have active TB

3.2.1.5. Obtain tablets for pediatric use for TPT for contacts under 5 years of age (diet: 3RH)

3.2.1.6. Obtain TPT tablets for target populations other than contacts and PLHIV according to the projections identified during the consultation workshop (activity 3.2.1.2)

3.2.1.7. Establish directly observed treatment of latent TB infection: direct supervision by a family member or NGO member or use of video-assisted therapy

3.2.1.8. Ensure adequate follow-up of people on TPT with prompt follow-up of treatment defaulters by involving the NGOs

3.2.1.9. Ensure reporting, monitoring and evaluation of TPT side effects

3.2.1.10. Ensure the appropriate use of management tools for data collection and monitoring of the implementation of the LTBI (Tuberculosis Screening and Prophylactic Treatment Register and Reporting)

3.2.1.11. Continue to provide regular counseling sessions for TPT eligible individuals and their families at the TPT facility level, emphasizing the importance of adherence to the prescribed treatment regimen

3.2.2. Improve the organization and coordination of measures to manage latent tuberculosis infection

Activities

3.2.2.1. Integrate LTBI into TB research agenda of Morocco

3.2.2.2. Organize regular information and capacity-building sessions for national NGOs and LTBI outreach associations by the central service, DRS and Delegation of the Ministry of Health French acronym - DMS)

3.2.2.3. Continue coordination with national NGOs and community associations on screening, case investigation and follow-up of TPT defaulters and the collection of corresponding data through the use of the data collection tool developed by the NTCP for this purpose

3.2.2.4. Involve the private sector and other health care providers operating outside the MHSP network in the management of latent TB infection in the framework of the cooperation agreements (see strategic axis 4.2 and activity 3.1.1.5)

3.2.2.5. Improving the performance of the NTCP in the preventive treatment of tuberculosis through

- Leveraging the perspective of enhanced coordination between TB and HIV programs to scale up LTBI management among PLHIV (see intervention 4.1.5)
- Strengthening contact tracing activities (see intervention 1.2.2)
- Routine use of preventive treatment for children under 5 years of age and eligible PLHIV, regardless of immunologic testing, in accordance with program guidelines, which will avoid missed opportunities to put these people directly on preventive treatment

3.2.3. Develop messages and educational materials on prevention of exposure to TB and latent TB infection and treatment

Activities

3.2.3.1. Develop educational messages aimed at preventing exposure to TB (see also 4.4.2):

- Information about tuberculosis and how it is transmitted
- Importance of aeration and ventilation; and danger of crowding
- Importance of early treatment of TB disease to reduce the duration of its contagiousness
- Importance of treatment adherence for treatment success and management of adverse reactions

- Importance of individual infection control measures and isolation of contagious cases
- Danger of ingesting raw/unpasteurized milk and derivatives
- The need to consume food products from approved establishments

3.2.3.2. Integrate control of latent TB infection into the NTCP communication plan (see 4.4.2.1)

3.2.3.3. Develop a flip chart for education at the level of DTCRDs of index cases, persons eligible for TPT and their entourage on the importance of TPT (see 4.4.2)

3.2.3.4. Develop leaflets for the education of index cases, TPT eligible persons and their entourage on the importance of TPT (see 4.4.2.4)

3.2.4. Strengthen infection prevention and control measures

Activities

3.2.4.1. Continue to provide administrative infection control measures in DTCRDs in accordance with national guidelines

3.2.4.2. Acquire 200 ventilators for DTCRDs and hospital services treating patients with drug-resistant TB

3.2.4.3. Acquire 200 air extractors for DTCRDs and hospital services treating patients with drug-resistant TB

3.2.4.4. Acquire, every year, 60,000 surgical masks for patients

3.2.4.5. Acquire, every year, 150,000 FFP2 masks for health care staff of DTCRDs and hospital services caring for patients with drug-resistant TB

3.2.4.6. Acquire 70 UV bulbs for regional hospital services

3.2.4.7. Monitoring the occurrence of tuberculosis among health care workers: development of the surveillance protocol in collaboration with the Occupational Health Service of the DELM

3.2.4.8. Ensure TB surveillance among health workers: establish systematic registration of TB health workers at provincial and prefecture level; compile annually the data recorded at provincial and prefecture level, and monitor, in collaboration with the Occupational Health Service of the DEDC, the number of TB health workers affected by TB each year

3.2.4.9. Include the infection control component in the training of doctors (see activity 2.1.4.1) and nurses (see activity 2.1.4.2) of DTCRDs

3.2.4.10. Ensure that copies of the national nosocomial infection control guide are available at the level of the NTCP and the NACP sites

3.2.4.11. Include a session on nosocomial TB infection control in the education of physicians (see 1.2.3.3) and nurses (see 1.2.3.4) practicing in the RCs of the NAP

3.2.4.12. Implement administrative measures for TB infection control in the 23 RCs of NAP

3.2.4.13. Purchase 20 fans and 20 air extractors for the 23 RCs of the NACP

3.2.4.14. Acquire, every year, 20,000 surgical masks for the 23 RCs of the NACP

3.2.4.15. Ensure that priority is given to PLHIV when they come to DTCRDs for accessing health services

4. Objective 4: Improving the governance of the NTCP and promoting multisectoral action

4.1. STRATEGIC AXIS 4.1: Technical and administrative management of the NTCP

4.1.1. Strengthen human resources staffing and skills

Activities

4.1.1.1. Integrate TB control into the Territorial Health Groupings regulatory framework with a view to benefiting the NTCP from resource pooling

4.1.1.2. Improve the attractiveness of DTCRDs activities (working conditions, compensation) for health workers

4.1.1.3. Ensure availability of bacilloscopists (assign laboratory technicians to DTCRDs)

4.1.1.4. Develop and implement a repository of health professional jobs and competencies to be allocated to DTCRDs

4.1.1.5. Define a specific route for tuberculosis within the framework of the Regional Medical Program (graduation of levels of care and health services)

4.1.1.6. Strengthen basic training (NPHS, Higher Institutes of Nursing and Technical Health Professions, Faculty of Medicine...), and continuing training on the NTCP level

