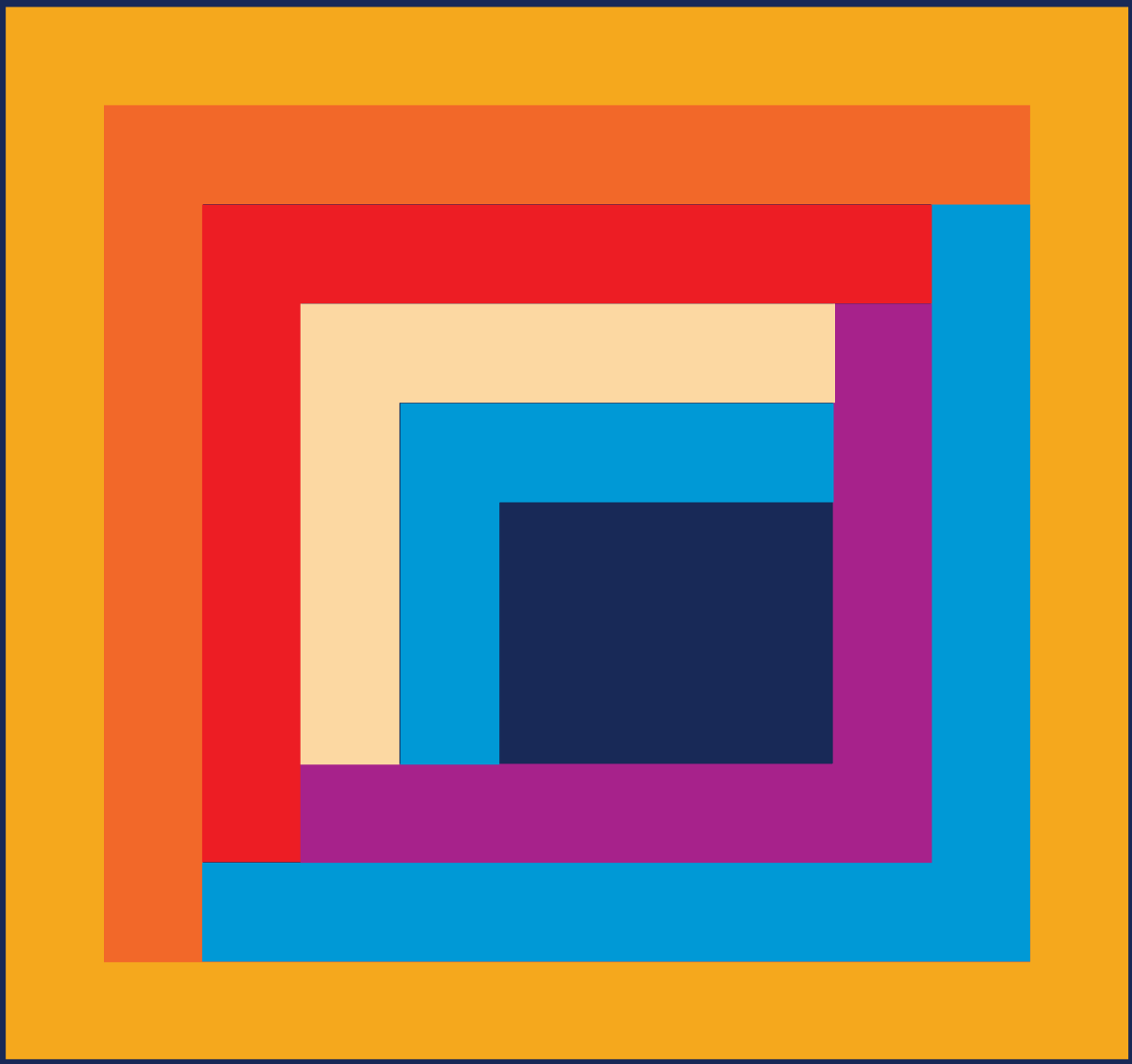
Tuberculosis and primary health care

Synergies and opportunities towards universal health coverage

Policy brief



World Health Organization

Tuberculosis and primary health care

Synergies and opportunities towards universal health coverage

Policy brief

World Health Organization

Tuberculosis and primary health care: synergies and opportunities towards universal health coverage. Policy brief

ISBN (WHO) 978-92-4-011129-5 (electronic version)
ISBN (WHO) 978-92-4-011130-1 (print version)

Suggested citation. Tuberculosis and primary health care: synergies and opportunities towards universal health coverage. Policy brief. Geneva: World Health Organization; 2025. Licence: CC BY-NC-SA 3.0 IGO.

Cataloguing-in-Publication (CIP) data. CIP data are available at https://iris.who.int/.

Designed by minimum graphics

Contents

“Quality tuberculosis (TB) care must be accessible to all and free from financial hardship, to truly achieve universal health coverage (UHC). At the same time, ending TB is intrinsically tied to each country’s progress towards UHC and addressing the broader social and economic determinants of the TB epidemic through coordinated multisectoral actions.

A primary health care (PHC) approach is indispensable for delivering comprehensive TB services. In fact, TB service coverage can serve as a critical indicator of the effectiveness and functionality of PHC-oriented health systems in the broader pursuit of UHC.”

Dr Tereza Kasaeva
Director
World Health Organization (WHO) Global Programme on Tuberculosis and Lung Health

“Reorienting programmes focusing on specific diseases, such as TB, towards the PHC approach goes far beyond technical considerations. Successfully reorienting a system towards PHC – entailing integrated health services, community engagement and multisectoral action – requires savvy political leadership and long-term commitment. It necessitates proactive, adaptable strategies to engage with people at all levels of the system, with compassion at the heart of all efforts.”

Dr Suraya Dalil
Director
WHO Special Programme on Primary Health Care

Acknowledgements

This policy brief *Tuberculosis and primary health care: synergies and opportunities towards universal health coverage* was written by Tauhid Islam and Debora Pedrazzoli, under the overall direction of Tereza Kasaeva and Farai Mavhunga, all from the World Health Organization (WHO) Global Programme on Tuberculosis and Lung Health (WHO/GTB), in collaboration with Shamsuzzoha Babar Syed and Faraz Khalid from the WHO Special Programme on Primary Health Care.

The following WHO staff provided input and supported consultation processes that informed the document: Pedro Avedillo, Annabel Baddeley, Sepideh Bagheri, Anand Balachandran, Vineet Bhatia, Kenza Bennani, Tsolmon Boldoo, Annemieke Brands, Maria Regina Christian, Alarcos Cieza, Hannah Monica Dias, Ismael Endris, Dennis Falzon, Michel Gasana, Rabin Gautam, Lice Gonzalez Angulo, Christian Gunneberg, Patricia Hall-Eidson, Karina Halle, Laeeq Khawaja, Faraz Khalid, Setiawan Jati Laksono, Nomthandazo Lukele, Francis Mupeta, Fuad Mirzayev, Eunice Omesa, Challa Negeri Ruda, Mya Sapal Ngon, Andrew Seale, Lana Syed, Shamsuzzoha Babar Syed, Sabine Verkuijl, Kerri Viney, Martin van den Boom, Rajendra Yadav and Matteo Zignol.

WHO acknowledges the following people who led the drafting of specific themes within the document: Annabel Baddeley (WHO) on the framework for collaborative action on tuberculosis (TB) and comorbidities, and Sabine Verkuijl (WHO) and Anne Detjen (United Nations Children's Fund [UNICEF]) on TB and child and adolescent integrated health, and Lice Gonzalez Angulo on integrated approaches to TB and lung health.

WHO also gratefully acknowledges the contribution of the following people: Anne Detjen and Ruslan Malyuta (UNICEF), Kathy Fiekert (KNCV Tuberculosis Foundation), Robert Makombe (FHI 360), Mohammed Yassin (Global Fund to Fight AIDS, Tuberculosis and Malaria [Global Fund]), Guy Stallworthy (Bill & Melinda Gates Foundation), Immaculate Kathure, Stephen Macharia, Nellie Mukiri (Ministry of Health, Kenya), Kelly Safreed-Harmon (WHO consultant), Jacquie Oliwa (Kenya Medical Research Institute), Jaime Bayona Garcia (World Bank), Tiffany Tiara Pakasi (Ministry of Health, Indonesia), Tendai Nkomo, Sein Sein Thi, Joyce Sibanda (Ministry of Health, Eswatini), Moorine Sekadde (Ministry of Health, Uganda), Taposh K. Biswas and Gantungalag Ganbaatar (Ministry of Health, Mongolia), Edward Tisungane Mwenyenkulu (Ministry of Health, Malawi).

WHO thanks the peer reviewers for their invaluable feedback and input: Ghulam Qader Qader (WHO Civil Society Task Force on Tuberculosis), Md Khurshid Alam Hyder (TB and public health specialist) and Karina Kielman (Institute for Global Health & Development, Queen Margaret University). All the experts were asked to submit a declaration of interest form to WHO. No competing interests were identified from the declarations of interests collected or throughout this process.

The production of this document has been made possible through funding support from the UHC Partnership (Belgium, European Union, France, Ireland, Japan, Luxembourg, United Kingdom of Great Britain and Northern Ireland and WHO).

Abbreviations and acronyms

AIDS	acquired immunodeficiency syndrome
HIV	human immunodeficiency virus
LMIC	low- and middle-income countries
M&E	monitoring and evaluation
MAF-TB	Multisectoral Accountability Framework for tuberculosis
NTP	national tuberculosis programme
PHC	primary health care
SCI	service coverage index
SDG	Sustainable Development Goal
TB	tuberculosis
UHC	universal health coverage
UN	United Nations
UNHLM	United Nations General Assembly high-level meeting
UNICEF	United Nations Children's Fund
WHO	World Health Organization
WHO/GTB	World Health Organization Global Tuberculosis Programme on Tuberculosis and Lung Health
WRD	WHO-recommended rapid diagnostic tests

Glossary

Change management. An approach to transitioning individuals, teams, organizations and systems to a desired future state.

Empowerment. The process of supporting people and communities to take control of their own health needs resulting, for example, in the uptake of healthier behaviours or an increase in the ability to self-manage illnesses.

Essential package of health services: the package of services that the government is providing or is aspiring to provide to its citizens in an equitable manner. The package includes preventive, promotive, curative, rehabilitative and palliative health services aimed at individuals, and is typically delivered through five levels of health care: community, primary health care facilities, first level hospitals, tertiary level hospitals and population level. Providing essential health care services is the primary responsibility of the health sector.

Essential public health functions. The spectrum of competences and actions that are required to reach the central objective of public health – improving the health of populations.

First level of care (contact). The entry point into the health system at the interface between services and community; when the first level of care (contact) satisfies several quality criteria, it is called primary care (see: primary care).

Fragmentation (of health services). The coexistence of units, facilities or programmes that are not integrated into the health network; the lack of service coverage of the entire range of promotion, prevention, diagnosis, treatment, rehabilitation and palliative care services; the lack of coordination among services in different platforms of care; or the lack of continuity of services over time.

Health benefit package. The type and scope of health services that a purchaser buys from providers on behalf of its beneficiaries.

Health service. Any service (not limited to medical or clinical services) aimed at contributing to improved health or to the diagnosis, treatment and rehabilitation of individuals and populations.

Health system. All organizations, people and actions whose primary intent is to promote, restore or maintain health. This includes efforts to influence determinants of health as well as more direct health-improving activities. A health system is therefore more than the pyramid of publicly owned facilities that deliver personal health services. It includes, for example, family caregivers, private providers, behaviour change programmes, vector-control campaigns, health insurance organizations, and occupational health and safety legislation. The World Health Organization (WHO) health system framework identifies six health system building blocks: leadership and governance, health financing, health workforce, health services, health information systems, and medical products, vaccines and technologies.

Integrated health services. Health services that are managed and delivered so that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services, coordinated across the different levels and sites of care within and beyond the health sector, and according to their needs throughout the life-course.

Model of care. A conceptualization of how services should be delivered, including the processes of care, organization of providers and management of services. The model of care evolves to meet the health aims and priorities of the population and to improve the performance of the health system.

Multisectoral action (on health). Policy design, policy implementation and other actions related to health and other sectors (e.g. social protection, housing, education, agriculture, finance and industry) carried out collaboratively or alone, which address social, economic and environmental determinants of health and associated commercial factors or improve health and well-being.

National TB programme (NTP). One of the compo- nents of the national health system. A country's NTP is responsible for ensuring that the entire health system carries out the actions necessary to reduce mortality and morbidity from TB, and interrupt transmission of the disease. This requires linkages and collaboration outside the ministry of health, since many health care facilities are governed by other ministries (e.g. those for justice, defence, labour, education, social welfare and transport). The NTP is also responsible for communicating to decision-makers outside the health sector the need to address the socioeconomic and environmental determinants of TB, to ensure long-term control and elimination of the disease. The NTP is responsible for setting policy standards, developing programme guidelines and training materials, ensuring that sufficient financial and human resources are available, and monitoring the process and results of programme implementation.

People-centred care. An approach to care that consciously adopts the perspectives of individuals, caregivers, families and communities as participants in, and beneficiaries of, trusted health systems that are organized around the comprehensive needs of people rather than individual diseases, and that respects social preferences. People-centred care is broader than patient and person-centred care, encompassing not only clinical encounters but also attention to the health of people in their communities and their crucial role in shaping health policy and health services.

Primary care. A key process in the health system that supports first-contact, accessible, continued, comprehensive and coordinated patient-focused care.

Primary health care (PHC). A whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three components: primary care and essential public health functions as the core of integrated health services; multisectoral policy and action; and empowered people and communities.

PHC-oriented health system. A health system that is organized and operated to guarantee the right to the highest attainable level of health as the main goal, while maximizing equity and solidarity. A PHC-oriented health system comprises a core set of structural and functional elements that support achieving universal health coverage (UHC) and access to services that are acceptable to the population and equity enhancing.

Quality health care. Care that is safe, effective, people centred, timely, efficient, equitable and integrated.

Service package. A list of priority interventions and services across the continuum of care that should be made available to all individuals in a defined population. It may be endorsed by the government at the national or subnational levels, or agreed by actors where care is provided by a non-state actor.

TB services. Services that encompass a wide range of health care activities and interventions designed to prevent, detect, diagnose, treat and monitor TB infection and disease.

Universal health coverage (UHC). Ensured access for all people to needed promotive, preventive, resuscitative, curative, rehabilitative and palliative health services that are of sufficient quality to be effective and that do not expose any users to financial hardship.

Definitions in this glossary are adapted from the following sources:

Essential public health functions, health systems and health security: developing conceptual clarity and a WHO roadmap for action. Geneva: World Health Organization; 2018 (https://www.who.int/publications/i/item/9789241514088). Licence: CC BY-NC-SA 3.0 IGO.

Glossary of terms: the European Framework for Action on Integrated Health Services Delivery (WHO/EURO:2016–6523–46289–67060). Copenhagen: World Health Organization Regional Office for Europe; 2016 (https://iris.who.int/handle/10665/366476).

Tello J, Barbazza E, Yelgezekova Z, Kruse I, Klazinga N. et al. Glossary of terms: WHO European Primary Health Care Impact, Performance and Capacity Tool (PHC-IMPACT) (WHO/EURO:2019–3662–43421–60966). Copenhagen: World Health Organization Regional Office for Europe; 2019 (https://iris.who.int/handle/10665/346481).

Health systems strengthening glossary. Geneva: World Health Organization; 2011 (https://www.who.int/docs/default-source/documents/health-systems-strengthening-glossary.pdf).

Integrated health service delivery networks: concepts, policy options and a road map for implementation in the Americas. Washington, DC: Pan American Health Organization; 2011 (https://www.paho.org/hq/dmdocuments/2011/PHC_IHSD-2011Serie4.pdf).

