

Fuelling the fight against the spread of tuberculosis: nutrition is the missing ingredient





About the authors

Results International Australia, Results Canada, Results UK and RESULTS US are grassroots advocacy organizations working to end poverty and advance global justice by mobilizing everyday people to influence political decisions and public policy.

Across their respective countries, they train and support volunteers to engage with parliamentarians, policymakers, government officials, and the media to build political will for stronger investments in global health, quality education, nutrition, economic opportunity, and anti-poverty programs. They share a vision of a world without poverty - recognizing that poverty is closely linked to inequality, oppression, and lack of access to essential services.

The Results organizations emphasize partnership, equity, and anti-oppression in their advocacy. Through evidence-based campaigns and citizen-led action, they work to improve policies, increase resources, and strengthen accountability so that people everywhere can access health care, education, and opportunities to thrive, while also collaborating internationally through networks to drive global change.

Results Australia, Canada, UK, and US are members of the ACTION Global Health Advocacy Partnership, which works to influence policy and mobilize resources to ensure equitable access to health worldwide. The partnership has helped secure more than US\$130.21 billion¹ in financing commitments for the Global Fund to Fight AIDS, Tuberculosis and Malaria and other major global health initiatives, including Gavi, the Vaccine Alliance, the Global Financing Facility for Women, Children and Adolescents, the Coalition for Epidemic Preparedness Innovations, the Global Polio Eradication Initiative, Nutrition for Growth, and the COVID-19 response.

Fuelling the fight



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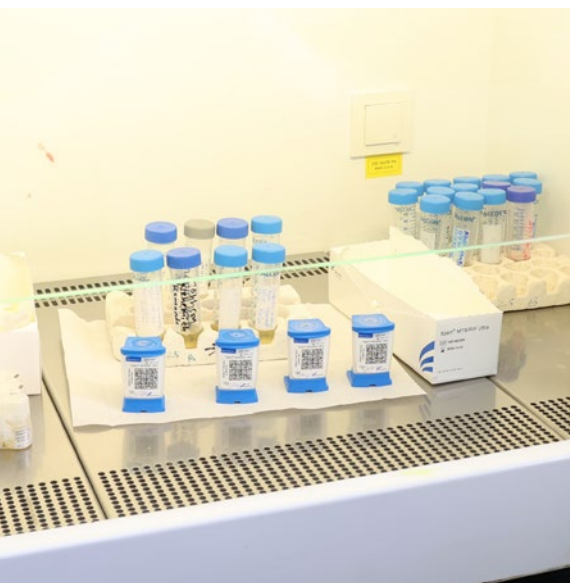


Photo credit: Pinch Africa, courtesy of Global Fund Advocates Network

Glossary

Active TB

Active TB involves active multiplication of mycobacterium tuberculosis bacteria, resulting in noticeable symptoms and the ability to transmit the infection to others.

Acute malnutrition

Acute malnutrition results from when a person doesn't get enough food, nutrients, or becomes sick over a short period of time. It's often caused by a decrease in food intake or an illness or an infection. This condition usually leads to quick weight loss and is identified by measuring a person's weight and height, or the size of their upper arm. In children under five, it's called **wasting**. In older children, teens, and adults, it's often called **thinness**.

Chronic malnutrition

Chronic malnutrition, also known as **stunting**, is a form of growth failure that develops from inadequate nutrition over long periods of time (including poor maternal nutrition and poor infant and young child feeding practices) and/or repeated infections. Because stunting leads children to grow more slowly than otherwise expected, it can be measured in children using the height-for-age nutritional index.

Community health workers

Community health workers are health care providers who live in the community they serve and receive lower levels of formal training than professional health care workers such as nurses and doctors. This human resource group has enormous potential to extend health care services to vulnerable populations – such as communities living in remote areas and historically marginalized people – to meet unmet health needs in a culturally appropriate manner, improve access to services, address inequities in health status, and improve health system performance and efficiency.