4.1.1.7. Reflect on the role of family medicine and new profiles of health professionals (carers: integration into the training curriculum of modules on the realization of certain laboratory techniques - bacilloscopy and Xpert - and radiology) in the fight against tuberculosis

4.1.1.8. Revise and update all guides and SOPs regularly in line with new WHO guidelines and convert these new updated documents into e-books:

- National NTCP Guide which should include the most important guidelines on TB among children, drug-resistant TB, TB/HIV co-infection, TB and diabetes comorbidity, routine contact screening and LTBI management;
- Drug-Resistant Tuberculosis Management Guide in Morocco
- Guide to the management of tuberculosis in children and adolescents in Morocco
- Guide to Combating TB/HIV Co-Infection in Morocco
- A guide to managing the comorbidity of tuberculosis and diabetes in Morocco

4.1.1.9. Convert in E-book the SOPs of:

- Documents in current NSP 2021-2023
- New documents updated in NSP 2024-2030

4.1.1.10. Print copies of revised guides:

- 3,500 copies of the National NTCP Guide and make it available to staff of PHC facilities, DTCRDs, hospital services of pneumology of RAF and the GDPAR health services
- 500 copies of the guide for the management of drug-resistant TB in Morocco and make it available to the staff of DTCRDs, IHCs and hospital services of pneumology of RAF
- 500 Guide for the management of tuberculosis in children and adolescents in Morocco and make it available to the staff of DTCRDs, IHCs and pediatric hospital services
- 500 Guide to fight TB/HIV co-infection in Morocco and make it available to staff of DTCRDs and RC of HIV
- 3,500 Guide for the management of the comorbidities of tuberculosis and diabetes in Morocco and make it available to the staff of PHC facilities, DTCRDs and endocrinology services

4.1.1.11. Establish a program to develop the skills of the staff of the PHC facilities in the detection and management of tuberculosis in all its forms

4.1.1.12. Strengthen, in the short term, the staff of the DTCRDs by assigning to centers that do not have pneumophtisiologists, general practitioners with the required skills in terms of TB control after having trained them by the NTCP

4.1.1.13. Explore the possibility of recruiting private physicians for the needs of DTCRDs under existing regulations, in a contractual framework

4.1.1.14. Strengthen human resources through the allocation of residents to lung services of regional hospitals

4.1.1.15. Establish a dedicated TB control cell at the PHC facilities level to monitor contacts, conduct tuberculin testing, and provide and monitor TB preventive and curative treatment

4.1.2. Develop the managerial capacities of the NTCP

Activities

4.1.2.1. Involve NTCP executives in international courses based on the activities in which they are involved

4.1.2.2. Each year, 3 NTCP executives participate in the annual conference of the International Union to Combat Tuberculosis and Respiratory Diseases

4.1.2.3. Ensure the renewal of the NTCP office and computer technology equipment at all levels (chairs, computers, photocopiers, scanners, telephones, internet access)

4.1.2.4. Organize for the benefit of medical and paramedical managers involved in TB control at all levels, initial or refresher training sessions on the principles of planning and management of the program

4.1.2.5. Develop the skills of the staff responsible for managing the program at regional level and in the provinces and prefectures

4.1.2.6. Hold regular meetings on the management and evaluation of the NTCP: every 6 months at the central level, every 3 months at the regional, provincial and prefectural levels

4.1.2.7. Managing the Global Fund Grant

4.1.2.8. Recruit two national consultants to assist regions in the development of their regional operational plans and regional monitoring and evaluation plans based on national guidance

4.1.2.9. As part of the support to the regions in the development of their regional strategic plans and operational and monitoring evaluation plans, organize a 2-day workshop at the level of each RHD (under the chairmanship of the RHD and in the presence of representatives of the Regional Coordination Unit of the NTCP, the MHD, the Director of the Regional Hospital, the Chief Medical Officers of the NPHCF, the Chief Medical Officers of the DTCRDs and the TB control facilitators at the level of the provinces and prefectures of the Region)

4.1.2.10. Organize a meeting to present and launch regional operational plans at the central level

4.1.2.11. Define operational procedures and management guidelines for the TB control at all levels

4.1.2.12. Raise awareness, by circular, among national and regional officials on the importance of updating maintenance contracts (preventive and curative)

4.1.2.13. Provide ongoing training in maintenance of technicians and engineers ("materiovigilance component")

4.1.2.14. Expand the scope of intervention of MHD biomedical engineers so that they can work in the NTCP laboratories; Y1

4.1.3. Improving the organization of TB care and control measures

Activities

4.1.3.1. Organize, as part of the development of the framework a document to define technical and functional national standards

in terms of location, construction, equipment and human resources of the health structures responsible for the TB control, a two-day workshop to define these location, construction, equipment and human resources criteria with the participation of 30 representatives of [Planning and Financial Resources Department (French acronym- DPRF), Hospitals and Ambulatory Care Department (French acronym -DHAC), DEM group, Human Resources Department (French acronym DRH), RHD and DELM]

4.1.3.2. Ensure assignments of pneumophtisiologists according to priorities, particularly in provinces and prefectures with a high burden of disease and without this profile of medical doctors
4.1.3.3. Develop a roadmap for involving all health care providers
4.1.3.4. Evaluate the current state of involvement of health care providers who practice outside the MHSP structures and disseminate the evaluation report
4.1.3.5. Develop a protocol for collaboration with the NTCP for each category of care providers practicing outside the MHSP structures: 2-day working meeting
4.1.3.6. Print the collaboration protocol for each category in sufficient number of copies.
4.1.3.7. Promote an integrated approach to health program management to address the lack of human and financial resources
4.1.3.8. Establish a coordination body for the TB control activities at the level of high-impact regions, in consultation with local and regional authorities