Primary health care-based health systems: strategies for the development of primary health care team. Washington, DC: Pan American Health Organization; 2009. (https://www.paho.org/hq/dmdocuments/2010/PHC-Strategies_Development_PHC_Teams.pdf).

WHO global strategy on people-centred and integrated health services: interim report (WHO/HIS/SDS/2015.6). Geneva: World Health Organization; 2015 (https://iris.who.int/handle/10665/155002).

Implementing the WHO Stop TB Strategy: a handbook for national tuberculosis control programmes (WHO/HTM/TB/2008.401). Geneva: World Health Organization; 2012 (https://iris.who.int/handle/10665/43792).

Highlights

- The third Sustainable Development Goal (SDG) includes a target for countries to end the epidemics of AIDS, tuberculosis (TB), malaria and neglected tropical diseases, and combat hepatitis, waterborne diseases and other communicable diseases by 2030, and to achieve universal health coverage (UHC) – including financial risk protection, access to quality essential health services, and access to safe, effective, quality and affordable essential medicines and vaccines – for all by the same year.
- The World Health Organization (WHO) promotes primary health care (PHC) as the key approach for achieving UHC. PHC is therefore also an essential vehicle for ending TB and reaching other SDG targets, as stated in the political declaration of the 2023 United Nations General Assembly high-level meeting on the fight against tuberculosis, which emphasizes that ending TB requires accelerating progress towards UHC, particularly through strong and sustainable PHC.
- PHC is a whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three core components: integrated health services with an emphasis on primary care and essential public health functions, multisectoral policy and action, and empowered people and communities.
- TB impacts individuals of all ages, including children and older adults, and is often associated with comorbidities. TB-associated impairments and disabilities are prevalent, and social determinants (e.g. poverty and poor living conditions) are significant risk factors for acquiring and developing the disease.
- Reaching the 2030 targets set in the End TB Strategy requires optimizing the use of current tools combined with progress towards UHC and social protection, and the introduction and use of new tools.
- There are notable synergies between the pillars of the End TB Strategy and the three core components of the PHC approach.
- The levers of the PHC approach further exemplify the alignment between the TB response and the PHC approach; they also provide a framework for identifying opportunities to jointly advance the TB and PHC agendas.
- There are several challenges to aligning the TB response with the PHC approach; for example, inadequate political commitment, weak governance, inadequate infrastructure and health workforce, and fragmented funding mechanisms.
- Although there are clear opportunities to jointly advance the PHC orientation of health systems and achieve TB goals across various domains, there is no universal approach for integrating TB objectives within PHC-strengthening efforts; this is due to the wide variation in the maturity of PHC-oriented health systems across different countries.
- Conducting an analysis of the policy environment at the country level is a crucial first step towards identifying entry points to develop a pathway for aligning the TB response with the PHC approach.
- A sustainable system that ensures a PHC approach to TB will require continued advocacy and adaptation. Coordinated planning for system development will make it possible to address multiple health issues simultaneously, while also helping to achieve the targets for specific diseases, such as those for TB.

CHAPTER 1

Background and scope

1.1 Introduction

Tuberculosis (TB), one of the world's leading causes of death from an infectious agent, remains a significant global health challenge. The burden of TB is disproportionately high among impoverished and marginalized populations *(1)*. Key social determinants such as poverty, food insecurity, overcrowded living spaces and limited access to health care exacerbate the spread and impact of the disease. These factors highlight the need for a comprehensive, whole-of-society response that addresses both the clinical and social aspects of TB prevention and care.

The World Health Organization's (WHO's) End TB Strategy guides the global response to TB with a focus on integrated, people-centred care, bold policies and research-driven innovations. The strategy emphasizes government leadership, civil society empowerment, the promotion of human rights and equity (**Box 1.1**). Global commitments to end TB have been reinforced at the 2018 and 2023 United Nations (UN) General Assembly high-level meetings on TB (UNHLMs) *(2, 3)*. Despite these efforts, progress towards meeting the milestones and targets of the End TB Strategy *(4)* has been slow. The world is currently off-track to achieve key targets, necessitating increased global action.

Significant gaps remain in global TB efforts, largely owing to inadequate funding and fragmented financing systems, particularly in low- and middle-income countries (LMIC). Available funding for TB services falls far short of the globally estimated need and the UNHLM targets, limiting the reach and effectiveness of national TB programmes (NTPs). A primary health care (PHC) approach is essential to closing these gaps because it allows for the integration of TB services into broader health systems, thus leading to more efficient use of available resources. Strengthening PHC ensures that TB care is accessible, affordable and people centred, while addressing other health needs at the same time. To end the global TB epidemic, global commitments must therefore urgently be translated into action through sustainable system-wide approaches that prioritize PHC *(5, 6)*.

The 2030 health-related Sustainable Development Goal (SDG 3) includes a target for countries to end the epidemics of AIDS, TB, malaria and neglected tropical diseases; combat hepatitis, waterborne diseases and other communicable diseases by 2030; and achieve universal health coverage (UHC). WHO promotes PHC as the key approach for achieving UHC and reaching the SDG 3 targets. The PHC approach is defined as a whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three components: primary care and essential public health functions as the core of integrated health services; multisectoral policy and action; and empowered people and communities. Through these components, the PHC approach promotes models of care that support first-contact, patient-focused care that is accessible, continued, comprehensive and coordinated, to optimize population health and reduce disparities in access to health services. It seeks to address the broader determinants of health by involving stakeholders within and outside the health sector, and to empower individuals, families and communities to be more involved in their own health. PHC-oriented health systems across a wide variety of settings in low-, middle- and high-income countries have consistently produced better health outcomes, enhanced equity and improved efficiency *(7, 8)*.

The PHC approach is essential to achieving the goals and targets set in the End TB Strategy *(4)*. Designing and operationalizing an effective country-specific response to end TB should be founded on the PHC approach, with a focus on the integration of health services and essential public health functions (see Glossary). The End TB Strategy *(4)* promotes integrated TB care delivery within general health services, including social protection services to address the social determinants and consequences of TB, with accountability of all TB stakeholders, and empowered community and civil society. The strategy promotes engagement and collaboration with other health programmes and ministries to integrate TB into their portfolios, as also advocated by the Multisectoral Accountability Framework for TB (MAF-TB) *(9)*.

Box 1.1
The End TB Strategy at a glance

VISION	A WORLD FREE OF TB — zero deaths, disease and suffering due to TB			
GOAL	**END THE GLOBAL TB EPIDEMIC**			
INDICATORS	MILESTONES		TARGETS	
	2020	2025	2030	2035
Percentage reduction in the absolute number of TB deaths[a] (compared with 2015 baseline)	35%	75%	90%	95%
Percentage reduction in the TB incidence rate (compared with 2015 baseline)	20%	50%	80%	90%
Percentage of TB-affected households facing catastrophic total costs due to TB[b] (level in 2015 unknown)	0%	0%	0%	0%

PRINCIPLES

1. Government stewardship and accountability, with monitoring and evaluation
2. Strong coalition with civil society organizations and communities
3. Protection and promotion of human rights, ethics and equity
4. Adaptation of the strategy and targets at country level, with global collaboration

PILLARS AND COMPONENTS

1. INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION

A. Early diagnosis of TB including universal drug-susceptibility testing, and systematic screening of contacts and high-risk groups
B. Treatment of all people with TB including drug-resistant TB, and patient support
C. Collaborative TB/HIV activities, and management of comorbidities
D. Preventive treatment of persons at high risk, and vaccination against TB

2. BOLD POLICIES AND SUPPORTIVE SYSTEMS

E. Political commitment with adequate resources for TB care and prevention
F. Engagement of communities, civil society organizations, and public and private care providers
G. Universal health coverage policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control
H. Social protection, poverty alleviation and actions on other determinants of TB

3. INTENSIFIED RESEARCH AND INNOVATION

I. Discovery, development and rapid uptake of new tools, interventions and strategies
J. Research to optimize implementation and impact, and promote innovations

[a] This indicator is for the combined total of TB deaths in HIV-negative and HIV-positive people. Deaths from TB among people with HIV are officially classified as deaths caused by HIV/AIDS, with TB as a contributory cause.
[b] This indicator is not the same as the SDG indicator for catastrophic health expenditures.

Aligning the TB response with the principles of PHC presents significant opportunities to strengthen PHC and accelerate efforts to end TB as a public health threat. However, in many settings there are numerous challenges that hinder progress towards this alignment; for example, insufficient political commitment to social equity and recognition of health as a human right, and a lack of robust multisectoral collaboration – both of which are fundamental to the success of the PHC approach and TB programmes. Fragmented funding mechanisms and inadequate infrastructure and health workforce are additional challenges that impact the alignment of the PHC approach and the TB response.

Advancing the agenda to end TB and simultaneously strengthening PHC depends on the degree to which health systems and NTPs are oriented towards PHC. The approach will vary based on country context, as they are at different stages in aligning TB with the PHC approach. The perception of TB programmes as 'vertical programme' creates barriers to recognizing synergies between the TB response and the PHC approach, hindering efforts to leverage the delivery of an integrated, people-centred response. Assessing the local PHC policy environment is essential for identifying opportunities for advancing both agendas.

1.2 Rationale

In 2023, TB remained one of the world's leading killers, claiming 1.3 million lives *(10, 11)*. Nearly 11 million people are estimated to develop TB disease annually; of these, about 3 million people are not diagnosed or not notified to national authorities and are therefore "missed" by health systems *(12)*. This situation is compounded by the stigma associated with the disease, because some individuals with TB symptoms fear stigmatization if they seek a TB diagnosis. Accessing this unreached population warrants a people-centred health system, with community engagement and empowerment, in line with the PHC approach.

The highest burden of TB is in adults (aged ≥15 years); in 2023, men accounted for 55% and women for 33% of the estimated total number of incident cases. However, TB affects people of all ages, including children and older adults: in 2023, 12% of notified TB cases were children and young adolescents (aged 0–14 years), and 12% were people aged 65 years and over. According to the 2024 global TB report *(12)*, about 30% of incident TB is attributable to five health-related risk factors: undernutrition, diabetes, smoking, HIV infection and alcohol use disorders. Despite successful TB treatment, a significant proportion of people with TB develop TB-associated impairments. These include mental health conditions and lung function impairments, which affect about 23% and 21% of people with TB, respectively *(13)*. It is crucial that TB services are provided throughout the life-course, with integrated service delivery that ensures comprehensive care for the overall health needs of individuals, which is the premise of PHC.

Despite significant advances in recent years, most people with TB will require up to 6 months of treatment for drug-susceptible TB, and even longer for certain drug-resistant forms. This prolonged treatment is a key factor in poor treatment adherence, leading to incomplete recovery, increased TB transmission, rising antibiotic resistance, and worsening morbidity and mortality. Social and financial barriers, including the lack of effective social support when people become unwell, hinder access to care. Costs associated with seeking TB diagnosis and treatment are often "catastrophic" (defined as >20% of annual household expenditure or income) for many people affected by TB and their households. Globally, nearly half of people with TB face catastrophic costs, and this proportion is higher for people with drug-resistant TB *(12)*. Thus, support for TB affected people, both psychological and social, is crucial for effective TB prevention and care.

TB is largely driven by social determinants such as inadequate housing (including poor ventilation and overcrowding), poverty and food insecurity *(14, 15)*. Addressing the underlying determinants requires a holistic, people-centred approach with multisectoral engagement and actions.

The End TB Strategy *(4)* envisions a decline in global TB incidence rates by optimizing current tools for TB prevention and care, in tandem with advancing UHC and social protection measures. UHC means that everyone can obtain the quality health services they need without suffering financial hardship *(16)*. Anyone with TB disease or infection should be able to access appropriate treatment without incurring financial hardship. Advancing UHC relies on a strong PHC-oriented health system. As the foundation of a robust and resilient health system, a PHC-oriented health system ensures that people can access integrated, people-centred quality care at every stage of life, with multisectoral action and involvement of communities.

1.3 Global commitments for PHC and TB

The vision for PHC has its roots in the 1978 Declaration of Alma-Ata, which called on governments and the global community to recognize the centrality of PHC in achieving better health outcomes *(17)*. Four decades later, in the 2018 Declaration of Astana *(18)*, countries committed themselves to orienting health systems towards PHC to accelerate progress on UHC and the health-related SDGs. Building on the principles of the Declaration of Alma-Ata, the Declaration of Astana centres around four commitments:

- making bold choices for health across all sectors;
- building sustainable PHC adapted to each country's local context;
- empowering individuals and communities; and
- aligning stakeholder support to national policies.

In 2019, the Seventy-second World Health Assembly's resolution WHA72.2 welcomed the Declaration of Astana and urged Member States to take measures to share and implement its vision and commitments according to national contexts *(19)*. The resolution also requested the development of a PHC operational framework to strengthen health systems and support countries in scaling up implementation *(20)*. In 2022, the Seventy-fifth World Health Assembly called for a radical reorientation of health systems towards PHC as the foundation of UHC, further affirmed by the political declaration of the 2023 UNHLM on UHC *(3)*.

Box 1.2

Extracts from selected articles from the political declaration of the 2023 UNHLM on the fight against TB

Heads of state and government and representatives of states and governments assembled at the UN on 22 September 2023 and agreed the following:

- Affirm that the response to TB needs to be people-centred, community-based and gender-responsive, with full respect for human rights, and integrated across relevant health and other sectors (Article 12).
- Acknowledge that robust, integrated and resilient health systems can contribute to pandemic preparedness (Article 14).
- Acknowledge that ending TB requires accelerating progress towards UHC through PHC (Article 24).
- Commit to integrating TB activities within PHC (Article 49).

The central role of PHC is emphasized in the political declaration of the 2023 UNHLM on the fight against TB, which was endorsed by heads of state and government. The declaration notes that ending TB requires accelerating progress towards UHC, particularly through strong and sustainable PHC (**Box 1.2**). It reaffirms the principles and targets of the End TB Strategy and commits to additional ambitious targets to end TB. It also pledges to accelerate progress towards universal access to timely and quality TB services, such that, by 2027:

- at least 90% of the estimated number of people who develop TB receive quality-assured diagnosis and treatment;
- at least 90% of people at high risk of developing TB are provided with preventive treatment; and
- 100% of people with TB have access to a health and social benefits package.

In conclusion, the renewed global commitment to PHC as the foundation for achieving UHC and ending the TB epidemic underscores the critical role of PHC in improving health outcomes worldwide. The 2023 UNHLM on TB reaffirmed this approach, emphasizing the need for strong, sustainable PHC as essential to reaching ambitious targets for TB diagnosis, treatment and prevention. The alignment of TB and PHC efforts is crucial for accelerating progress towards ending TB and achieving the health-related SDGs. A coordinated, PHC-driven response will be key to ensuring equitable access to quality health services and ultimately to ending TB as a public health threat.

1.4 Purpose and target audience of the policy brief

This policy brief explores the synergies and opportunities that arise from aligning the TB response with the principles of PHC, to jointly advance respective efforts to strengthen PHC and end TB as a public health threat. It is aimed at policy-makers and stakeholders, including health managers, leaders for both PHC and TB programmes, nongovernmental organizations (NGOs), civil society organizations (CSOs), affected communities, researchers, donors and technical partners involved at various levels in the health system. The brief is designed to help those people and organizations to consider and explore the synergies between the PHC approach and the TB response. It seeks to maximize opportunities for collaboratively advancing efforts to strengthen PHC and end TB. This document also lays the foundations for future work by NTPs and partners in applying the "PHC for UHC" approach to the TB response.

Although this publication focuses on TB, the concepts and considerations it presents are applicable to other programmes addressing specific diseases.