Food & nutrition security

Food and nutrition security means that everyone always has access to enough food that is safe, nutritious, and culturally appropriate, and are able to eat and use that food in a way that keeps them healthy. This definition goes beyond earlier versions of food security, which mainly focused on having enough food to avoid hunger, by highlighting the importance of getting enough nutrients and the body being able to absorb and use them.

Food insecurity

A situation where people don't have reliable access to enough safe and nutritious food to grow, develop, and live a healthy, active life. This can happen for several reasons, like food not being available, not having enough money to buy food, unfair food distribution, or not being able to use food properly within the household.

Fortification

Fortification is the practice of intentionally increasing the micronutrient content in a food to prevent the health effects associated with micronutrient deficiency. Large-scale fortification adds micronutrients to foods that are commonly eaten by a large portion of the population, like salt or flour.

Latent TB Infection

Latent TB Infection is characterized by the presence of mycobacterium tuberculosis bacteria in the body but is inactive, causing no symptoms and being non-infectious, though there is a risk of progressions to active disease.

Malnutrition

Malnutrition is a general term that describes health problems caused by poor nutrition. It can lead to issues like poor growth and development in children (stunting), being too thin (wasting), being overweight or obese, not getting enough essential vitamins and minerals, and diseases linked to unhealthy diets.

Maternal health

Maternal health refers to the health of women during pregnancy, childbirth, and the postpartum period.

Multi-Drug Resistant TB

A form of TB disease caused by a strain of mycobacterium tuberculosis complex that is resistant to the two drugs used in first line treatment, rifampicin and isoniazid.

Nutrition

Nutrition refers to the processes through which a human being uses everything that is ingested for the purposes of maintaining life, growth, and normal functions. These processes include ingestion, digestion, absorption, and utilization and elimination of food from the body.

Nutrition sensitive

Nutrition sensitive means having the potential to improve nutrition security and/or status for targeted beneficiaries by addressing the underlying causes of malnutrition, without specifying nutrition as a primary aim.

Nutrition specific

Nutrition specific means interventions, policies, and other actions with the specific aim of improving nutrition security and/or status for targeted beneficiaries.

Overweight and obesity

Overweight and obesity describe when a person has too much body fat or weight, which can raise the risk of diseases linked to diet. A common tool to measure this is the Body Mass Index (BMI) which is calculated by comparing a person's height to their weight. A body mass index (BMI) over 25 is considered overweight, and over 30 is obese.

People-centered care

A people-centered approach acknowledges that care must be structured around the needs, values, and preferences of those affected, while safeguarding their rights. People-centered care is holistic, tailored to the individual, respectful, and empowering. It places the person at the heart of the care process, promoting informed and shared decision-making as well as supporting autonomy and self-determination.

Prevalence of undernourishment

The prevalence of undernourishment is used to measure hunger (Sustainable Development Goal Indicator 2.1.1). It is the estimate of the proportion of the population who regularly do not consume enough nutritious food to provide energy to maintain a normal active and healthy life. It is expressed as a percentage.

Primary health care

Primary health care is an overall approach to the organization of health systems that encompasses: multisectoral policy action to address the broader determinants of health; empowering individuals, families, and communities; and meeting people's essential health needs throughout their lives.

Undernutrition

Undernutrition is a form of malnutrition that occurs when a person does not get enough energy, protein, or essential vitamins and minerals to meet their body's needs for growth, maintenance, and normal functioning. Undernutrition can weaken the immune system, slow physical and cognitive development, and increase the risk of illness and death.

Universal health coverage

All people have access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care across the life course.

Executive summary

Despite being preventable and curable, tuberculosis (TB) remains the world's deadliest infectious disease, killing over one million people globally every year. At the same time, global hunger and undernutrition continue at alarming levels; in 2023, over two billion people faced moderate to severe food insecurity. This report argues that these are not parallel crises but deeply interconnected challenges driven by poverty and that failing to address their intersection is undermining global efforts to end TB.

The TB epidemic is strongly influenced by social and economic determinants, including health-related risk factors (such as undernutrition, diabetes, HIV, alcohol use disorders, and smoking) as well as health system weaknesses and inadequate investment in social protection.