4.1.4. Advocating for TB control

Activities

4.1.4.1. Decline the TB control advocacy strategy and fund-raising plan, at regional, provincial and prefectural level
4.1.4.2. Organize one-day regional training workshops to develop the advocacy and social mobilization skills of CSOs active in the field of the TB control and the most active CSOs active in the health field. 24-participant session with two facilitators
4.1.4.3. Conduct 5 one-day training workshops to develop advocacy and social mobilization skills of MHSP central, regional, provincial and prefectural officials. 5 sessions of 24 participants each with two facilitators per session
4.1.4.4. Organize a half-day national advocacy workshop for the TB control, targeting policy-makers, development partners, and potential national and international donors
4.1.4.5. Involve CSOs in the implementation of the advocacy and fundraising strategy by targeting territories with high TB incidence
4.1.4.6. Raise awareness among elected officials and decision-makers at the territorial level, particularly in the territories most affected by tuberculosis, to place TB as a regional and local priority and allocate the necessary budget
4.1.4.7. Advocate with the government and parliamentarians for the creation of a special budget line for health programs and the increase in the budget allocation for TB control to close the budget gap

4.1.5. Strengthen coordination between TB and AIDS programs at all levels

Activities

4.1.5.1. Organize an annual meeting of the TB and HIV programs to exchange experiences among the different provinces and prefectures, particularly those that are performing well in TB/HIV co-infection control activities (HIV testing for TB patients, TB screening for PLHIV, TPT for PLHIV, infection control measures)
4.1.5.2. Organize a semi-annual TB/HIV co-infection management coordination meeting between the DTCRDs and the RC teams of the NAP in high-burden TB/HIV co-infection regions

4.1.5.3. Organize semi-annual meetings of the National Coordinating Committee for Collaborative Activities on TB/HIV
4.1.5.4. Prepare a joint annual operational plan at national and regional level specifying the responsibility of the two programs for implementation, monitoring and evaluation
4.1.5.5. Develop annual training plans to improve HIV testing and treatment capacity among TB teams and TB screening and treatment capacity among HIV teams
4.1.5.6. Develop an annual joint supervision plan between the two programs in line with the respective supervision plans of the two programs

4.2. STRATEGIC AXIS 4.2: Partnering with the private sector and other care providers outside the MHSP network

4.2.1. Strengthen cooperation with the private sector

Activities

4.2.1.1. Make available to all private doctors, through the regional, provincial and prefectural coordination units of the NTCP, the technical guidelines of the program (algorithms, SOPs), access to e-learning training, referral sheets, copies of the memorandum and the necessary information on the DTCRDs to which they can refer suspected cases of tuberculosis
4.2.1.2. Organize training activities for private sector general practitioners with priority for those practicing in regions, provinces and prefectures with a high burden of tuberculosis (see 1.1.1.5; 1.2.5.7)
4.2.1.3. Organize training activities on tuberculosis control for private doctors specializing in pneumophysiology and other specialists involved in the regions of Casablanca-Settat, Rabat-Salé-Kénitra, Tanger-Tétouan-Al Hoceima, Fès-Meknès, Marrakech-Safi, Souss-Massa and Oriental (see 1.1.1.5; 1.2.5.7)
4.2.1.4. Establish an ad hoc committee made up of representatives of Ordre National des Médecins (CNOM) and the NTCP to strengthen
the involvement of the private sector in the TB control
4.2.1.5. Prepare, in collaboration with the ad hoc committee, a memorandum between CNOM and MHSP highlighting the readiness of the NTCP to collaborate with private physicians, particularly with regard to the care of suspected tuberculosis patients referred to the MHSP health facilities
4.2.1.6. Print the memorandum, post it on the MHSP website and distribute it through the networks of CNOM and professional associations of doctors
4.2.1.7. Improve the referral system for suspected TB cases between private physicians and NTCP services through the development and use of a referral and counter-referral
4.2.1.8. Print the referral sheets that will be used by private physicians to refer suspected TB patients to NTCP services
4.2.1.9. Establish communication mechanisms between the regional, provincial and prefectural coordination units of the NTCP and professional associations
4.2.1.10. Monitor and evaluate, through the regional, provincial and prefectural units of the NTCP, the contribution of private sector physicians to TB control efforts

4.2.2. Strengthen cooperation with the health services of the prison system

Activities

4.2.2.1. Organize an annual coordination meeting between the NTCP and DGAPR officials
4.2.2.2. Implement fixed radiological equipment in the 6 large prisons with high inflows and high staff numbers

4.2.2.3. Continue to ensure the supply of reagents and consumables to prison health units

4.2.2.4. Continue to ensure sputum transportation from prisons that are not equipped with microscopy laboratories to the appropriate DTCRDs

4.2.2.5. Treat all inmates diagnosed with TB in the health units located in the prison (unless hospitalization is indicated)

4.2.2.6. Promote, in coordination with hospital and security officials, the conditions necessary for hospital care of inmates with tuberculosis

4.2.2.7. Involve NGOs, operating both in the prison system and within communities, in supporting released prisoners who are still on TB treatment and coordinating continuity of care with DTCDRs

4.2.2.8. Continue to provide training and refresher training on TB control for prison-based doctors and nurses (see 1.1.1.8)

4.2.2.9. Continue to provide training for laboratory technicians working in prison on Xpert MTB/RIF and microscopy

4.2.2.10. Ensure the availability of isolation rooms with adequate ventilation in all prisons that do not yet have them

4.2.2.11. Ensure, in coordination with the NACP , systematic testing for HIV infection among all prisoners with TB and systematic screening of HIV-infected prisoners for TB

4.2.2.12. Ensure treatment and management of all persons co-infected with TB and HIV, and TB preventive treatment of PLHIV who are TB-free, in accordance with the national guidelines of the NTCP and the NACP

4.2.3. Strengthen cooperation with the Royal Armed Forces (RAF) health services

Activities

4.2.3.1. Assess the actions that have been undertaken in the framework of the cooperation with the health services of the Royal Armed Forces (RAF) and identify the actions to be taken to improve the effectiveness of this collaboration

4.2.3.2. Continue to provide training by the NTCP to RAF physicians and nurses responsible for providing care to TB patients (see 1.1.1.6 ; 1.1.1.7)

4.2.3.3. Conduct training and refresher workshops to strengthen the capacity of RAF laboratory technicians responsible for care of TB patients