1.5 Development of the policy brief

The development of the policy brief was coordinated by a WHO internal steering committee comprising staff from WHO headquarters, and regional and country offices working on TB, PHC, HIV, quality of care and noncommunicable diseases. The committee endorsed the proposed workplan developed by a core team at the WHO Global Programme on Tuberculosis and Lung Health (WHO/GTB). The topic of this policy brief was presented to representatives from high TB burden countries and partners at the End TB Strategy Summit in Paris, France, in 2023. During the summit, key priorities for countries were discussed and the development of a policy brief emerged as a top priority, followed by the collation of a series of country case studies. In addition, a scoping review of the literature on the intersection between TB and PHC was conducted to inform the development of this document (**Box 1.3**).

In 2024, a virtual global consultation was held to discuss the purpose and outline of the policy brief. Participants included representatives of NTPs, staff from WHO country and regional offices, technical

partners and funding agencies. The outcome of this consultation was subsequently presented at a meeting of the TB Strategic and Technical Advisory Group on Tuberculosis, which endorsed the proposed content and structure of the policy brief. The final draft of this document underwent peer review by external experts.

Box 1.3
Summary of the scoping review of the literature on TB and PHC

Objectives

- To determine the commonalities between the PHC approach and TB prevention and care strategies.
- To identify barriers and opportunities for joint action for implementing the integration of the PHC approach and TB prevention and care.
- To determine and document the potential impact of PHC on TB incidence, morbidity and mortality, and TB treatment outcomes.

Methods

Literature searches were conducted in PubMed, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Cochrane and Embase, with additional citation mining from Google Scholar and references from other reviews. The search was limited to papers published from 2006 and written or translated into English. Findings were mapped to the three PHC components.

Findings

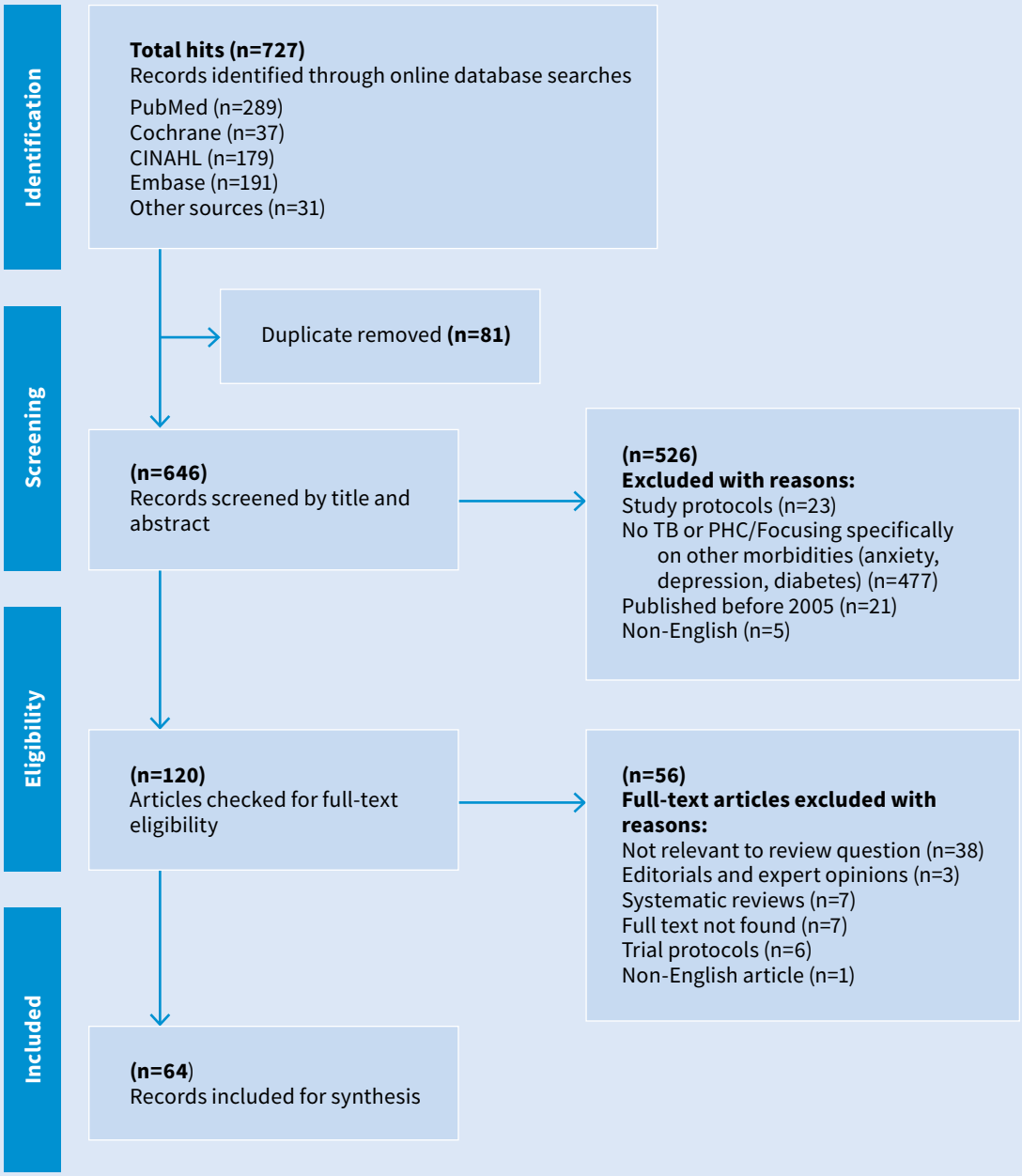
After applying the inclusion and exclusion criteria, 120 articles that answered the research questions were screened, as shown in **Fig. B1**.

The literature review highlighted the significant synergies between the PHC approach and TB prevention and care strategies. The integration of TB services – encompassing promotive, preventive, curative and rehabilitative care – into primary care is both feasible and culturally acceptable; hence, it could offer considerable potential for improving TB outcomes. Empowering people and communities through social mobilization and communication efforts can effectively combat stigma, increase case detection and improve adherence to treatment. Furthermore, multisectoral policy and action, particularly through public–private partnerships, provide opportunities to enhance TB prevention, diagnosis and social support services. By addressing barriers and capitalizing on the opportunities identified, the integration of the PHC approach with TB prevention and care can lead to improved health outcomes and advance progress towards UHC.

Source: WHO (2022) *(21)*.

Box 1.3 *Continued*

Fig. B1. Flow chart for identification of studies from online databases



CHAPTER 2

Synergies between the PHC approach and the TB response

2.1 TB programmes

An NTP is a component of the national health system. It is responsible for setting policy standards to prevent, detect, treat, monitor and stop the spread of TB within a population; ensuring that sufficient financial and human resources are available; and monitoring the process and results of programme implementation *(22)*. An NTP is also responsible for collaborating and coordinating with other sectors (i.e. within and beyond health) to address the broader social, economic and environmental factors that influence TB transmission and treatment outcomes; these factors include poverty, housing, nutrition and education *(23, 24)*. In practice, there is variation in the remits of NTPs; for example, some involve developing policy standards along with monitoring the provision of key services and the outcomes of concern, whereas others may include arrangements for TB service delivery. The latter has often led to the perception that NTPs operate separately from, rather than being integrated with, the wider health system *(25–27)*.

TB services encompass a wide range of health care activities and interventions designed to prevent, detect, diagnose, treat and monitor TB infection and disease. These services are implemented within health systems (**Fig. 2.1**). A health system comprises all organizations, people and actions whose primary intent is to promote, restore and maintain health. The system is built on trained health workers, well-maintained infrastructure, reliable supply of medicine and technologies, backed by adequate funding, strong health plans and evidence-based policies *(28)*.

2.2 Primary health care

PHC is a whole-of-society approach to health that aims to maximize the level and distribution of health and well-being through three interrelated and synergistic core components *(20)*:

- Integrated health services with an emphasis on primary care and essential public health functions: meeting health needs through comprehensive

Fig. 2.1 Relationship between the TB programme, the PHC approach, the health system, UHC and the SDGs

TB programme	PHC	Health system	UHC	SDGs
A component of the national health system responsible for setting policy standards to prevent, detect, treat, monitor and stop the spread of TB within a population	An approach to the health system	Health systems comprise all organizations, people and actions to promote, restore and maintain health	UHC mens that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship	A series of 17 goals of sustainable (economic, environmental and social) development, their overall objective is to create a better world, and a better life for all, by 2030
TB-related goals, objectives and activities	Vehicle to promote, restore and retain health and reach the health-related goals		Goals that include ending TB	

PHC: primary health care; SDG: Sustainable Development Goal; TB: tuberculosis; UHC: universal health coverage.

Box 2.1
PHC and primary care

PHC and primary care describe two distinct yet related entities. Primary care is an aspect of PHC and describes a narrower concept of services delivered to individuals, whereas PHC is a broader term that derives from core principles articulated in the Declarations of Alma-Ata and Astana *(17, 18)*.

PHC is a framework or an approach to organizing and strengthening health systems, as defined in the WHO/United Nations Children's Fund (UNICEF) *Operational framework for primary health care (20)*, which has three components: integrated health services, multisectoral policy and action, and empowered people and communities. PHC therefore describes an approach to health policy and service provision that includes both services delivered to individuals (primary care services) and population-level functions that extend far beyond managing illness to include disease prevention and health promotion *(17)*.

Within the first component of PHC, which focuses on integrated delivery of services, primary care is emphasized as the entry point into the health system and is the regular point of contact for people receiving health services.

Primary care addresses the main health problems in the community, providing promotive, preventive, curative, rehabilitative and palliative services along the life-course *(17)*. It is the first level of contact for families and communities with the national health system, bringing health care as close as possible through integrated, functional and mutually supportive referral systems, leading to the progressive improvement of comprehensive health care for all, and giving priority to those most in need. At the local and referral levels, primary care relies on health workers.

promotive, protective, preventive, curative, rehabilitative and palliative care throughout life, by prioritizing key health services through primary care and essential public health functions as central elements of integrated health services.

- Multisectoral policy and actions that systematically address broader determinants of health (including social, economic and environmental factors, as well as individual characteristics and behaviours) through evidence-informed policies and actions across all sectors.
- Empowered people and communities that empower individuals, families and communities to optimize their health as advocates of policies that promote and protect health and well-being, and as co-developers of health and social services.

When implemented effectively, the PHC approach can help to deliver 90% of essential interventions that people need throughout their lives, from health promotion to disease prevention, treatment, rehabilitation and palliative care. It can also help to increase average life expectancy across LMIC *(29)*.

In many instances, the terms "primary care" and "primary health care" are used interchangeably; however, it is important to note the differences between the two terms (**Box 2.1**).

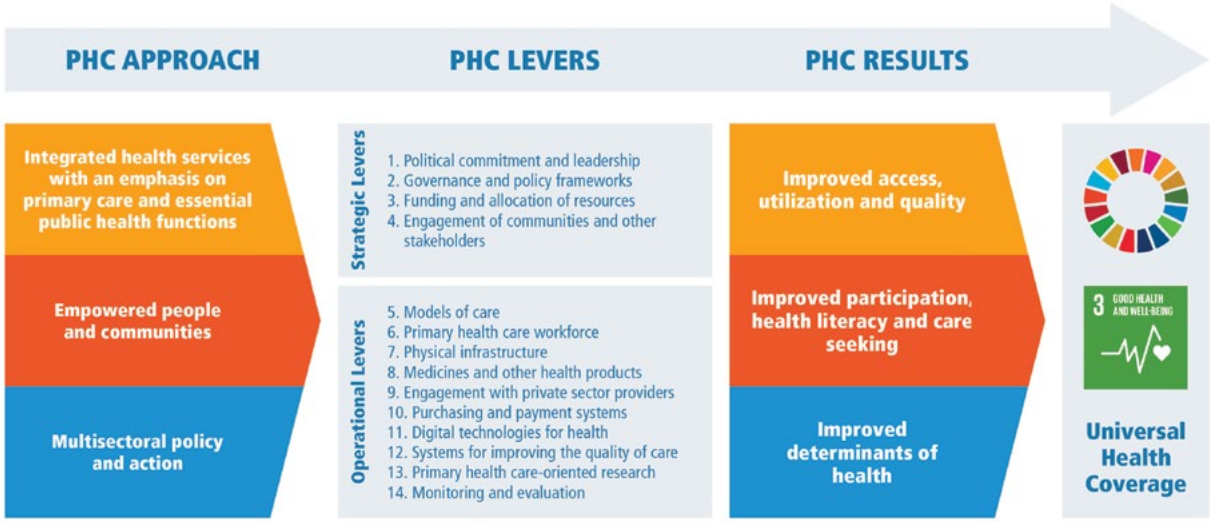
To achieve the vision of PHC, 14 key levers translate the core elements of the PHC approach into results (**Fig. 2.2**). The levers are interdependent, interrelated and mutually reinforcing; they are distinguished into core strategic and operational levers. Actions and interventions for each lever should be mutually and comprehensively considered throughout national health planning processes.

Fig. 2.2 shows the theory of change that describes how the core elements of the PHC approach can be translated into results through 14 interrelated levers for action and investment that contribute to improved health outcomes.

The theory of change outlines the relationship between the three components of PHC, the 14 levers for action and investment and the desired results, which include:

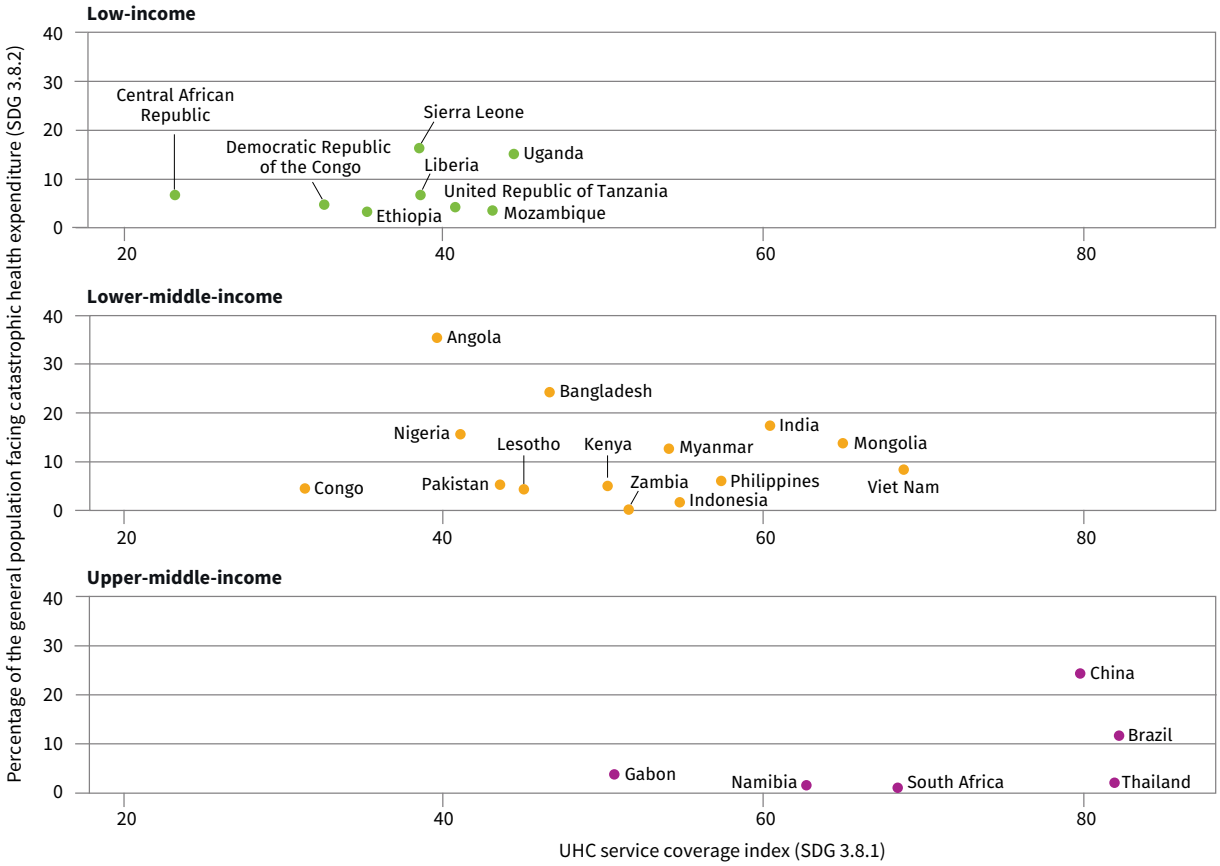
- improving access, use and quality;
- improving community participation, health literacy and health care seeking behaviours;
- addressing the broader social, physical, environmental and commercial determinants of health; and

Fig. 2.2 PHC theory of change



PHC: primary health care.
Source: WHO/UNICEF (2020) *(20)*.