Undernutrition is the leading risk factor for TB globally, responsible for nearly one million new cases annually. It weakens immune systems, increases the likelihood of latent TB progressing to active disease, and worsens treatment outcomes. In turn, TB exacerbates undernutrition through weight loss, reduced appetite, and prolonged illness, creating a self-reinforcing cycle of disease and deprivation.

Despite strong evidence of these connections, TB and nutrition programs largely operate in silos. Nutrition initiatives often prioritize children and pregnant women, overlooking adults with TB who are at high risk and in urgent need of support. This represents not only a programmatic gap but a broader failure to address the social and economic determinants of TB, including food insecurity and poverty.

This report highlights growing evidence that integrated TB and nutrition interventions are highly effective and cost-efficient. Modelling evidence has shown that poverty elimination and scale-up of social protections in line with the Sustainable Development Goals would result in a reduction in TB incidence of 84% globally.²

The RATIONS³ (Reducing Activation of Tuberculosis Through Improvement of Nutritional Status) trial in India provided compelling evidence that nutritional support to TB-affected households reduced TB incidence among contacts by up to 48% and significantly lowered mortality risk. These findings demonstrate that simple, low-cost interventions – such as food support and cash transfers – can dramatically improve outcomes. TB isn't just a medical problem, it is also a social one.

Scaling up integrated approaches can save lives. Investing US \$3 billion annually in nutrition across the 30 high-burden countries could reduce TB incidence by 17%.⁴

Case studies, including the Daru Accelerated Response to Tuberculosis (DART) program in Papua New Guinea, show that person-centered, community-based models integrating nutrition into TB care can improve treatment adherence and outcomes, even in fragile settings. However, they also underline that program-level interventions alone are insufficient without addressing wider structural drivers such as poverty, food systems, and inequality.

This report situates TB-nutrition integration within broader global priorities, including the Sustainable Development Goals⁵ and

Universal Health Coverage,⁶ and aligns with calls for more coordinated, country-led approaches such as the Lusaka Agenda.⁷ It argues that integration is not only more effective but also more efficient, particularly in a context of constrained global health financing.

Ending TB requires moving beyond a purely biomedical response. Embedding nutrition and social protection into TB strategies is essential to breaking the cycle of infection, vulnerability, and poverty. The success of TB integration will depend on political will, sustained financing, and cross-sector coordination, which remain significant barriers. Without addressing these structural constraints, there is a risk that integration remains aspirational rather than transformative.



Healthcare workers undertaking tuberculosis diagnostics tests in Peru. Photo credit: TB REACH.

Key messages

- **Poverty, with associated undernutrition, is the leading driver of TB globally and being ill with TB worsens poverty, food insecurity, and undernutrition.**
- **The “double burden” of TB and undernutrition is a public health emergency that demands urgent, coordinated action.**
- **Integrated approaches must be considered as a priority tool for the prevention of TB and scaled up to save lives, improve patient outcomes, and help break the cycle of disease and malnutrition.**
- **Nutrition is not an optional add-on to TB care – it is a critical, evidence-based intervention for prevention, treatment, and recovery.**
- **Equity must be a priority, with interventions targeted to ensure no populations are left behind in the fight against TB and malnutrition.**
- **More linkages should be made to strengthen access to healthcare and social protection schemes.**

Policy recommendations

This is a call to action for governments, donors, and civil society to invest in people-centered solutions that reflect the lived reality of those most affected.

Government donors, international institutions, and philanthropies

1. Provide financial support for integrated programs and prioritize country-led TB-nutrition integration in funding strategies.
2. Incentivize cross-sector collaboration between health, nutrition, and social protection partners.
3. Fund community-led organizations and national civil society in community leadership, essential to delivering people-centered care.
4. Donor governments to increase investment in TB programs and interventions, through organizations such as the Global Fund and TB REACH
5. Donor governments to invest in bilateral TB programs that support the policies and investments described under “governments” above.