4.2.3.4. Maintain the supply of anti-tuberculosis drugs through NTCP

4.2.4. Strengthen cooperation with care providers outside the NTCP network other than those the private sector, the RAF and the prison system

Activities

4.2.4.1. Organize a meeting to formalize the cooperation that already exists between the structures of the NTCP and the health services of the OCP with the signing of a memorandum of understanding between the MHSP and the OCP relevant to TB control

4.2.4.2. Establish a Memorandum of Understanding between the Ministry of Health and the Ministry of Energy, Mines, Water and Environment for the implementation, once a year, of a systematic screening for TB in underground miners exposed to silica dust

4.2.4.3. Strengthening collaboration with occupational health services

4.3. STRATEGIC AXIS 4.3: Monitoring and evaluation system and research

4.3.1. Strengthen monitoring and evaluation capacities at all levels

Activities

4.3.1.1. Recruit a team of consultants for technical assistance in the following activities: 4.3.1.2; 4.3.1.3; 4.3.1.4; 4.3.1.5; 4.3.1.6; 4.3.1.7; 4.3.1.8; 4.3.1.9

- training workshops to strengthen data managers and monitoring teams evaluation
- Workshops to train the Provincial, Prefectural and Regional Units of the NTCP on DHIS2
- Capacity building on data analysis and data extraction using the DHIS2 TB tracker
- Training on DHIS2 Tracker design and configuration
- ISILAT-DHIS2 training
- ISILAT-DHIS2 extension
- ISILAT-DHIS2 evaluation

4.3.1.2. Organize training workshops to strengthen the capacity of data managers and monitoring and evaluation teams at central, regional and provincial/prefectural levels on the analysis and interpretation of epidemiological data and the data relevant to the processes, as well as service coverage and results of TB control actions

4.3.1.3. Organize workshops to train the Provincial, Prefectural and Regional Units of the NTCP on DHIS2

4.3.1.4. Strengthen the capacity of the NTCP team and that of the regional and provincial focal points on data analysis and extraction using the DHIS2 TB tracker

4.3.1.5. Involve the NTCP monitoring and evaluation team at central level in training on the design and configuration of the DHIS2 tracker

4.3.1.6. Provide training on the use of ISILAT-DHIS2

4.3.1.7. Extend ISILAT-DHIS2 to all program registers

4.3.1.8. Assess ISILAT-DHIS2 solution by international experts in DHIS2 and in TB information system

4.3.1.9. Develop a data quality assurance procedure adapted to the use of ISILAT-DHIS2 (data entry control, develop a program for the verification of duplications following data entry, completeness of key variables, detection of inconsistencies, etc.)

4.3.1.10. Undertake an annual in-depth analysis of the data and reports received from the NTCP Regional Coordination Units at the NTCP Central Unit level

4.3.1.11. Prepare an annual report on the epidemiological and programmatic situation of the TB control in Morocco

4.3.1.12. Organize an annual seminar by the NTCP Central Unit to present and discuss the results of this report

4.3.1.13. Print 400 copies of Morocco's annual TB control report each year, distribute it, and post it on the Ministry of Health's website

4.3.2. Strengthening the TB/HIV Coinfection Monitoring and Evaluation System

Activities

4.3.2.1. Integrate the supervision of TB/HIV joint activities into the program of supervision of NTCP services(see intervention 4.3.3)

4.3.2.2. Organize a joint NTCP/NACP supervision every 6 months in each of the provinces and prefectures where the NACP activities are located (see intervention 4.3.3)

4.3.2.3. Organize a joint NTCP/NACP workshop to harmonize the data collection and evaluation process for joint TB/HIV activities between the two programs and to ensure joint data validation

4.3.2.4. Present and discuss the results of data analysis at the semi-annual meetings of the Regional Committees and the National Coordinating Committee for TB/HIV Collaborative Activities

4.3.2.5. Collect data from DTCRDs on HIV testing of TB patients at the health center level to ensure completeness of data collection

4.3.3. Implement supervision activities at all levels

Activities

4.3.3.1. Develop a supervision guide including
- the supervision grid;
- the organization of supervision activities at all levels, from the central to the community level;
- standard operating procedures to be undertaken before, during and after supervisory visits

4.3.3.2. Establish an annual supervision plan at all levels and update it as required; Y1-Y7

4.3.3.3. Organize a quarterly supervision mission at the provincial/prefectural level to PHC facilities and local NGOs involved in TB control services; Y1-Y7

4.3.3.4. Organize a quarterly monitoring mission from the regional level to the provinces and prefectures (Provincial and Prefectural units of Coordination of the NTCP, DTCRD and IHCs); Y1-Y7

4.3.3.5. Organize a quarterly monitoring mission from the central level to the regional and provincial level and to the departments responsible for implementing specific strategic interventions (extrapulmonary TB, PMDRTB, PCPIT, TB/HIV, TB in children or others); Y1-Y7

4.3.3.6. Provide integrated supervision visits between the NTCP headquarters team and NRL executives (see 1.3.8); Y1-Y7

4.3.3.7. Incorporate supervision of the use of the information system into all supervisory visits

4.3.3.8. Incorporate a session on the technical and organizational modalities of supervision into the training program for program management personnel at regional, provincial and prefectural levels (see 4.1.2.5)

4.3.3.9. Provide the regions and provinces and prefectures with the logistical means to ensure supervision activities

4.3.4. Ensure epidemiological surveillance and monitoring and evaluation of the implementation of the NTCP strategy at all levels

Activities

4.3.4.1. Update the IS Reference Manual by integrating the management of individual data

4.3.4.2. Develop a guide for completing and using data collection tools

4.3.4.3. Print the guide to completing and using the data collection tools

4.3.4.4. Ensure regular validation of TB data quality (data quality audit) in line with the methodology used in Morocco in 2017

4.3.4.5. Evaluate quality of data collected during monitoring visits at all levels (see 4.3.3 and 4.3.3.7)

4.3.4.6. Extend use of DHIS2 tracker module in all DTCRDs

4.3.4.7. Print NTCP data collection tools in required quantities; Y1-Y7

4.3.4.8. Establish a death audit system

4.3.4.9. Integrate TB death surveillance into Morocco's national death registration system

4.3.4.10. Hold regular evaluation meetings of the NTCP: every 6 months at central level, every 3 months at regional, provincial and prefectural level (see 4.1.2.6)