Fig. 2.3 UHC service coverage and catastrophic health expenditure in the 30 countries with the highest burden of TB, 2021



TB: tuberculosis; UHC: universal health coverage.
Sources: WHO (2023) *(10)* Global tuberculosis report, 2023; WHO (2025) *(30)*.

- ultimately, improving the health status and well-being of individuals and populations.

In this way, the PHC theory of change predicates the achievement of UHC and the SDG targets on effective implementation of the PHC approach and levers.

2.3 Universal health coverage

UHC means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. Achieving UHC is one of the key targets for the 2030 SDGs. A PHC-oriented health system builds a strong, efficient and equitable platform to deliver on the promise of UHC.

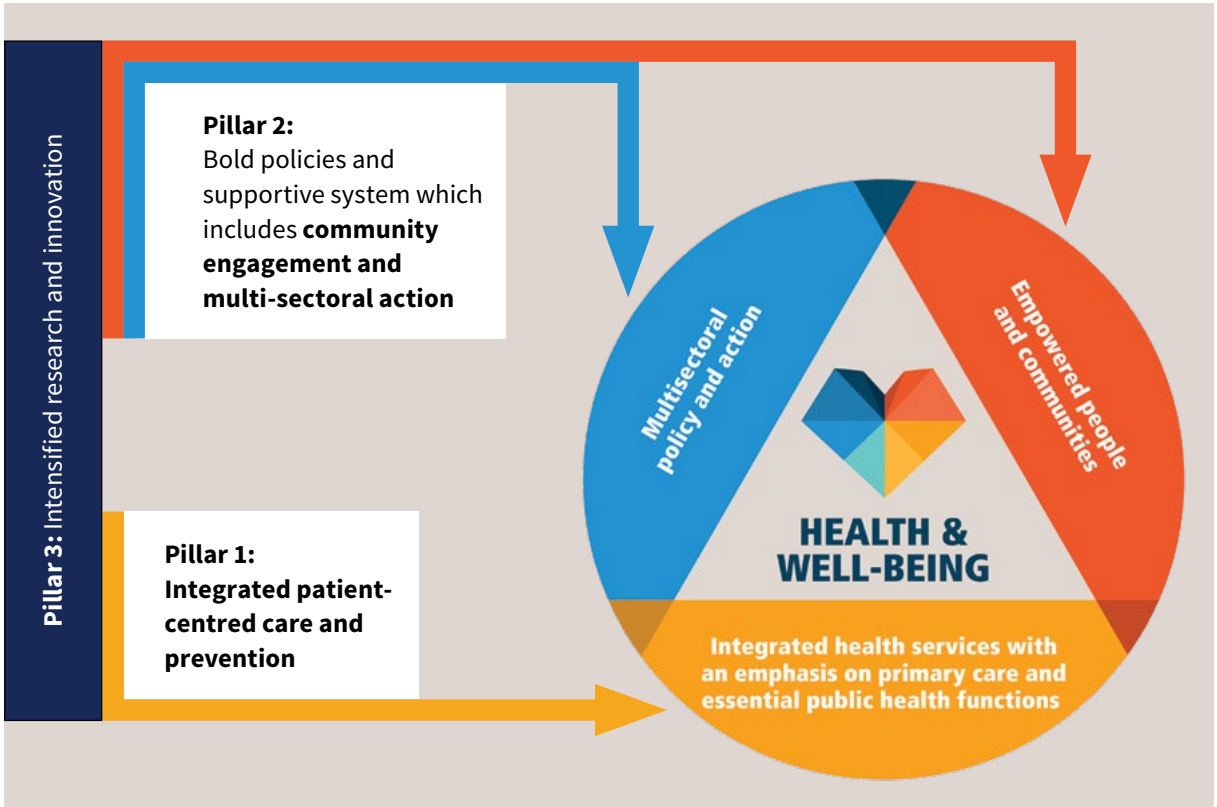
By adopting the SDGs, UN Member States have committed to achieving UHC by 2030. Target 3.8 is "Achieve universal health coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all". One of the two indicators to monitor progress towards this target is the UHC service coverage index (SCI) (Indicator 3.8.1); the SCI is calculated using 14 tracer indicators, one of which is the coverage of TB treatment. Among the 30 countries with the highest burden of TB globally, the SCI values remain low (between 40 and 60) (**Fig. 2.3**) *(12)*, which highlights the need to strengthen health systems in these countries to meet the SDG targets for UHC

2.4 Components and levers of the PHC approach and the End TB Strategy

There are synergies between the PHC approach and the TB response which are reflected in the core components of PHC and the pillars of the WHO End TB Strategy (**Fig. 2.4**). This chapter describes the components of the PHC approach and illustrates their synergies with the key elements of the End TB Strategy.

Boxes 2.2, **2.3** and **2.4** provide examples of integrated approaches to TB service delivery for TB and comorbidities, for children and adolescents with TB, and for TB and lung health.

Fig. 2.4 Alignment of the End TB Strategy with the components of PHC



PHC: primary health care; TB: tuberculosis.
Note: Pillar 3 of the End TB Strategy is linked to the PHC operational lever on primary health care-oriented research.

Box 2.2
Framework for collaborative action on TB and comorbidities

In 2023, five health-related risk factors for TB – diabetes, HIV, and disorders due to alcohol use, tobacco smoking and undernutrition – accounted for about 30% of new and relapse TB episodes globally. Other significant health-related risk factors for TB disease include silicosis and disorders due to drug use. These health-related risk factors are considered to be comorbidities when a person also has TB. People with TB also frequently experience other comorbidities (e.g. mental disorders and viral hepatitis). All of these comorbid conditions are associated with poorer TB treatment outcomes and adverse socioeconomic impact. Moreover, people with TB may develop chronic lung disease, and thus require care and rehabilitation after completing treatment for TB. The coronavirus disease (COVID-19) pandemic shares risk factors for poor outcomes with TB and has led to increased poverty, undernutrition, mental health burden and stigma associated with social distancing measures. Further, the disruption of services during the pandemic has highlighted the need for integrated, people-centred models of care and the implementation of improved, evidence-based models of care.

Addressing individual comorbidities, multimorbidity and health-related risk factors for TB is thus crucial as part of accelerated efforts to end TB. The 2022 *Framework for collaborative action on TB and comorbidities* was designed to stimulate action, recognizing that addressing health-related risk factors and comorbidities among people with TB is essential to end the TB epidemic *(21)*.

The framework outlines the key steps needed to establish and strengthen collaboration across health programmes and across sectors for delivering people-centred services for TB and comorbidities. It also provides guidance on planning, implementation and evaluation of these services, and is designed to facilitate scale-up of new WHO recommendations on TB, comorbidities and health-related risk factors. The framework highlights opportunities for integrating, linking and co-locating services, including in primary care settings. It underscores the importance of considering all health needs of individuals in their totality, irrespective of any specific disease entity.

The framework is complemented by the WHO guidelines on management of tuberculosis and comorbidities *(36)*, which include the following recommendations:

- Develop and implement training programmes for pre-service, in-service and continuing education on TB and HIV prevention, treatment and care services, integrating with existing programmes and including managers and worker representatives as well as health workers (*Management of tuberculosis and comorbidities, strong recommendation*).
- Adapt and implement good practices in occupational health and the management of HIV and TB in the workplace from all sectors (*Management of tuberculosis and comorbidities, strong recommendation*).

Integrated health services with an emphasis on primary care and essential public health functions

Integrated health services

"Integrated health services" refers to health services that are managed and delivered so that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services, coordinated across the different levels and sites of care both within and beyond the health sector, and according to people's needs throughout the life-course *(31)*.

Integrated, people-centred care systems can generate significant benefits to the health and health care of all people, including improved access to care, improved health and clinical outcomes, better health literacy and self-care, increased satisfaction with care, improved job satisfaction for health workers, improved efficiency of services and reduced overall costs *(31, 32)*.

The aim of integrated health services is to increase efficiency and avoid duplication of efforts, maximize synergies, and prevent and treat diseases with shared risk factors in common management frameworks. Pillar 1 of the End TB Strategy focuses on providing universal access to integrated patient-centred TB care and prevention. This involves ensuring access to care for TB and associated conditions, including comorbidities and risk factors such as HIV infection, diabetes, tobacco smoking and alcohol use disorders, as well as addressing any other health needs. Addressing these factors not only improves TB treatment outcomes but also has broader benefits for public health.

Box 2.3

Integrating TB services into child and adolescent health

Children and adolescents living in high TB burden areas often face multiple health challenges, including undernutrition, diarrhoea, pneumonia, malaria and HIV infection, as well as challenges in accessing quality preventive, promotive and curative care. Signs and symptoms of TB in young children are nonspecific and may be mistaken for other common childhood illnesses, especially within primary care facilities and in community settings, where frontline health workers may not have adequate skills and confidence to recognize and manage TB. In addition, it can be challenging to collect respiratory specimens to confirm TB in children, and even when specimens are collected, the sensitivity of currently available rapid molecular tests is suboptimal. TB in children and adolescents may be undetected because of missed opportunities for contact investigation, TB prevention, diagnosis and care, and as a result of inadequate integration of TB services with child and adolescent health services, especially integrated management of newborn and childhood illnesses (IMNCI), nutrition, HIV and school health services.

These factors contribute to low TB treatment coverage (the number of notifications as a proportion of the estimated incidence) in the youngest age groups (see **Fig. B2**).

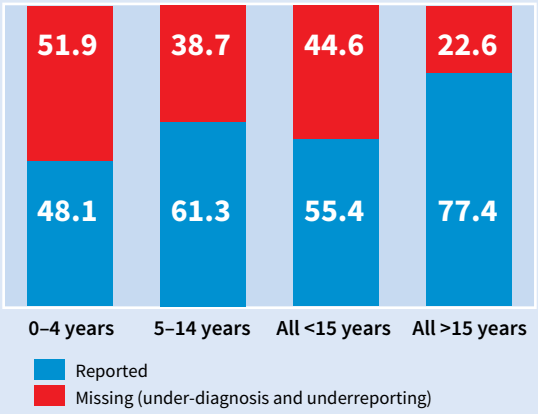
Primary care services delivered in facilities and communities are particularly important, because these serve as the first entry point where children and their caregivers seek care.

To reach all children and adolescents with TB or at risk of TB in LMIC, WHO policy guidance recommends decentralized and family-centred, integrated services for children and adolescents with signs and symptoms of TB or those exposed to TB *(38, 39)*.

The third edition of the *Roadmap towards ending TB in children and adolescents (37)* calls for:

- the implementation of integrated, family-centred and community-based models of care for contact investigation and TB preventive treatment; and
- the promotion of decentralized models of TB care with improved risk assessment and diagnostic and referral capacity, available and accessible at the primary health care level as part of comprehensive integrated and quality PHC services.

Fig. B2. TB treatment coverage by age group



TB: tuberculosis.
Source: WHO (2024) *(11)*

There is a need to invest in sensitization of communities, with a focus on the younger generations, to create awareness and destigmatize the disease.

The PHC approach and UHC are at the core of the Child Survival Action initiative *(40)*, which aims to end preventable child deaths, especially in countries that are not on track to meet their 2030 SDG target on under-5 mortality. This call to action recognizes that addressing programmatic and health system challenges that hamper progress in child survival requires strategic investments in PHC as the platform for both child- and family-centred multisectoral action, and the delivery of a comprehensive, integrated package of essential health and nutrition interventions in communities and facilities. Many of the drivers of overall child mortality also affect TB-related mortality; such drivers include poverty, food insecurity, fragile or humanitarian contexts, lack of political commitment, and lack of coordination in health service planning or delivery and multisectoral collaboration.

Box 2.5
Scaling up integrated approaches to TB and lung health

TB and other lung conditions share many overlapping risk factors, including specific respiratory exposures, and they disproportionately affect people in vulnerable situations. Because these conditions are so closely interlinked, they require a holistic, well-coordinated response to reduce fragmentation in care, reduce health inequities, prevent missed diagnoses and improve patient outcomes.

The *WHO policy brief on an integrated approach to TB and lung health*, which is grounded in people-centred, integrated health service principles, highlights the need to tackle TB alongside its complex intersections with other lung conditions *(84)*. Delivering such an integrated response is described as both urgent and crucial, requiring not only technical solutions but also strong political commitment, aligned policies, and sustained investments across all levels of the health system. This approach embodies the essence of integrated health services: a coordinated continuum of promotion, prevention, diagnosis, treatment, rehabilitation, and follow-up that supports individuals' needs throughout the life course.

Existing models, such as the Practical Approach to Lung Health, can be leveraged to broaden the reach of services. By adopting an integrated TB and lung health approach, countries can maximize the impact of every health encounter – using a single package to achieve earlier diagnosis, comprehensive care, and prevention of both TB and non-communicable lung diseases.

An integrated approach to TB and lung health is a strategic return on investment – one that saves lives by closing gaps, protecting patients at every stage and coordinating action across the care continuum. Through these coordinated efforts, integrated health services bolster health system resilience, reduce diagnostic delays and promote a truly people-centred approach, strengthening the capacity of both primary and specialized care to meet the evolving respiratory health needs of diverse populations.

A primary health care centre serves as a central point for coordinating services and networks of health facilities that deliver equitable, comprehensive and integrated health care to a specific population. This is accomplished by aligning other health system functions to enhance service delivery, ensuring optimal performance and continuity of care across all levels to meet evolving health needs. Additionally, it promotes public policies across sectors to address the underlying causes of poor health and health inequities, fostering healthy and empowered individuals and inclusive communities. Therefore, primary care is an obvious platform for integrating service delivery *(33)*.

The component of the PHC approach focusing on integrated health services is consistent with Pillar 1 of the End TB Strategy.

The level of integration of TB service delivery into the general health system varies across settings. Due to a variety of factors (e.g. reduction in the burden of TB, advances in TB prevention and treatment, reductions in dedicated funding for specific diseases, and the drive for more people-centred care), policy-makers are increasingly exploring some degree of integration of TB services, from having services provided at dedicated treatment facilities to integration within primary care facilities *(22, 34, 35)*.

Essential public health functions

The first component of the PHC approach also focuses on strengthening essential public health functions (i.e. the spectrum of competences and actions that are required to improve the health of populations), as a basis for improving public health practice and building resilient health systems. An essential package of health services is a list of priority interventions and services across the continuum of care that should be made available to all individuals in a defined population *(41, 42)*. It may be endorsed by the government at the national or subnational levels, or agreed by actors where care is provided by non-state actors. This package of health services is a central policy instrument for countries to achieve the strengthening of essential public health functions, because it defines the coverage of services that are made available, the proportion of the costs that are covered from different financial schemes and who can receive these services. It can guide both the delivery of care and the associated resource allocation, including human resources, provider payment, procurement and budgeting *(41, 42)*.