4.3.4.11. Prepare an Annual Tuberculosis Control Report; Y1-Y7

4.3.4.12. Print annual report on TB control; Y1-Y7

4.3.4.13. Conduct a mid-term review of the NTCP in late 2026 and a final review in late 2029.

4.3.5. Strengthen operational research

Activities

4.3.5.1. Establish a national operational research committee in the field of tuberculosis control in which all the institutions concerned are represented (medical faculties of Morocco, National School of Public Health, Higher Institutes of Nursing and Health Technology Professions, the most appropriate academic institutions and partners)

4.3.5.2. Develop a national TB operational research strategic plan in collaboration with the national committee

4.3.5.3. Conduct a capture-and-recapture study to help estimate TB incidence with minimum uncertainty

4.3.5.4. Conduct surveys on catastrophic patient costs (see 4.5.1)

4.3.5.5. Conduct a study on the time to diagnosis of tuberculosis

4.3.5.6. Conduct a clinical audit of the management of extrapulmonary TB to assess adherence to NTCP guidelines

4.3.5.7. Conduct an audit of the diagnosis of tuberculosis in children in the relevant facilities

4.4. STRATEGIC AXIS 4.4: Community Action and TB

4.4.1. Improve coordination and strengthen the role of NGOs in the fight against tuberculosis

Activities

4.4.1.1. Mapping TB NGOs

4.4.1.2. Consolidate, at the NTCP national and regional levels, the monitoring of the activities of NGOs supporting the TB control, their supervision and the coordination of their actions through the establishment of a national and regional supervision plan, organization of periodic meetings

4.4.1.3. Collaborate with other departments of the MHSP that have expertise in collaboration and partnership with NGOs to build on these actions and benefit from their lessons learned, particularly in terms of innovations

4.4.1.4. Develop a guide on community-based TB control activities, based on the WHO guide, describing the role of the NTCP, NGOs and other community stakeholders and the system for monitoring and evaluating these activities

4.4.1.5. Support financially the interventions of NGOs working in favor of the TB control according to the national priorities defined in the field

- identifying patients with symptoms of tuberculosis and contacts and referring them to care facilities;
- testing of key and vulnerable groups
- support for patients on treatment for tuberculosis or latent tuberculosis infection and to re-initiate treatment absences; and
- TB Education Program

4.4.1.6. Establish a national platform of NGOs involved in the TB control to exchange information and experience and harmonize activities and operations among the various NGOs with the creation of communication and coordination mechanisms between the two TB and HIV dynamics (recommendation of the community country dialog workshops organized in Tangier on 17 and 18 February 2023)

4.4.1.7. Organize the TB NGO Day

4.4.1.8. Implement the strategy for advocacy and mobilization of domestic and external financial resources to sustain NGO-led community-based TB prevention and control activities aligned with the national strategy:

- workshops, national meetings, information materials

4.4.2. Undertake advocacy, communication and social mobilization actions

Activities

4.4.2.1. Establish an annual communication plan in coordination with the Communication Division of the Ministry of Health and Social Welfare, to define objectives, targets, content of messages, strategy and channels of dissemination, the role of the different actors and the timetable of actions and events

4.4.2.2. Ensure an annual meeting to evaluate the implementation of the communication plan

4.4.2.3. Provide training to IEC focal points involved in TB control at national and regional level on communication techniques (dynamic, high visibility, repeated and varied, multi-channel, motivating and non-stigmatizing, and targeted according to the needs of the patient audience and their entourage, general population, decision-makers)

4.4.2.4. Develop and disseminate communication tools tailored to the needs of the national TB response - public education on TB, its symptoms, availability of TB services and the need for early consultation in case of suggestive symptoms; education of patients and their circle on treatment follow-up; anti-stigma education - (web portal, video clips, posters, leaflets and press kits) and systematically update them

4.4.2.5. Hold meetings with national and regional media (print, television, radio, digital) to ensure broad, positive communication, promoting behavior change and community engagement to reduce stigma, promote access to care and use of services, and promote uptake of treatment

4.4.2.6. Commemorate World Tuberculosis Day each year and organize an annual World Tuberculosis Day communication campaign

4.5. STRATEGIC AXIS 4.5: Contributing to strengthen universal health coverage and social protection and reduce catastrophic costs for TB patients and their households

4.5.1. Conduct investigations into the catastrophic costs of TB

Activities

4.5.1.1. Conduct a baseline study on the catastrophic costs incurred by TB patients and their households; Y1

4.5.1.2. Carry out a study to evaluate actions to reduce the proportion of TB patients and their households facing catastrophic costs; Y4

4.5.1.3. Carry out a study to evaluate actions to reduce the proportion of TB patients and their households facing catastrophic costs; Y7

4.5.2. Provide TB patients with direct aid to reduce catastrophic costs and improve adherence to treatment

Activities

4.5.2.1. Provide all drug-resistant TB patients on treatment and their families with a monthly food basket and provide compensation to cover their travel expenses to the treatment facility (see 2.1.3.6)

4.5.2.2. Providing food and transportation assistance to the poorest TB patients (see 2.1.8.2)
4.5.2.3. Advocate with the NHRI and other actors at local and regional level to provide TB patients with the necessary social, financial and/or food support

4.5.3. Ensuring that TB patients are properly integrated into social protection schemes

Activities

4.5.3.1. Continue advocacy with policy-makers to benefit TB patients from integration into social protection schemes

4.5.4. Implement measures to improve the quality of TB care

Activities

4.5.4.1. Regularly assess the quality of TB services
1. audit of the health structure for infrastructure, equipment and resources;
2. interview with staff to assess technical competence, knowledge, practices in terms of clinical procedures and management of tuberculosis services;
3. Interview with patients on the perception of services and interactions with staff
4. review of records

4.5.4.2. Do testing of the TB cascade (global cascade; specific cascades for contact investigation, TPT, TB/HIV co-infection, drug-resistant TB)
4.5.4.3. Determine during the cascade analysis the missing data that must be supplemented by studies in order to refine analysis

4.6. STRATEGIC AXIS 4.6: Implementation of a multi-sectoral accountability framework and implementation of relevant multi-sectoral approaches

4.6.1. Establish a multi-sectoral accountability framework

Activities

4.6.1.1. Develop a budgeted national action plan for the implementation of the multisectoral accountability framework to end TB in Morocco
4.6.1.2. Develop and implement, by all stakeholders, a multi-sectoral national charter to end TB
4.6.1.3. Institutionalize, through regulation or legislation, the multisectoral accountability framework and the national multisectoral charter to end TB
4.6.1.4. Include the fight against tuberculosis in the national committee for sustainable development governed by Decree 2.19.452 of 17 July 2019 and related texts
4.6.1.5. Establish a "National Steering Committee" under the chairmanship of the head of government, tasked with implementing the UN Political Declaration. The MHSP will provide the secretariat
4.6.1.6. Establish a National Coordinating Committee on Multisectoral Action to End TB, bringing together the central directors of ministerial departments, institutions and stakeholders most concerned. This committee will be chaired by the Minister of Health and the secretariat will be provided by the DEDC
4.6.1.7. Establish "Regional Coordinating Committees for Multi-Sectoral Action to End TB" in high-incidence regions, or a high number of TB cases, under the chairmanship of the Walis (the Regional Director of Health will provide the secretariat for these committees)
4.6.1.8. Establish "Prefectural/Provincial Coordinating Committees for Multisectoral Action to End TB" in provinces and prefectures with a high incidence, or a high number of cases of TB, under the chairmanship of the Governors (the secretariat of these committees will be provided by the delegate of the Minister of Health in the province or prefecture)

4.6.1.9. Ensure the functioning of the governance bodies for the steering, monitoring, evaluation, supervision and continuous improvement of multisectoral action

4.6.1.10. Print for distribution to stakeholders 2000 copies of the national multisectoral action document to end TB and the most relevant documents related to the fight against TB in Morocco

4.6.1.11. Evaluating the implementation of the MAF

4.6.2. Implement relevant multi-sectoral approaches

Activities

4.6.2.1. Continue multi-sectoral collaboration under the national SDG strategy building on existing legislation: quarterly advocacy meetings with stakeholders

4.6.2.2. Integrating TB response into any multi-sectoral momentum and initiative dedicated to vulnerable populations (NHRI, Community development actions, socio-economic and cultural space, development NGOs...): quarterly advocacy meetings with stakeholders to promote the TB control integration into existing development initiatives

4.6.2.3. Strengthen NGO capacities to integrate TB control into community initiatives to combat the precariousness of vulnerable populations (see intervention 4.4.1)

4.6.2.4. Support initiatives that integrate the TB control with a socio-economic and development approach

4.6.2.5. Hold a parliamentary study day on TB, including a presentation on the multi-sectoral accountability framework

4.6.2.6. Organize an annual multi-sectoral meeting on TB to exchange experiences between different international, national and territorial partners, CSOs and the private sector, including those with good performance in TB/HIV co-infection control activities (HIV testing for TB patients, TB screening for PLHIV, TPT for PLHIV, infection control measures)

4.7. STRATEGIC AXIS 4.7: Addressing gender and human rights in the fight against Tuberculosis

4.7.1. Explore the role of gender in TB and ensure gender equality in the control

Activities

4.7.1.1. Analyze the age distribution of TB cases and their progression separately for women and men to determine the extent to which TB is disproportionate in terms of gender

4.7.1.2. Disaggregate key indicators by age and sex, including case notification; treatment outcomes; the number of people seeking consultation for respiratory symptoms, identified as presumptive cases of tuberculosis, screened for TB diagnosis, enrolled in treatment, successfully completed treatment; and all others

NTCP outcome, coverage and process indicators

4.7.1.3. Conduct a “Communities, Rights and Gender” evaluation study

4.7.1.4. Ensure equal representation of women and men in the planning, implementation and evaluation of TB control actions

4.7.2. Consolidate, promote and strengthen human rights

Activities

4.7.2.1. Establish, with the support of the NCHR and the Ministry of Labor and Occupational Integration, the necessary regulations to combat discrimination, so as to guarantee the return to work of employees suffering from TB who are not or are no longer contagious

4.7.2.2. Support the NHRC to put in place appropriate legal measures that protect the health of healthy people in case of refusal of screening by an eligible person or of treatment by a person with a contagious form of TB

4.7.2.3. Support the NHRC in establishing, with the support of the Regional Human Rights Commissions, mechanisms to collect and deal with possible complaints regarding allegations of human rights violations against tuberculosis patients and their families

4.7.2.4. Organize twice a year, with the NHRC, a meeting to monitor and evaluate the implementation of human rights measures related to TB

4.7.2.5. Support the role of NGOs as intermediaries between health services and hard-to-reach populations

4.7.2.6. Train NGOs to accompany people with TB who have legal problems and inform them of existing support and appeal mechanisms. (Define in advance the conditions and situations covered by the legal assistance facilitated by the NCHR and the procedures to be used).

4.7.2.7. Train health professionals in ethics and human rights related to TB and patient-centered care practice (see 1.1.1.3)

4.7.2.8. Raise awareness and inform, using the appropriate media and channels and involving NGOs trained in this field, the general population and the teaching and education professionals on the principles of human rights related to

- tuberculosis, including the fundamental right to access to quality health care
- the consequences of stigma and discrimination/dismissal of students and employees.