Health service packages are often the basis for benefit entitlements; they should consider the model of care and reflect a comprehensive spectrum of

population-wide and individual-based services and interventions throughout the life-course. By including promotive, protective, preventive, resuscitative, curative, rehabilitative and palliative care services, across service delivery platforms, health service packages can guide delineation of roles and improve coordination across service delivery platforms. Thus, health service packages can inform the effective and efficient allocation of resources and improve integration *(41, 42)*.

Packages of essential health services vary among countries, depending on disease burden, health system capacity, resource availability and priorities, among others. Moreover, these packages are not static, and their definition and implementation will evolve over time as new evidence and additional resources become available. The extent to which key services for TB are included in national essential health service packages varies across settings, but there is a general increase in the number of countries financing these packages through local health insurance *(41, 42)*.

Multisectoral policy and action

Addressing health needs requires collaboration across multiple sectors with all relevant government and nongovernmental agencies, civil society and communities, and the private sector. A PHC approach encourages partnerships at various levels with different sectors such as education, social services, housing and employment. Generally, partnerships at the central level are established to address policy issues, while partnerships at the local or primary care level facilitate coordinated action.

TB is an example of a disease that requires a multisectoral response. People with low socioeconomic status have more frequent contact with people with TB disease, a higher likelihood of living and working in crowded and poorly ventilated places, limited access to safe cooking facilities, greater food insecurity, lower levels of awareness or less power to act on existing knowledge concerning healthy behaviour, and limited access to high-quality health care *(12)*. Such conditions can further lead to higher exposure to direct TB risk factors, such as HIV, undernutrition, smoking, alcohol use disorders, silicosis, diabetes and mental health conditions *(14, 43)*. In the face of continued globalization, climate change and ongoing political instability, migration is expected to continue to increase. Addressing these risk factors and the social determinants of TB requires a holistic approach with strong multisectoral involvement *(44)*.

The TB response and the reorientation of health systems towards PHC will benefit from mapping and from convening relevant stakeholders and sectors to inform policy dialogue and identify approaches and actions that are most suitable for specific national, subnational and local contexts and populations. In 2019, WHO developed the MAF-TB, at the request of the World Health Assembly and the UN General Assembly *(9)*. The framework aims to support effective accountability of governments and all stakeholders – at global, regional and country levels – to accelerate progress towards ending TB.

The MAF-TB addresses accountability under four components: commitments, actions, monitoring and reporting, and review. To support Member States in adapting and implementing the MAF-TB, WHO has released operational guidance and a compendium of best practices *(9, 45)*. These documents provide practical advice on key approaches and interventions needed to strengthen multisectoral engagement and accountability at the national and local level with country examples, best practices and case studies *(9, 45)*.

Empowered people and communities

Empowered people and communities are crucial to attaining better health outcomes. The process involves listening to the needs of people and communities and equipping them with the knowledge, skills, resources and support necessary to take charge of their own health and well-being. Community participation is needed in planning and decision-making, to ensure that the community is engaged in health initiatives, and in monitoring access to quality health care tailored to community needs. Participation should reflect local knowledge and resources, and promote ownership and responsibility for health within communities *(46)*.

In many settings, communities play a role in the provision of TB treatment and care, and communitiesy are included as a principle and component of Pillar 2 of the End TB Strategy. The PHC approach enables communities to be equal partners in addressing their health needs including TB prevention and care, through a human rights-based, people-centred approach *(46).*

Activities that are led by communities and respond to the needs of people affected by TB are often based on the shared interests of local communities. When communities are empowered and funded, they can be leaders in developing and implementing solutions to address TB and its social determinants.

In the context of the PHC approach, community engagement provides a way to make communities an integral part of collective action to end TB, with their active participation in demand creation; planning; decision-making; and implementing, monitoring and evaluating national and local responses to TB *(47)*. This can be institutionalized by having communities participate in the governance of health centres. Communities and people affected by TB may also provide complementary TB services in within the community and at health facilities. At all relevant levels, representatives of communities and civil society should be involved in planning and decision-making (**Box 2.5**) *(46)*.

2.5 PHC levers and the End TB Strategy

The WHO/UNICEF operational framework for PHC *(20)* proposes four core strategic levers and 10 operational levers that are needed to translate the global commitments to PHC into concrete actions and interventions. These levers serve as a useful framework for identifying opportunities to jointly strengthen PHC and meet the goals of the End TB Strategy. **Table 2.1** maps the PHC levers to the End TB Strategy pillars and components, showing the synergistic alignment of the TB response and the PHC approach.

Box 2.5
Meaningful engagement of communities in the TB response

The End TB Strategy *(4)* emphasizes the role of communities and civil society in ending the TB epidemic by 2030. Furthermore, the political declaration of the second UNHLM on TB *(3)* highlights the need to ensure people-centred health services, with meaningful engagement of communities in the full spectrum of the response.

In view of major developments in global public health, in 2023, WHO published guidance on engagement of communities and civil society to end TB *(46)*. The guidance is aligned with PHC and emphasizes the complementarity of health systems and community systems under "one system"; the roles of people affected by TB in planning, decision-making, implementation and monitoring; and the roles of ministries of health and their NTPs.

The guidance is anchored in the vision of local community empowerment for accelerating progress in ending TB. Listening to communities affected by TB and civil society can provide valuable insights into their health concerns and needs, which can result in effective TB response strategies based on co-creation of effective solutions. Meaningful community and civil society engagement to end TB requires that people affected by TB are equal partners in the TB response, with ministries of health and their NTPs. As equal partners, community members are empowered as experts on local needs and priorities. The guidance emphasizes three enabling factors as the basis for meaningful engagement throughout the programmatic cycle: national and subnational community networks or coordinating bodies; fair, sustainable financing; and a conducive policy environment for community and civil society engagement. Political and financial support from the government and other partners are essential to strengthen community leadership and contribute to an enabling environment for meaningful community engagement.

The guidance also includes four indicators for tracking community engagement in TB service delivery and in decision-making. These focus on:

- referral to TB services by community health workers and volunteers;
- treatment success among those who received support from community health workers and volunteers;
- community representation in national decision-making; and
- the level of funding committed for community engagement in the TB response at the national level.

Table 2.1 Mapping PHC levers and End TB Strategy pillars, components and principles

PHC LEVER		END TB STRATEGY PILLAR, COMPONENT OR PRINCIPLE	LINKAGE
Core strategic levers	**1. Political commitment and leadership** *Political commitment and leadership that place PHC at the heart of efforts to achieve UHC and recognize the broad contribution of PHC to the SDGs*	**Political commitment with adequate resources for TB care and prevention**	Political commitment and leadership encompass the involvement of heads of state and government, other political leaders, health ministers and other government sectors, civil society and leaders of TB-affected communities. Political commitment and leadership are important for formalizing plans to jointly address the reorientation of health systems towards PHC and achieving TB goals; delivering integrated health services effectively, especially in settings where greater integration aligns with the needs of service users; and addressing social, economic, environmental and commercial determinants of health through multisectoral policy and action. Political commitment and leadership can also further enhance the meaningful involvement of communities in health decision-making.
	2. Governance and policy frameworks *Governance structures, policy frameworks and regulations in support of PHC that build partnerships within and across sectors, and promote community leadership and mutual accountability*	**Government stewardship and accountability with M&E**	Governance refers to ensuring that strategic policy frameworks exist and are combined with effective oversight, coalition building, regulation, attention to system design and accountability. Given the role of other sectors (including communities) in service delivery and other functions, effective governance requires that governments oversee and guide the entire health system, not merely the public system. Further, shifts in governance should be supported by policy frameworks that reflect the broad definition of PHC. Good governance is fundamental to implementing and achieving the targets and goal of the End TB Strategy, because a comprehensive TB response requires involvement of authorities from health and social sectors as well as from other ministries. Another important dimension of governance is community participation in health system decision-making and monitoring. Leveraging community participation to improve the quality of health services and make health systems more sustainable and equitable requires effective governance structures and processes at the national, subnational and local levels.
	3. Funding and allocation of resources *Adequate funding for PHC that is mobilized and allocated to promote equity in access, to provide a platform and an incentive environment to enable high-quality care and services, and to minimize financial hardship*	**Mobilizing resources for an ambitious agenda**	Resource mobilization is essential for the implementation of prioritized and well-funded plans that involve all stakeholders with budgetary responsibility over TB prevention and care, related social protection, surveillance and research. Health funding comes from multiple sources, including domestic public revenue, private prepaid insurance schemes, out-of-pocket payments and external development aid. In countries supported by TB-specific external funding, analysing national TB financing through the lens of a PHC approach can help to identify how TB spending is contributing to strengthening PHC; it may also identify opportunities to refocus TB spending in ways that contribute to making health systems more PHC oriented.
	4. Engagement of communities and other stakeholders *Engagement of communities and other stakeholders from all sectors to define problems and solutions, and prioritize actions through policy dialogue*	**Engagement of communities, CSOs, and all public and private care providers**	Building collaborative relationships that enable stakeholders to jointly define health needs, identify solutions and set priorities for actions through contextually appropriate and effective mechanisms is central to both the PHC approach and the TB agenda. The engagement and participation of communities, CSOs and all public and private care providers will improve understanding of their perspectives, priorities, awareness, needs and expectations. Representatives of TB-affected communities and CSOs should participate actively in all stages of implementation, including programme planning and design, service delivery and M&E. Such engagement is also essential in disseminating information, providing education and support to patients and their families, and undertaking research and advocacy.

PHC LEVER		END TB STRATEGY PILLAR, COMPONENT OR PRINCIPLE	LINKAGE
Operational levers	**5. Models of care** *Models of care that promote high-quality, people-centred primary care and essential public health functions as the core of integrated health services throughout the life-course*	**Integrated patient-centred care and prevention**	Models of care outline approaches for delivering health services, focusing on both the service delivery processes and the organization of providers, including community-based and lay health workers. Both the TB and PHC agendas promote models of care that facilitate access to services closer to where people live, work and socialize, and consideration of contextual factors, people's preferences and cost–effectiveness. In addition, they both promote models of care that foster continuous, comprehensive, coordinated and holistic people-centred care.
	6. PHC workforce *Adequate quantity, competency levels and distribution of a committed multidisciplinary PHC workforce that includes facility-based, outreach and community-based health workers supported through effective management supervision and appropriate compensation*	**UHC policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control**	The health workforce includes all occupations engaged in the continuum of promotion, prevention, treatment, rehabilitation and palliative care, including the public health workforce and those engaged in addressing the social determinants of health, caregivers, and management and administrative personnel. An adequate, well-trained, well-distributed, motivated, enabled and supported health workforce is required for ending TB, strengthening PHC and progressing towards UHC.
	7. Physical infrastructure *Secure and accessible health facilities to provide effective services with reliable water, sanitation and waste disposal or recycling, telecommunications connectivity and a power supply, as well as transport systems that can connect patients to other care providers*	**UHC policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control**	The quality of a health facility's physical infrastructure plays a critical role in enabling service providers to perform their duties effectively and in shaping patients' experience. These factors, in turn, can affect the uptake and quality of health services, including TB services. Key elements of physical infrastructure include having reliable water and power supplies, sanitation and waste disposal or recycling, and telecommunications connectivity. Transport is another critical aspect of infrastructure, because a lack of access to transport to facilities may result in some service users having unequal access to care.
	8. Medicines and other health products *Availability and affordability of appropriate, safe, effective, high-quality medicines and other health products through transparent processes to improve health*	**UHC policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control**	Health products encompass medicines, vaccines, medical devices, in vitro diagnostics, protective equipment and assistive devices. These products must be guaranteed in terms of safety, efficacy, performance and quality. Furthermore, they need to be appropriate, affordable and accessible to users. Poor-quality TB medicines and products pose significant risks to individuals with TB. Inappropriate prescription of treatment regimens results in poor treatment outcomes and can lead to drug resistance. The use of unsuitable diagnostics can lead to inaccurate diagnoses. The availability and affordability of suitable high-quality health products rely on policy decisions and integrated processes, including product assessment, selection, pricing, procurement, supply chain management, maintenance (for medical devices), prescribing and dispensing.

PHC LEVER		END TB STRATEGY PILLAR, COMPONENT OR PRINCIPLE	LINKAGE
	9. Engagement with private-sector providers *Sound partnership between public and private sectors for the delivery of integrated health services*	**Engagement of all public and private care providers**	The private sector includes all non-state actors involved in health, encompassing for-profit and not-for-profit organizations, both formal and informal, as well as domestic and international entities. Most countries have mixed health systems where goods and services are provided by both public and private sectors, with health consumers seeking services from both *(48)*. The private sector's involvement in health systems is extensive, covering health-related services, medicines, other health products, health insurance, supply chain management, health workforce training, information technology services, infrastructure and support services. In many countries, diverse private-sector entities are major providers of services and commodities for TB and related health issues *(49)*. People's decisions on whether and where to use services are influenced not only by availability but also by perceptions of factors such as cost, confidentiality, user-friendliness and efficacy *(50, 51)*. Effective coordination between the private and public sectors is necessary to address both individual and public health needs; therefore, an enabling environment that supports all care providers is key to reach all people affected by TB.
	10. Purchasing and payment systems *Purchasing and payment systems that foster a reorientation in models of care for the delivery of integrated health services with primary care and public health at the core*	**UHC policy, and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control**	Ending TB requires adequate, fair and sustainable prepayment financing of health care at no cost to beneficiaries, with full geographical coverage, combined with effective service quality assurance and M&E. When backed by sufficient resources that are PHC oriented, purchasing and payment systems can enhance the accessibility of priority interventions for the entire population, including through primary care-based service integration where feasible and appropriate. Strategic purchasing involves elements such as benefits design, provider payment methods and contracting arrangements *(52, 53)*. Disease-specific goals and requirements motivate actions to promote a PHC approach in countries, including efforts to strengthen strategic purchasing *(54)*. For instance, if a country identifies retention on TB treatment as a key priority, then primary care facilities should receive financial incentives to support this goal *(55)*. This could be achieved through performance-based capitation at the primary care level to encourage the retention of individuals with TB in care *(56)*. The process of defining essential health benefit packages in countries should use WHO tools and incorporate input from affected communities. These benefit packages should encompass a comprehensive range of services that address the needs of the entire population throughout their life-course. Adjustments to access conditions in benefit packages, such as reducing or eliminating user fees, can promote greater use of primary care services, including TB prevention and care provided through primary care *(57, 58)*.
	11. Digital technologies for health *Use of digital technologies for health in ways that facilitate access to care and service delivery, improve effectiveness and efficiency, and promote accountability*	**Treatment of all people with TB including drug-resistant TB, and patient support**	Digital health technologies encompass a broad range of tools, including ICT, as well as advanced computing fields such as big data analytics and AI. Users of these digital technologies include patients and clients, service providers, health service and system managers, and data service providers supporting health service delivery and the broader health system. Digital technologies can enhance health services, making them more people centred by improving accessibility, personalization and patient engagement. For example, digital health technologies are being leveraged for different aspects of care for individuals with TB, such as communication to support medication adherence. Additionally, digital tools enable remote consultations and computer-aided diagnostics, ensuring continuous care and support for patients, even in remote or underserved areas.