4.7.2.9. Ensuring confidentiality and privacy in all health care settings

4.7.2.10. Conduct a stigma index study on tuberculosis

4.7.2.11. Integrating TB into the Human Rights Strategy

4.7.2.12. Develop and disseminate educational messages aimed at preventing and combating stigma (see 4.4.2.4 and 4.4.2.5)

4.7.2.13. Facilitate awareness, mobilization and empowerment of individuals or groups of people affected by TB (former patients cured and patients in treatment) and financially support their initiatives

4.7.2.14. Advocate with employers and occupational physicians for the reintegration and reclassification of TB patients and the fight against stigmatization in the workplace

4.7.2.15. Creating a social hub at DTCRDs level

4.7.2.16. Establish regulatory mechanisms to encourage drug-resistant TB patients to accept treatment if they do not adhere to the educational advice provided by health care personnel, within the framework of principles governing the rights and duties of patients

4.7.2.17. Advocate for students with TB to enjoy their academic rights

4.7.2.18. Develop a package of actions to combat stigma in care settings

4.7.2.19. Develop and disseminate human rights and gender information materials, in different formats and in plain and clear language for patients, to inform patients about their rights and the responsibilities of health professionals

XI. ANNEXES

A. Appendix I: TB NSP Performance Framework

Indicators	Basic data		Targets						
	Base	Reference year	2024	2025	2026	2027	2028	2029	2030
TB incidence rate (new patients and relapses of all forms) per 100,000 population	96	2021	88	85	81	78	74	70	66
TB mortality rate (per 100,000 population)	8.8	2021	6.9	6.2	5.5	4.9	4.2	3.6	2.9
Number of TB deaths	406	2020	290	250	208	167	127	88	51
Incidence rates per 100,000 population of rifampicin-resistant TB (RR-TB) and/or multidrug-resistant TB (MDR-TB) in new TB patients	1.9	2021	1.8	1.7	1.7	1.6	1.6	1.5	1.5
TB treatment coverage rate	84%	2021	88%	89%	90%	91%	93%	94%	95%
RR-TB and/or MDR-TB treatment coverage	41%	2021	55%	60%	65%	70%	75%	80%	85%
Number of notified TB cases (new and relapses)	29,327	2021	28,833	28,366	27,901	27,156	26,425	25,710	24,749
Number of people with confirmed MDR/RR-TB notified	295	2021	377	405	431	452	471	489	500
Number of notified new and relapse patients, all forms of TB in children	2,240	2021	2,093	2,059	2,025	1,971	1,918	1,866	1,796
Treatment success rate in new and relapse patients - all forms	88%	2020	92%	93%	94%	95%	95%	95%	95%
Treatment success rate of RR-TB and/or MDR-TB	63%	2020	70%	75%	80%	83%	85%	89%	90%
Contact investigation coverage: Proportion of contacts of people with bacteriologically confirmed TB evaluated for TB among those eligible	42%	2021	58%	63%	69%	74%	79%	85%	90%

Percentage of new and relapse TB patients tested using WHO recommended rapid diagnostic tests at the time of diagnosis.	36%	2021	75%	80%	85%	90%	90%	90%	90%
Percentage of notified new and relapse patients referred by community actors	NA	NA	10%	10%	10%	10%	10%	10%	10%
Number of people with confirmed RR-TB and/or MDR-TB that began second-line treatment	295	2021	377	405	431	452	471	489	500
Percentage of people with confirmed RR-TB and/or MDR-TB that began second-line treatment	100%	2021	100%	100%	100%	100%	100%	100%	100%
Percentage of registered new and relapse patients with documented HIV status	40%	2021	70%	85%	95%	95%	95%	95%	95%
Percentage of new and relapse HIV-positive TB patients on treatment	96%	2021	99%	99%	99%	99%	99%	99%	99%
Treatment coverage for latent tuberculosis infection in children under 5 years of age	20%	2021	50%	60%	75%	90%	90%	90%	90%
Treatment coverage for latent tuberculosis infection in children aged 5-14 years	20%	2021	50%	60%	75%	90%	90%	90%	90%
Treatment for latent tuberculosis infection in adults over 15 years of age	2%	2021	20%	30%	40%	50%	60%	70%	90%
Treatment coverage for latent tuberculosis infection in newly enrolled PLHIV	8%	2022	50%	60%	75%	90%	90%	90%	90%
Number of people in contact with TB patients who began preventive therapy	669	2021	13,212	17,615	22,521	26,999	29,430	31,720	36,432
Proportion of quarterly supervisions carried out by central level			100%	100%	100%	100%	100%	100%	100%
Number of annual reports produced	0	2021	1	1	1	1	1	1	1

B. Annex II: Estimated budget for TB NSP 2024-2030

Objectives	2024	2025	2026	2027	2028	2029	2030	Total
1. Increase the coverage rate of drug-sensitive TB treatment to at least 95% and the detection rate of MDR/RR-TB cases to at least 75% by 2030	66,173,635	52,389,291	32,072,461	31,737,382	31,374,593	30,034,387	30,948,035	274,729,783
2. Increase the treatment success rate of drug-sensitive TB to 95% and MDR/RR-TB to 90% by 2030.	51,615,524	51,534,233	48,233,749	47,722,381	46,798,229	46,469,769	45,285,276	337,659,161
3. Ensure TB preventive treatment in at least 90% of eligible people by 2030	27,140,529	25,048,426	7,503,132	7,533,821	7,708,106	7,872,744	8,033,007	90,839,765
4. Improving the governance of the NTCP and promoting multisectoral action	165,856,001	165,741,435	163,486,644	166,309,807	167,419,553	172,283,222	173,173,397	1,174,270,058
GRAND TOTAL	**310,785,688**	**294,713,384**	**251,295,987**	**253,303,390**	**253,300,480**	**256,660,123**	**257,439,715**	**1,877,498,767**

C. Annex III: Network of laboratories

Liste des techniques disponibles dans les laboratoires équipés de GX

Région	province	laboratoire	GX Rif / GX XDR		Culture	LPA	TDS
Region Tanger Tétouan Al Hoceima	Préfecture de Tanger - Assilah	CDTMR Bouaraqiya	GX Rif 16	2 GX Rif 4 (région) à redéployer	Culture	LPA	
	Préfecture M'diq- Fnideq	CS Martil	GX Rif 4 (région)				
		CDTMR M'diq	GX Rif 4 (région)				
	Province de Tetouan	CDTMR Bab Tout	GX Rif 16	2 GX Rif 4 (région) à redéployer	Culture		
	Province de Tetouan	Hôpital Ben kerrich	GX Rif 4 (région)				
	Province de Larache	CDTMR	GX Rif 4 (1 région, 1 PNLT)	1 GX Rif 4 à redéployer			
	Province de Larache	CS KsarElKebir	GX Rif 4 (région)				
	Province de Al Hoceima	CDTMR Biaranzarane	3 GX Rif 4 (2 région, 1 PNLT)		Culture		
	Province de Al Hoceima	CS Imzouren	GX Rif 4 (région)				
	Province de Al Hoceima	CS Targuist	GX Rif 4 (région)				
	Province de Chefchaouen	CDTMR Chefchaouen	3 GX Rif 4 (2 région, 1 PNLT)				
	Province de Ouazzane	CS Ouazzan	2 GX Rif 4 (1 région, 1 PNLT)				
Region de l'oriental	Préfecture d'Oujda	CDTMR Boussif	GX XDR 16 (en 2023)	GX Rif 4 à redéployer	Culture		
	Province de Nador	CDTMR	GX Rif 4				
	Province Berkane	CDTMR Berkane	GX Rif 4				
Région de Fès-Meknès	Préfecture de Fes	CDTMR Ben Debbab	GX Rif 16		Culture	LPA	
		CDTMR My Yaakoub	GX Rif 4				
	Préfecture de Meknes	CDTMR Sidi Said	GX Rif 4/GX XDR 4		Culture		
	Province d' El Hajeb	CDTMR El Hajeb	GX Rif 4				
	Province deTaounant	CDTMR Taounate	GX Rif 4				
	Province de Taza	CDTMR Bab Tété	GX Rif 4				
Région de Rabat-Salé-Kénitra	Rabat	INH LNRT	GX XDR 4		Culture	LPA	TDS sur culture
	Rabat	Hôpital Moulay Youssef	GX Rif 4/GX XDR 4		Culture		
	Rabat	CDTMR Nahda	GX Rif 4				
	Préfecture de Salé	CDTMR Bab Khmiss	GX Rif 16				
	Préfecture Skhirat Témara	CDTMR Temara	GX Rif 4				
	Préfecture Kénitra	CDTMR Kénitra	GX Rif 16		Culture		
	Province Kemisset	CDTMR Khmisset	GX Rif 4				
	Province Sidi Kacem	CDTMR	GX Rif 4				
	Province Sidi Slimane	CS Sidi slimane	GX Rif 4				
Région Béni Mellel Khenifra		CDTMR Beni Mellel	GX XDR 4	GX Rif 4 à redéployer	Culture		
	Province Khenifra	CDTMR Khénifra	GX Rif 4				
	Province Khouribga	CDTMR	GX Rif 4				
Région de Casablanca-Settat 7 GX Rif 4 acquis par la région dont 2 pour nouveaux CDTMR et 5 attribués dans CDTMF existants	Préfecture d'Anfa	CDTMR Anfa	GX Rif 4				
	Préfecture d'Anfa	IPM	GX Rif 4		Culture	LPA	TDS sur culture
	Préfecture d'Anfa	Hôpital Ibn Rochd	GX XDR 4				
	Préfecture d'Anfa	Prison Aïn Sebaa	GX XDR 4				
	Préfecture Mediouna	CDTMR	GX Rif 4 (région)				
	Préfecture Nouacer	CDTMR	GX Rif 4 (région)				
	Préfecture Ain Chock	CDTMR Aïn Chok	GX Rif 4				
	Préfecture Casa h,hassany	CDTMR Casa h,hassany	GX Rif 4				
	Préfecture Ain Sbai Hay Mohammadi	CS Saada	GX Rif 4				
	Préfecture Al Fida	CDTMR El Fida	2 GX Rif 4 (1 PNLAT, 1 OMS)				
	Préfecture Ben M'sik	CDTMR Cité Jmâa	GX Rif 4				
	Préfecture My Rchid	CDTMR My Rchid	GX Rif 16	2 GX Rif 4 à redéployer			

	Préfecture Mohammadia	CDTMR Al Aalia	GX XDR 4	GX Rif 4 à redéployer			
	Préfecture Sidi Bemoussi	CDTMR Bemoussi	GX Rif 4				
	Province Benslimane	CDTMR	GX Rif 4				
	Province de Berchid	CDTMR Berchid	GX Rif 4				
	Province de Settat	CDTMR Settat	GX Rif 4		Culture		
	Province El Jadida	CDTMR Bouchrit	GX Rif 16	2 GX Rif 4 à redéployer	Culture		
Région de Marrakech-Safi	Préfecture de Marrakech	CDTMR Riad Lmokha	GX Rif 16	2 GX Rif 4 à redéployer	Culture	LPA	
	Province de chichaoua	CDTMR Chichaoua	GX Rif 4				
	Province d'El kelâa des Sraghna	CDTMR El kelâa	GX Rif 4				
	Province d'Essaouira	CDTMR	GX Rif 4		Culture		
	Province de Safi	CDTMR Safi	GX XDR 4	GX Rif 4 à redéployer	Culture		
Région de Drâa-Tafilalet	Province d'Errachidia	CDTMR Errachidia	GX XDR 4	GX Rif 4 à redéployer	culture prévue attente réaménagement		
Région de Souss-Massa	Préfecture d'Agadir	CDTMR Agadir	GX Rif 4				
	Province de chtouka Ait Baha	CDTMR Biougra	GX Rif 4				
	Préfecture d'Inezgan	CDTMR Inezgan	GX XDR 16	GX Rif 4 à redéployer	Culture		
	Province de Taroudant	CDTMR Taroudant	GX Rif 4				
Région de Guelmim-Oued Noun	Province de GUELMIM	CDTMR Guelmim	GX Rif 4				
Région de Laâyoune Sakia El Hamra	Province de Laâyoune	CDTMR Lâayoune	GX XDR 4	GX Rif 4 à redéployer	Culture		
Région de Dakhla-Oued Ed Dahab	Province d'ouad Eddahab	CDTMR Eddakhla	GX Rif 4				

Labo nouvellement équipés (Xpert MTB RIF)

Labo nouvellement Equipés (Xpert XDR)