PHC LEVER		END TB STRATEGY PILLAR, COMPONENT OR PRINCIPLE	LINKAGE
	12. Systems for improving the quality of care *Systems at the local, subnational and national levels to continuously assess and improve the quality of integrated health services*	**Treatment of all people with TB including drug-resistant TB, and patient support**	According to estimates, poor-quality care causes more deaths in LMIC than lack of access to care *(59)*. This is true also for TB: about 70% of the estimated deaths from TB could be avoided by high-quality health systems *(60)*. To realize the benefits of high-quality health care, services must be effective, safe and people centred. In addition, to realize the benefits of high-quality health care, health services must; they must also be timely, equitable, integrated and efficient. Improving the quality of care is an ongoing process, and quality improvement mechanisms should be routinely integrated into health service delivery, including TB services. Improving the quality of care further entails addressing how other components of health systems such as governance, health workforce management and health information systems affect the service user's experience.
	13. Primary health care-oriented research *Research and knowledge management, including dissemination of lessons learned, as well as the use of knowledge to accelerate the scale-up of successful strategies to strengthen PHC-oriented systems*	**Intensified research and innovation**	Health sector strategic and operational plans and policies should be guided by the best available evidence on what is effective and what is not, and the underlying reasons. Implementation research is key to providing this evidence base. To end the TB epidemic, intensified research efforts are necessary to develop new diagnostics, drugs, vaccines and innovative delivery methods. There is a robust evidence base in TB care, including lessons learned about issues such as health governance, people-centred health services, and community-based and community-led service provision.
	14. M&E *M&E through well-functioning health information systems that generate reliable data and support the use of information for improved decision-making and learning by local, national and global actors*	**Government stewardship and accountability with M&E**	To track progress towards how their decisions, actions and investments in PHC are addressing and improving service coverage, financial risk protection, determinants of health and ultimately the health status of individuals and populations, countries should establish comprehensive, coherent and integrated approaches to M&E based on a logical, results-based framework that encompasses equity dimensions and multisectoral components across its entirety. M&E is essential to measure the burden of TB, and to track progress made in fighting the epidemic. Having access to timely and verified data helps policy-makers and stakeholders make better-informed decisions to accelerate their efforts towards ending TB.

AI: artificial intelligence; CSO: civil society organization; ICT: information and communication technologies; LMIC: low- and middle-income countries; M&E: monitoring and evaluation; PHC: primary health care; SDG: Sustainable Development Goal; TB: tuberculosis; UHC: universal health coverage; WHO: World Health Organization.

CHAPTER 3

Enablers of and barriers to synergistic actions for the PHC approach and ending TB

3.1 Enablers of PHC reorientation of health systems for ending TB

By building more resilient health systems, the PHC approach helps to promote health, prevent diseases, advance equity and strengthen health security *(61)*. Given that TB is one of the major public health programmes in many countries, there are opportunities to jointly advance the PHC orientation of health systems and accelerate progress towards ending TB.

The economic case for TB and PHC

Evidence suggests that PHC can improve population health in terms of life expectancy, all-cause mortality, and maternal, infant and neonatal mortality, as well as mental health outcomes *(62)*. By reducing total hospitalizations, avoidable admissions, and emergency admissions and hospitalizations, PHC can improve the efficiency of the health system. It can therefore reduce costs related to TB care both for people with TB and for the providers. Every US$ 1 invested in PHC interventions is estimated to save up to US$ 16 in spending on conditions such as stunting, noncommunicable diseases, anaemia, TB, malaria, and maternal and child health morbidity. In resource-constrained settings, pooling resources for the PHC orientation of health systems and TB will lead towards more sustainable solutions *(62)*.

The provision of a broad essential health services package – a key component of the PHC approach – could reduce financial hardship for people affected by TB, especially in primary care settings where people frequently seek essential services and may face significant out-of-pocket spending.

Reaching the unreached

PHC improves equitable access to health care and contributes to equitable health outcomes, including for people with TB, who are often among the most marginalized and underserved populations *(8, 63, 64)*. Primary health care's proximity to people and communities enables better outreach and understanding, benefiting population groups with poorer outcomes. Therefore, it is plausible that primary care could strongly reduce TB morbidity and mortality, and address disproportionately high TB burden in the most vulnerable populations *(65)*.

Environmentally friendly sustainable solution

There is emerging evidence on the potential impact of climate change on the TB epidemic. Climate change impacts TB through various pathways; for example, shifts in climatic factors such as temperature, humidity and precipitation affect host responses by altering vitamin D distribution, exposure to ultraviolet radiation, malnutrition and other risk factors *(66)*.

Undernutrition, HIV, overcrowding, poverty and diabetes are some of the key risk factors for TB that are exacerbated by climate change, especially in developing countries where the TB burden is greatest *(67)*.

PHC is well positioned to address the health impacts of climate change because it orients health systems towards sustainability *(65)*. For example, PHC prioritizes prevention and encourages self-care, both of which are "environmentally friendly". It also calls for an efficient use of resources, and prioritizes the use of technologies and interventions with lower environmental impact than those routinely used in hospital settings *(65)*.

Service continuation in emergency

The COVID-19 pandemic has reversed momentum towards achieving SDG 3 ("Ensure healthy lives and promote well-being for all at all ages") and has worsened inequities. The pandemic had a damaging impact on access to TB diagnosis and treatment, and the burden of TB. A major lesson from the pandemic is that health systems oriented towards PHC were more resilient and best able to provide essential health services, and could therefore minimize the pandemic's negative impact on health outcomes *(68–70)*. During complex emergencies or disasters, essential health services can be provided through PHC-oriented health services.

During the COVID-19 pandemic, TB programmes in some settings demonstrated remarkable adaptability. This was exemplified by the rapid repurposing of TB laboratories for COVID-19 testing, tapping into established diagnostic capabilities and skilled personnel *(71)*. Moreover, TB contact-tracing methodologies were swiftly adapted for COVID-19 contact tracing, which benefited from pre-existing networks and protocols *(72)*. The community-based approach inherent in TB programmes also played a pivotal role in pandemic response efforts. This seamless pivoting of TB programme resources and methodologies to the pandemic response underscored the importance of leveraging prior investments in health care infrastructure *(73, 74)*.

TB as an entry point to health system reorientation

The values of the UHC SCI remain low among the 30 countries with the highest TB burden globally. In countries with well-established TB programmes, the TB response could be a pathfinder in strengthening the health system and reorienting it towards PHC. This could be done through empowerment of communities and strengthening multisectoral action and integrated service delivery, with a strong monitoring and evaluation (M&E) system.

3.2 Barriers to PHC reorientation of health systems for ending TB

Simultaneously reorienting health systems towards PHC and advancing the TB agenda requires navigating several challenges through strategic planning, resource allocation and collaborative efforts across multiple sectors. Some of the key challenges and threats are outlined below.

Inadequate political commitment

Political commitment to social equity and to the right to health are cornerstones of the PHC approach and of an effective TB response; where this is inadequate, progress in strengthening PHC and towards ending TB will be slow. Political commitment facilitates the development and implementation of the required policies, as well as allocation of the required resources for strengthening PHC and for the provision of TB services. Ending the TB epidemic requires collaboration across various sectors, including health, education, social services and housing. Coordinating these efforts within the PHC framework can be challenging. Synergies between TB and PHC may be considered as power shifting. A poorly planned or rushed process of integration may also harm both the TB programme and the PHC approach. Moreover, rising geopolitical unrest and socioeconomic pressures may result in deprioritization of the health agenda.

Overstretched primary care facilities

Integrating TB services into primary care and public health services requires effective coordination among various health care providers, which can be logistically challenging. In some settings, primary care centres may already be strained, and adding TB services could put further pressure on limited resources, including staff, funding and facilities. Further, people with TB often face significant stigma, which can deter them from seeking care at primary care centres.

Health system inadequacies

Health system inadequacies include inadequate health workforce, infrastructure, and data management and surveillance systems, and fragmented funding flow and donor dependency.

Inadequate health workforce

Health systems in many countries cannot adequately staff primary care facilities *(75)*. This is further compounded by high turnover among health workers, which, coupled with inadequate training, negatively impacts the continuity and quality of TB services. In addition, workers at the primary care level are not always adequately trained on TB prevention and care. Similarly, staff providing services in dedicated TB facilities may not be easily repurposed for providing other health services, and would thus require significant training if they are to also work in primary care centres *(76, 77)*. Having adequate and trained health workers at primary care centres is a critical ingredient for the delivery of quality essential health services.

Inadequate infrastructure

The delivery of high-quality primary care is often further hindered by poor infrastructure, including communication systems and equipment, and stockouts of medicines and other commodities *(78, 79)*. For instance, primary care centres often lack services for accurate and timely TB diagnosis, such as access to WHO-recommended molecular diagnos- tic tests.

Inadequate data management and surveillance systems

Effective M&E mechanisms are needed to track the progress and effectiveness of TB programmes the PHC approach. However, integrating TB surveillance

data with other health information systems requires robust data management infrastructure and practices that are often lacking in many settings.

Fragmented funding flow and donor dependency

In LMIC, the funding flow (more specifically, donor assistance for priority health interventions) has reinforced an organizational approach in which health programmes target interventions for specific diseases or populations; this has often led programmes such as TB programmes to operate largely autonomously from other health programmes, and thus to inefficient overlaps and duplications, rather than to adopting a system-wide, whole-person approach *(80)*. In addition, many TB programmes rely heavily on international donors *(12)*. Ensuring long-term sustainability requires transitioning to more stable and predictable domestic funding.

CHAPTER 4

Advancing towards PHC-oriented health systems for ending TB

There are clear opportunities to jointly advance the PHC orientation of health systems and the TB agenda, and optimizing these will require tailored approaches which consider the local health system context. This chapter presents general considerations to jointly advance the TB agenda and the PHC orientation of health systems along a pathway that countries can adapt based on their context. **Table 4.1** outlines practical actions for decision-makers in both early and advanced PHC-oriented health systems.

The journey of health systems towards PHC varies significantly across countries, with some at the initial stages and others more advanced in their journey. The actions that TB programme managers, ministry of health officials and other PHC leaders can or should take will depend on what stage their health system has reached in the journey towards PHC.

In countries where PHC-oriented systems are still in their early stages, there may still be a lack of political commitment and supportive policies. In such cases, the TB response can play a key role in strengthening the broader health system, encour- ageing integration at the point of service delivery, multisectoral action and community empower- ment. Policy reforms may be necessary to enable integrated models of care.

Countries that have reached a more advanced stage of PHC-oriented systems already have political commitment and robust governance structures, alongside policies that promote the PHC approach. These countries should focus on effectively implementing policies that further solidify the PHC orientation of their health systems including enhancement of TB care and prevention. **Fig. 4.1** shows the relationship of disease-specific programmes such as TB and the journey of health systems towards PHC.

Fig 4.1 Relationship between programmes addressing specific diseases and the PHC orientation of the health system

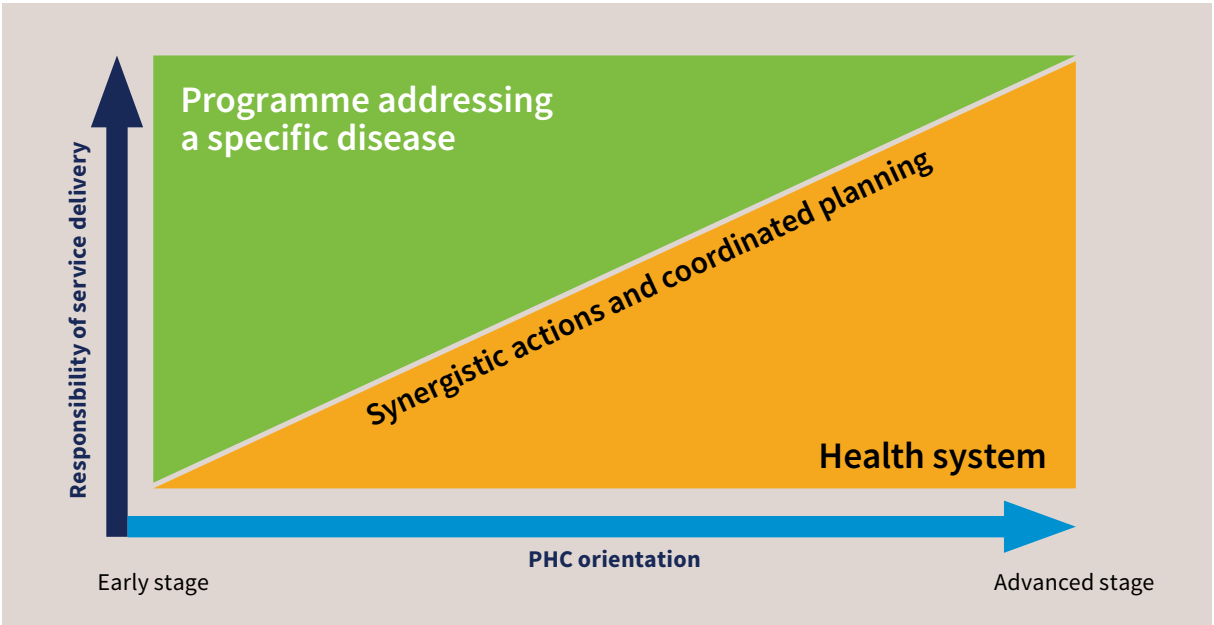


Table 4.1 Tailored actions in countries at an early and advanced stage of PHC policy environment to advance the TB agenda and the PHC orientation of health system

STAGE OF PHC ORIENTATION OF THE HEALTH SYSTEM	
COUNTRIES AT THE EARLY STAGE	**COUNTRIES AT AN ADVANCED STAGE**
Conduct a situation assessment Conduct a thorough assessment of the country's PHC policy environment, identifying opportunities to jointly advance the TB agenda and the PHC orientation of health systems. **Undertake joint planning** Identify and leverage relevant policy windows (e.g. the updating or development of national TB strategic plans, and health sector strategic planning) to set objectives and propose specific activities that can mutually benefit the TB agenda and the PHC orientation of health systems. Policy windows are key.	**Ensure sustainable funding** Adequate and sustained funding is necessary to support the integration of TB services into PHC-oriented health systems. This includes funding for infrastructure, human resources, medications and diagnostic tools.
Engage all stakeholders; multisectoral actions require multiple stakeholders Include other PHC stakeholders and community or civil society groups in TB planning processes at all levels to help identify and leverage synergies, and to share best practices.	**Strengthen the health workforce, infrastructure and equipment** An adequate, well-distributed, motivated, enabled and supported health workforce is essential. Regular capacity-building through training, mentoring and supportive supervision is essential to keep to the workforce updated and motivated. Adequate infrastructure and equipment should be ensured.
Advocate and be at the table Participate in the development of national health plans and strategies and advocate for the inclusion of objectives related to policy and service integration (including TB). This must then be translated into operational policies and guidelines.	**Monitor implementation** Where national policies are supportive of the reorientation of the health system towards PHC, opportunities should be sought to strengthen their implementation at the operational level, such as requiring integrated subnational planning and budgeting or disseminating operational guidelines for integrated service delivery models of care.
Learn and share Document learnings and experiences.	**Learn and share** Document learnings and experiences in implementing integrated approaches, with a view towards measuring how TB is contributing to strengthening the PHC orientation of health systems, and vice versa. This will contribute to a more robust evidence base to support these approaches. Identify opportunities for cross-country learning, especially in countries with less robust policy environments to enable integration.

PHC: primary health care; TB: tuberculosis.

4.1 Options for advancing the TB agenda and PHC orientation of health systems

Situation assessment

Countries are at varying stages of alignment between the TB response with the PHC approach. As part of the initial steps towards improving this alignment, an assessment of the PHC policy environment should be conducted to identify opportunities to jointly advance the TB agenda and the PHC orientation of health systems. This assessment should be carried out by a multidisciplinary team, including experts in health systems and TB programming. The assessment should also aim to identify and leverage cross-programmatic efficiencies.

Coordinated planning

Global strategies and frameworks include key principles, approaches and targets that can be adapted at country level, including for the development and review of national strategic plans in line with the End TB Strategy. Such strategic plans should reflect the health system context and seek to strengthen relevant components of the health system. A coordinated planning process will contribute to strengthening integrated service delivery and reduce fragmentation of health services, consistent with the PHC approach.

Policy dialogue for system designing

Strengthening the PHC approach to TB will require continued advocacy, and adaptations to how these services are designed, prioritized, funded and delivered to meet people's comprehensive needs throughout the life-course. Focusing on the health system will enable progress on multiple health issues while also advancing towards targets for specific disease programmes.

Defined TB service packages at different levels of the health system

The package of essential health services guides the design of PHC. It is important to ensure that TB is part of the essential health services package, where appropriate. Countries should establish the standard of care for TB to be delivered at the different levels of their health system. **Table 4.2** provides an example of a service package for TB prevention and care at primary care level.

Table 4.2 Example of a TB package for TB prevention and care at the primary care level[a]

ACTIVITIES	DESCRIPTION	REFERENCE GUIDANCE
Screening and TB preventive treatment	▶ TB screening (facility-based or community-based) for all age groups, using one or more of the following tools: — W4SS: cough, fever, weight loss and night sweats; — CXR if available, with or without computer-aided detection software; — CRP for people living with HIV; and — mWRDs. ▶ Assessing eligibility for TPT and initiating TPT for those eligible. ▶ Conducting outreach for contact screening and screening of other at-risk populations, including individuals in prisons.	*WHO consolidated guidelines on tuberculosis. Module 1: prevention – tuberculosis preventive treatment, second ed, 2024 (85)* *WHO consolidated guidelines on tuberculosis: module 2: screening: systematic screening for tuberculosis disease, 2021 (86)* *WHO consolidated guidelines on tuberculosis: module 5: management of TB in children and adolescents, 2022 (38)*
Diagnosis	▶ Conducting skin testing for TB infection or collecting blood samples for transport to the nearest TB infection testing laboratory. ▶ Collecting specimens for diagnostic testing (at minimum, a sputum sample). ▶ Performing diagnostic testing for TB detection using a WRD, or facilitating sample transport to the nearest laboratory. ▶ Interpreting test results.	*WHO consolidated guidelines on tuberculosis: module 3: diagnosis – rapid diagnostics for tuberculosis detection, 3rd ed, 2024 (87)*
Treatment and care	▶ Initiating treatment based on the treatment decision algorithm or referring to an appropriate health care facility. ▶ Providing TB medications. ▶ Providing ancillary medications as needed. ▶ Conducting nutritional assessment and counselling, with appropriate nutritional interventions as required.	*WHO consolidated guidelines on tuberculosis: module 4: tuberculosis care and support, 2025 (88)*
Recording and reporting	▶ Patient registration. ▶ Accurate and timely recording of clinical and treatment data. ▶ Regular reporting to relevant health authorities and systems. ▶ Basic data analysis to inform programme monitoring and decision-making.	*WHO consolidated guidance on tuberculosis data generation and use: module 1: Tuberculosis surveillance, 2024 (89)*
Monitoring of TB treatment	▶ Assessing treatment adherence, therapeutic response and the occurrence of any adverse events. ▶ Conducting monitoring using available tools, including: — clinical examinations by the treating physician; — bacteriological assessments (e.g. sputum smear or collection of sputum for transport to the nearest culture laboratory); — CXR; and — additional monitoring tests as outlined in the national protocol. ▶ Monitoring and managing adverse drug reactions throughout the course of treatment.	*WHO Consolidated guidelines on tuberculosis: module 4: tuberculosis care and support, 2025 (88)*

Continued

Table 4.2 *Continued*

ACTIVITIES	DESCRIPTION	REFERENCE GUIDANCE
Treatment adherence support	▶ Social support, including: — health education and counseling; — psychological and emotional support; and — material support (e.g. food packages, financial incentives and transportation allowances). ▶ Home visits to provide follow-up care and support. ▶ Digital health communication tools (e.g. phone calls and text messages) to enhance patient engagement and adherence.	*WHO consolidated guidelines on tuberculosis: module 4: tuberculosis care and support, 2025 (88)*
Integration with other services	▶ Linking TB care with other primary care services (e.g. HIV, diabetes and mental health care), to ensure comprehensive management of comorbidities.	*Framework for collaborative action on tuberculosis and comorbidities, 2022 (21)*
Health education and community awareness	▶ Providing clear and accessible information on TB, including its symptoms, treatment and methods of preventing transmission. ▶ Conducting community awareness sessions that include education on the social determinants of TB and emphasize the social responsibilities of patients and caregivers.	*Guidance on engagement of communities and civil society to end tuberculosis, 2023 (46)*
Infection control	Implementing infection control measures to protect health care workers and patients; for example: ▶ triage individuals with signs and symptoms of TB; ▶ clearly designate and ensure adequate ventilation in areas used for sputum collection, handling and testing; ▶ implement respiratory separation or isolation for individuals with presumed or confirmed infectious TB; ▶ promptly initiate effective TB treatment for individuals diagnosed with TB disease; ▶ promote respiratory hygiene practices, including proper cough etiquette; ▶ apply environmental control measures (e.g. natural and mechanical ventilation, and UVGI); and ▶ strengthen IPC through staff training and the appointment of dedicated IPC focal points.	*WHO consolidated guidelines on tuberculosis: module 1: prevention – infection prevention and control, 2022 (90)*
Social protection	▶ Linking individuals affected by TB to national social protection programmes	*Guidance on social protection for people affected by tuberculosis, 2024 (91)*

[a] The activities listed in this table are illustrative examples and may vary depending on the context. They should be adapted in accordance with national guidelines and local implementation needs.

CRP: C-reactive protein; CXR: chest X-ray; HIV: human immunodeficiency virus; IPC: infection prevention and control; mWRD: molecular WHO-recommended rapid diagnostics; TB: tuberculosis; TPT: TB preventive treatment; UVGI: ultraviolet germicidal irradiation; W4SS: WHO four symptom screen; WHO: World Health Organization.

Health workforce, infrastructure and equipment

An adequate, well-distributed, motivated, enabled and supported health workforce is required for strengthening PHC-oriented health systems, progressing towards universal access to TB prevention and care. When involved in service delivery, community health workers should be duly recognized through a systematic approach, to address the needs of the health workforce *(81)*. Regular capacity-building through training, mentoring and supportive supervision is essential to keep the workforce updated and motivated.

To ensure quality of services at all levels, including the primary care level, adequate infrastructure, equipment and supplies should be available.

Streamlined health financing and sustainable funding

Adequate and sustained funding is necessary to facilitate the integration of TB services into PHC-oriented health systems. This includes funding for infrastructure, human resources (including community health workers), medications and diagnostic tools.

Systems thinking and change management

Systems thinking – an approach that views "problems" as part of a wider dynamic system, rather than reacting to present outcomes or events – can help to improve efficiencies and strengthen both PHC and the TB response. It requires a deep understanding of the linkages, relationships, interactions and

behaviours among the elements that characterize the entire system. This approach deciphers the complexity of an entire health system, and then applies that understanding to designing and evaluating interventions that improve health and health equity *(5)*.

Systems thinking necessitates a fundamental shift in both thought processes and actions, with communication serving as the catalyst for managing this change. Effective communication must drive actions that directly impact health outcomes, involve actively listening to and responding to people's voices, and disseminate evidence-based information to garner support for health policies. It should also empower individuals to take charge of their health. This shift requires moving beyond a focus on outputs, instead prioritizing the outcomes and impacts of communication efforts.

Effective communication should connect with people on a human level, addressing their concerns and making a meaningful impact on their lives. This requires an understanding of the audience, engaging them in dialogue that extends beyond health topics. Advocacy will continue to play a crucial role in shaping TB-sensitive policies, whether through formal dialogue and other interactions.

Implementation research and sharing country experiences

Implementation research should be conducted to inform policy decision-making and guide scale-up. Such research will improve understanding of the factors affecting the reorientation of health systems towards PHC, the processes of implementation and the results of implementation (including how to introduce potential solutions into a health system or how to promote their large-scale use and sustainability). Sharing experiences and lessons learned across countries will help to facilitate experiential learning and contribute to strengthening PHC and to ending TB.

4.2 Monitoring indicators

It is important to monitor progress in the alignment of TB with the PHC approach. Several indicators that are routinely collected through TB surveillance systems or health system M&E can be helpful in monitoring progress (**Table 4.3**).

The indicators shown in **Table 4.4** may be considered at the national or subnational level.

4.3 Conclusions

To achieve the health-related SDG, including ending TB, and sustain these gains in the face of the complex demands being placed on health and development systems, it will be necessary to optimize health system resources. Scaling-up high-quality people-centred services through a PHC approach is critical for achieving both disease-specific and broader health aims. All populations must be able to access health services and benefit from health system resources, free from stigma and discrimination.

The ideas and considerations presented in this publication are intended to support ongoing discussions and prompt new discussions about how countries can address TB-specific needs through the PHC approach by harnessing the synergies and opportunities that arise from the WHO/UNICEF operational framework for PHC and the End TB Strategy, based on the PHC strategic and operational levers that are most meaningful in respective country contexts.

Table 4.3 Monitoring indicators for TB and PHC, description and source

INDICATOR	DESCRIPTION	SOURCE
Integrated service delivery	1. **UHC service coverage index:** Coverage of essential health services: the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, NCDs and service capacity and access, among the general and the most disadvantaged populations. The indicator is an index reported on a unitless scale of 0 to 100, which is computed as the geometric mean of 14 tracer indicators of health service coverage (SDG 3.8.1) 2. **TB treatment coverage:** The number of people newly diagnosed with TB and officially reported as a TB case in a given year divided by the estimated number of people who developed TB in the same year, expressed as a percentage. 3. **Number of PHC sites:** Total number of primary health care facilities. 4. **PHC sites with WRD:** Number of primary health care facilities with access to WHO-recommended rapid diagnostic tests (either on site or through a sample referral system). 5. **National electronic case-based database:** Did the NTP keep (or have access to) an electronic case-based database for TB patients on treatment at the national level?	WHO data on UHC *(82)* Frequency: yearly or bi-annually (most recent data update: January 2024; next expected update: 2024/2025; expected frequency of data release: every 2–3 years) Global TB report *(12)* Global TB report *(12)* Global TB report *(12)* Global TB report *(12)*
Meaningful community engagement indicators	1. **Referrals and new notifications:** Number of newly diagnosed and notified cases of TB (all forms) who were referred by community health workers and community volunteers, expressed as a percentage of all new cases notified in the basic management unit during a specified period. 2. **Treatment success:** New cases of TB (all forms) successfully treated (cured plus completed treatment) who received support for treatment adherence from community health workers or community volunteers among all new cases of TB (all forms) given support for treatment adherence by community health workers or community volunteers (number and percentage). 3. **Community representation in national decision-making:** Representatives of communities affected by TB or civil society who had a formal role in key NTP processes and activities during the year. 4. **Level of committed funding for community engagement in the TB response at the national level:** Percentage of overall funding, expressed in US$, available for community engagement activities nationally.	Global TB report *(12)*
Multisectoral engagement	Is there a national multisectoral and multistakeholder accountability and review mechanism under high-level leadership to monitor and review progress towards ending TB?	Global TB report *(12)*

NCD: noncommunicable disease; NTP: national TB programme; PHC: primary health care; SCI: service coverage index; SDG: Sustainable Development Goal; TB: tuberculosis; UHC: universal health coverage; WHO: World Health Organization; WRD: WHO-recommended rapid diagnostic test.

Table 4.4 Additional monitoring indicators for TB and PHC, description and source

INDICATOR	DESCRIPTION	SOURCE
Package of essential health services that includes TB	Presence of a package of essential health services in the country that includes TB	Country report
Proportion of PHC centres providing a package of TB services	Number of PHC facilities in the country that provide a package of TB services out of the total number of primary care facilities	Country report; Global TB report
Health workforce	Presence of TB training in diagnosis, treatment and management for health workers at the PHC level	Country report

References

1 Litvinjenko S, Magwood O, Wu S, Wei X. Burden of tuberculosis among vulnerable populations worldwide: an overview of systematic reviews. Lancet Infect Dis. 2023;23:1395–407 (https://doi.org/10.1016/S1473–3099(23)00372–9).

2 Resolution 73/3: Political declaration of the high-level meeting of the United Nations General Assembly on the fight against tuberculosis. New York: United Nations General Assembly; 2018 (https://www.who.int/publications/m/item/political-declaration-of-the-un-general-assembly-high-level-meeting-on-the-fight-against-tuberculosis).

3 Resolution 78/5: Political declaration of the second high-level meeting of the General Assembly on the fight against tuberculosis. New York: United Nations General Assembly; 2023 (https://digitallibrary.un.org/record/4025280?v=pdf).

4 The End TB Strategy. Geneva: World Health Organization; 2015 (https://iris.who.int/handle/10665/331326).

5 Alliance for Health Policy and Systems Research, World Health Organization. Systems thinking for health system strengthening. Geneva: World Health Organization; 2009 (https://ahpsr.who.int/publications/i/item/2009–11–13-systems-thinking-for-health-systems-strengthening).

6 Systems thinking for noncommunicable disease prevention policy: guidance to bring systems approaches into practice (WHO-EURO-2022–4195–43954–61946). Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/357174).

7 World Health Organization, United Nations Children's Fund. A vision for primary health care in the 21st century: towards universal health coverage and the Sustainable Development Goals (WHO/HIS/SDS/2018.15). Geneva: World Health Organization; 2018 (https://www.who.int/publications/i/item/WHO-HIS-SDS-2018.15).

8 Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Q. 2005;83:457–502 (https://doi.org/10.1111/j.1468–0009.2005.00409.x).

9 WHO Multisectoral Accountability Framework for TB (MAF-TB): baseline assessment checklist for country use in pursuing a national MAF-TB. Geneva: World Health Organization; 2020 (https://www.who.int/publications/m/item/who-multisectoral-accountability-framework-for-tb-(maf-tb)-baseline-assessment-checklist-for-country-use-in-pursuing-a-national-maf-tb).

10 Global tuberculosis report 2023. Geneva: World Health Organization; 2023 (https://www.who.int/publications/i/item/9789240083851). Licence: CC BY-NC-SA 3.0 IGO.

11 Global tuberculosis report 2023. Geneva: World Health Organization; 2024 (https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2023). Licence: CC BY-NC-SA 3.0 IGO.

12 Global tuberculosis report 2024. Geneva: World Health Organization; 2024 (https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2024). Licence: CC BY-NC-SA 3.0 IGO.

13 Alene KA, Wangdi K, Colquhoun S, Chani K, Islam T, Rahevar K et al. Tuberculosis related disability: a systematic review and meta-analysis. BMC Med. 2021;19:203 (https://doi.org/10.1186/s12916–021–02063–9).

14 Oxlade O, Murray M. Tuberculosis and poverty: why are the poor at greater risk in India? PLoS One. 2012;7:e47533 (https://doi.org/10.1371/journal.pone.0047533).

15 Lienhardt C. From exposure to disease: the role of environmental factors in susceptibility to and development of tuberculosis. Epidemiol Rev. 2001;23:288–301 (https://doi.org/10.1093/oxfordjournals.epirev.a000807).

16 Universal health coverage [website]. Geneva: World Health Organization; 2025 (https://www.who.int/health-topics/universal-health-coverage#tab=tab_1).

17 Primary health care: report of the International Conference on Primary Health Care, Alma-Ata, USSR, 6–12 September 1978, jointly sponsored by the World Health Organization and the United Nations Children's Fund. Geneva: World Health Organization; 1978 (https://www.who.int/publications/i/item/9241800011).

18 Declaration of Astana: Global Conference on Primary Health Care: Astana, Kazakhstan, 25 and 26 October 2018. Geneva: World Health Organization; 2018 (https://www.who.int/publications/i/item/WHO-HIS-SDS-2018.61).

19 Resolution 72.2: Primary health care (World Health Assembly 72). Geneva: World Health Organization; 2019 (https://apps.who.int/gb/ebwha/pdf_files/WHA72-REC1/A72_2019_REC1-en.pdf).

20 World Health Organization, United Nations Children's Fund. Operational framework for primary health care: transforming vision into action (Technical series on primary health care). Geneva: World Health Organization; 2020 (https://iris.who.int/handle/10665/337641). Licence: CC BY-NC-SA 3.0 IGO.

21 Framework for collaborative action on tuberculosis and comorbidities. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/361989). Licence: CC BY-NC-SA 3.0 IGO.

22 Reid MJA, Arinaminpathy N, Bloom A, Bloom BR, Boehme C, Chaisson R et al. Building a tuberculosis-free world: *The Lancet* Commission on tuberculosis. Lancet. 2019;393:1331–84 (https://doi.org/10.1016/s0140–6736(19)30024–8).

23 Rasanathan K, Sivasankara Kurup A, Jaramillo E, Lonnroth K. The social determinants of health: key to global tuberculosis control. Int J Tuberc Lung Dis. 2011;15 Suppl 2:30–6 (https://doi.org/10.5588/ijtld.10.0691).

24 Lönnroth K, Jaramillo E, Williams B, Dye C, Raviglione M. Tuberculosis: the role of risk factors and social determinants. In: Blas E & Sivasankara Kurup A (eds.), Equity, social determinants and public health programmes. Geneva: World Health Organization; 2010:219–41 (https://www.who.int/publications/i/item/9789241563970).

25 Atun R, de Jongh T, Secci F, Ohiri K, Adeyi O. Integration of targeted health interventions into health systems: a conceptual framework for analysis. Health Policy Plan. 2010;25:104–11 (https://doi.org/10.1093/heapol/czp055).

26 Biesma RG, Brugha R, Harmer A, Walsh A, Spicer N, Walt G. The effects of global health initiatives on country health systems: a review of the evidence from HIV/AIDS control. Health Policy Plan. 2009;24:239–52 (https://doi.org/10.1093/heapol/czp025).

27 Howard AA, El-Sadr WM. Integration of tuberculosis and HIV services in sub-Saharan Africa: lessons learned. Clin Infect Dis. 2010;50 Suppl 3:S238–44 (https://doi.org/10.1086/651497).

28 Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva: World Health Organization; 2007 (https://iris.who.int/handle/10665/43918).

29 Primary health care [website]. Geneva: World Health Organization; 2024 (https://www.who.int/news-room/fact-sheets/detail/primary-health-care).

30 The Global Health Observatory [website]. Geneva: World Health Organization; 2025 (https://www.who.int/data/gho).

31 Framework on integrated, people-centred health services: report by the Secretariat. Geneva: World Health Organization; 2016 (https://iris.who.int/handle/10665/250704).

32 Integrated people-centred care [website]. Geneva: World Health Organization; 2024 (https://www.who.int/health-topics/integrated-people-centered-care#tab=tab_1).

33 Integrating health services: brief. Geneva: World Health Organization; 2018 (https://iris.who.int/handle/10665/326459). Licence: CC BY-NC-SA 3.0 IGO.

34 MacNeil A, Glaziou P, Sismanidis C, Date A, Maloney S, Floyd K. Global epidemiology of tuberculosis and progress toward meeting global targets – worldwide, 2018. MMWR Morb Mortal Wkly Rep. 2020;69:281–5 (https://doi.org/10.15585/mmwr.mm6911a2).

35 Myburgh H, Baloyi D, Loveday M, Meehan SA, Osman M, Wademan D et al. A scoping review of patient-centred tuberculosis care interventions: Gaps and opportunities. PLOS Glob Public Health. 2023;3:e0001357 (https://doi.org/10.1371/journal.pgph.0001357).

36 WHO consolidated guidelines on tuberculosis. Module 6: Tuberculosis and comorbidities. Geneva: World Health Organization; 2024 (https://www.who.int/publications/i/item/9789240087002).

37 Roadmap towards ending TB in children and adolescents, 3rd edition. Geneva: World Health Organization; 2023 (https://iris.who.int/bitstream/handle/10665/373949/9789240084254-eng.pdf?sequence=1).

38 WHO consolidated guidelines on tuberculosis. Module 5: Management of tuberculosis in children and adolescents. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/352522).

39 WHO operational handbook on tuberculosis. Module 5: Management of tuberculosis in children and adolescents. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/352523).

40 Child Survival Action. A renewed call to action to end preventable child deaths. Geneva: World Health Organization; 2023 (https://iris.who.int/bitstream/handle/10665/373949/9789240084254-eng.pdf?sequence=1).

41 Kutzin J. Health financing for universal coverage and health system performance: concepts and implications for policy. Bull World Health Organ. 2013;91:602–11 (https://doi.org/10.2471/BLT.12.113985).

42 Wells WA, Waseem S, Scheening S. The intersection of TB and health financing: defining needs and opportunities. IJTLD Open. 2024;1:375–83 (https://doi.org/10.5588/ijtldopen.24.0324).

43 Lönnroth K, Jaramillo E, Williams BG, Dye C, Raviglione M. Drivers of tuberculosis epidemics: the role of risk factors and social determinants. Soc Sci Med. 2009;68:2240–6 (https://doi.org/10.1016/j.socscimed.2009.03.041).

44 Zumla A, Davies PD. Progress towards achieving global tuberculosis control: so near, yet so far. Int J Tuberc Lung Dis. 2016;20:285–6 (https://doi.org/10.5588/ijtld.15.1004).

45 Adaptation and implementation of WHO's Multisectoral Accountability Framework to end TB (MAF-TB): best practices. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/365806). Licence: CC BY-NC-SA 3.0 IGO.

46 Guidance on engagement of communities and civil society to end tuberculosis. Geneva: World Health Organization; 2023 (https://iris.who.int/handle/10665/373321). Licence: CC BY-NC-SA 3.0 IGO.

47 Voice, agency, empowerment: handbook on social participation for universal health coverage. Geneva: World Health Organization; 2021 (https://iris.who.int/handle/10665/342704). Licence: CC BY-NC-SA 3.0 IGO.

48 The World Health Report: health systems financing: the path to universal coverage. Geneva: World Health Organization; 2010 (https://iris.who.int/handle/10665/44371).

49 Hanson K, Gilson L, Goodman C, Mills A, Smith R, Feachem R et al. Is private health care the answer to the health problems of the world's poor? PLoS Med. 2008;5:e233 (https://doi.org/10.1371/journal.pmed.0050233).

50 Berendes S, Heywood P, Oliver S, Garner P. Quality of private and public ambulatory health care in low and middle income countries: systematic review of comparative studies. PLoS Med. 2011;8:e1000433 (https://doi.org/10.1371/journal.pmed.1000433).

51 Patouillard E, Goodman CA, Hanson KG, Mills AJ. Can working with the private for-profit sector improve utilization of quality health services by the poor? A systematic review of the literature. Int J Equity Health. 2007;6:17 (https://doi.org/10.1186/1475–9276–6-17).

52 Mathauer I, Dale E, Meessen B. Strategic purchasing for universal health coverage: key policy issues and questions: a summary from expert and practitioners' discussions (Health Financing Working Paper; 8). Geneva: World Health Organization; 2017 (https://iris.who.int/handle/10665/259423).

53 World Health Organization, Cashin C, Bloom D, Sparkes S, Barroy H, Kutzin J et al. Aligning public financial management and health financing: sustaining progress toward universal health coverage (Health Financing Working Paper; 4). Geneva: World Health Organization; 2017 (https://iris.who.int/handle/10665/254680). Licence: CC BY-NC-SA 3.0 IGO.

54 Uplekar M, Weil D, Lonnroth K, Jaramillo E, Lienhardt C, Dias HM et al. WHO's new End TB Strategy. Lancet. 2015;385:1799–801 (https://doi.org/10.1016/s0140–6736(15)60570–0).

55 Lonnroth K, Castro KG, Chakaya JM, Chauhan LS, Floyd K, Glaziou P et al. Tuberculosis control and elimination 2010–50: cure, care, and social development. Lancet. 2010;375:1814–29 (https://doi.org/10.1016/S0140–6736(10)60483–7).

56 Global strategy on human resources for health: workforce 2030. Geneva: World Health Organization; 2016 (https://iris.who.int/handle/10665/252799).

57 Lagarde M, Palmer N. The impact of user fees on health service utilization in low- and middle-income countries: how strong is the evidence? Bull World Health Organ. 2008;86:839–48 (https://doi.org/10.2471/blt.07.049197).

58 Yates R. Universal health care and the removal of user fees. Lancet. 2009;373:2078–81 (https://doi.org/10.1016/s0140–6736(09)60258–0).

59 Fact sheet: quality health services [website]. Geneva: World Health Organization; 2024 (https://www.who.int/news-room/fact-sheets/detail/quality-health-services).

60 Arsenault C, Roder-DeWan S, Kruk ME. Measuring and improving the quality of tuberculosis care: a framework and implications from the Lancet Global Health Commission. J Clin Tuberc Other Mycobact Dis. 2019;16:100112 (https://doi.org/10.1016/j.jctube.2019.100112).

61 Building the economic case for primary health care: a scoping review. Geneva: World Health Organization; 2018 (https://iris.who.int/handle/10665/326293). Licence: CC BY-NC-SA 3.0 IGO.

62 Mwai D, Hussein S, Olago A, Kimani M, Njuguna D, Njiraini R et al. Investment case for primary health care in low-and middle-income countries: a case study of Kenya. PloS One. 2023;18:e0283156 (https://doi.org/10.1371/journal.pone.0283156).

63 Kruk ME, Porignon D, Rockers PC, Van Lerberghe W. The contribution of primary care to health and health systems in low- and middle-income countries: a critical review of major primary care initiatives. Soc Sci Med. 2010;70:904–11 (https://doi.org/10.1016/j.socscimed.2009.11.025).

64 The World Health Report 2008: primary health care now more than ever: introduction and overview. Geneva: World Health Organization; 2008 (https://iris.who.int/handle/10665/69863).

65 Rajan D, Rouleau K, Winkelmann J, Jakab M, Kringos D, Khalid F. Implementing the primary health care approach: a primer (Global report on primary health care). Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/376777).

66 Maharjan B, Gopali RS, Zhang Y. A scoping review on climate change and tuberculosis. Int J Biometeorol. 2021;65:1579–95 (https://doi.org/10.1007/s00484–021–02117-w).

67 Kharwadkar S, Attanayake V, Duncan J, Navaratne N, Benson J. The impact of climate change on the risk factors for tuberculosis: a systematic review. Environ Res. 2022;212:113436 (https://doi.org/10.1016/j.envres.2022.113436).

68 Role of primary care in the COVID-19 response. Geneva: World Health Organization, Regional Office for the Western Pacific; 2021 (https://iris.who.int/handle/10665/331921). Licence: CC BY-NC-SA 3.0 IGO.

69 World Health Organization Regional Office for South-East Asia. Strengthening primary health care in the COVID-19 era: a review of best practices to inform health system responses in low- and middle-income countries. WHO South-East Asia Journal of Public Health. 2021;10 (S1–S99):1–20 (https://www.who.int/publications/i/item/9789240025295).

70 Pradhan NA, Samnani A, Abbas K, Rizvi N. Resilience of primary healthcare system across low- and middle-income countries during COVID-19 pandemic: a scoping review. Health Res Policy Syst. 2023;21:98 (https://doi.org/10.1186/s12961–023–01031–4).

71 Nkengasong JN, Mankoula W. Looming threat of COVID-19 infection in Africa: act collectively, and fast. Lancet. 2020;395:841–2 (https://doi.org/10.1016/s0140–6736(20)30464–5).

72 Khan MS, Rego S, Rajal JB, Bond V, Fatima RK, Isani AK et al. Mitigating the impact of COVID-19 on tuberculosis and HIV services: A cross-sectional survey of 669 health professionals in 64 low and middle-income countries. PLoS One. 2021;16:e0244936 (https://doi.org/10.1371/journal.pone.0244936).

73 Leveraging TB programs in the fight against COVID-19: USAID's efforts. Washington, DC: United States Agency for International Development; 2021.

74 Programmatic innovations to address challenges in tuberculosis prevention and care during the COVID-19 pandemic. Geneva: World Health Organization; 2021 (https://www.who.int/publications/i/item/9789240025295).

75 State of the world's nursing 2020: executive summary. Geneva: World Health Organization; 2020 (https://iris.who.int/handle/10665/331673). Licence: CC BY-NC-SA 3.0 IGO.

76 World Health Organization, Global Fund to Fight AIDS Tuberculosis and Malaria. The Global Fund's focus on health workforce. Geneva: World Health Organization; 2019.

77 Endalamaw A, Khatri RB, Erku D, Zewdie A, Wolka E, Nigatu F et al. Barriers and strategies for primary health care workforce development: synthesis of evidence. BMC Prim Care. 2024;25:99 (https://doi.org/10.1186/s12875–024–02336–1).

78 Endalamaw A, Khatri RB, Erku D, Nigatu F, Zewdie A, Wolka E et al. Successes and challenges towards improving quality of primary health care services: a scoping review. BMC Health Serv Res. 2023;23:893 (https://doi.org/10.1186/s12913–023–09917–3).

79 Primary health care on the road to universal health coverage: 2019 monitoring report (WHO/HIS/HGF/19.1). Geneva: World Health Organization; 2019 (https://www.who.int/publications/i/item/9789240029040). Licence: CC BY-NC-SA 3.0 IGO.

80 The World Health Report: health systems financing: the path to universal coverage: executive summary. Geneva: World Health Organization; 2010 (https://iris.who.int/handle/10665/70496).

81 WHO guideline on health policy and system support to optimize community health worker programmes. Geneva: World Health Organization; 2018 (https://www.who.int/publications/i/item/9789241550369). Licence: CC BY-NC-SA 3.0 IGO.

82 World Health Organization data; Universal health coverage (UHC) progress, UHC service coverage index [website]. Geneva: World Health Organization; 2025 (https://data.who.int/indicators/i/9A706FD).

83 Global tuberculosis reports. Geneva: World Health Organization; 2025 (https://www.who.int/teams/global-tuberculosis-programme/tb-reports).

84. Integrated approach to tuberculosis and lung health: policy brief. Geneva: World Health Organization; 2025 (https://iris.who.int/handle/10665/380840). Licence: CC BY-NC-SA 3.0 IGO.

85. WHO consolidated guidelines on tuberculosis Module 1: prevention – tuberculosis preventive treatment, second ed. Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/378536). Licence: CC BY-NC-SA 3.0 IGO.

86. WHO consolidated guidelines on tuberculosis: module 2: screening: systematic screening for tuberculosis disease. Geneva: World Health Organization; 2021 (https://iris.who.int/handle/10665/340255). Licence: CC BY-NC-SA 3.0 IGO.

87. WHO consolidated guidelines on tuberculosis: module 3: diagnosis – rapid diagnostics for tuberculosis detection, 3rd ed. Geneva: World Health Organization; 2024 (https://www.who.int/publications/i/item/9789240089488). Licence: CC BY-NC-SA 3.0 IGO.

88. WHO consolidated guidelines on tuberculosis: module 4: tuberculosis care and support. Geneva: World Health Organization; 2025.

89. WHO consolidated guidance on tuberculosis data generation and use: module 1: Tuberculosis surveillance. Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/376612). Licence: CC BY-NC-SA 3.0 IGO.

90. WHO consolidated guidelines on tuberculosis: module 1: prevention – infection prevention and control, 2022.

91. Guidance on social protection for people affected by tuberculosis. Geneva: World Health Organization; 2024 (https://www.who.int/publications/i/item/9789240089327). Licence: CC BY-NC-SA 3.0 IGO.

For more information, please contact:

Global Programme on Tuberculosis and Lung Health
World Health Organization
Avenue Appia 20, CH-1211 Geneva 27, Switzerland

Email: gtbprogramme@who.int
www.who.int/tb