Governments

1. Complete and implement the multi-sectoral accountability framework for TB and take a whole-of-government approach to ending TB.
2. Implement commitments from the 2023 political declaration on TB to ensure that 100% of people with TB have access to a comprehensive package of health and social protections (such as cash transfers or food support) by 2027 to protect families from catastrophic costs.
3. Include nutrition interventions in national TB strategic plans and budgets.
4. Implement the World Health Organization (2025) updated guidelines on nutritional assessment and interventions for people with TB and their households.
5. Ensure TB screening and assessment are integrated within nutrition programs.
6. Train frontline healthcare workers to recognize and respond to the TB-undernutrition link.
7. Include civil society and affected communities in the planning, design and implementation of TB-integration programs, supporting community-led approaches.
8. Support country-led pilots and operational research to build the evidence base.

Advocates and civil society

1. Build alliances and partnerships across TB, nutrition, HIV, maternal and child health, and social protection actors to jointly advocate for integrated services and systems.
2. Generate demand for people-centered, human rights-based approaches as global/national citizens.
3. Advocate for integration in national policies and budgets and ensuring nutrition support is incorporated throughout the continuum of TB prevention and care.
4. Engage in efforts to frame nutrition as a right and a public health imperative – as an effective tool for TB prevention.
5. Advocate for equitable access to care and resources, ensuring key and marginalized populations receive targeted TB and nutrition interventions.

The Global Fund

Provide continued support for countries to link TB prevention and care with strong social protection and nutrition interventions.

World Bank

Support countries to invest in robust social protection and TB programs, and to develop policies that link TB care to automatic enrollment in social protection and nutrition programs.



TB & TB-MDR Detection & Treatment in Lima, Peru.
Photo Credit: Pan American Health Organization PAHO,
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Introduction

A man arrives at a rural health clinic after weeks of coughing, fatigue, and rapid weight loss. He hasn't eaten a full meal in days. A nurse meets him with a quiet urgency and hands him a small plastic container. He steps outside and coughs deeply until he fills it with sputum. Back inside, a technician prepares the sample and adds it to a compact machine on the counter. Within hours, the machine will confirm what his symptoms have already suggested: active pulmonary TB. Nearby, a digital scale and height chart confirm what is already visible: he is dangerously underweight. Malnourished and sick, his body is too weak to fight back.

But, on this day, instead of walking away with just TB medication, the man begins a recovery plan that treats the full reality of his illness. He is given the correct antibiotics for his strain of TB and fortified food supplements to help him withstand the drugs and rebuild his strength. Because TB is infectious, especially in overcrowded households with poor sanitation, limited access to clean water and where there isn't enough to eat, he also receives enough food support to share with his family. Not just to ease their hunger, but to protect them.

Undernutrition weakens the immune system, making people more likely to develop active TB if they are exposed. The man has spent weeks terrified that his cough would make his children sick. But now, he leaves the clinic with medicine, food, and something just as important: a path forward that doesn't put his family at risk.

This is what integrated TB and nutrition services can make possible. It's a practical, person-centered approach that meets people where they are and recognizes that hunger,

illness, and poverty reinforce one another. By addressing medical and nutritional needs together, and extending care and nutritional support to households, integration offers more than treatment. It offers prevention, protection, and recovery.

While the role of nutrition in TB treatment is well-established, its potential as a preventative measure is also now backed by growing scientific evidence.⁸ This requires attention and resources to unlock its transformative impact in addressing the twin crises of TB and malnutrition, driven by the same cause: poverty.

This report demonstrates the benefits of an integrated approach to TB and nutrition – one that spans prevention, treatment, and care – and provides the latest policy insights and recommendations for scaling its implementation.

Political decisions made today have the power to save lives, both now and in the future. We call on governments and global health institutions to fund comprehensive, people-centered, community-led solutions and prioritize TB-nutrition integration in national plans and financing proposals.



Ending TB and poverty and achieving zero hunger and universal health coverage are part of the United Nations Sustainable Development Goals (SDGs) – global targets that all member states have committed to achieving by 2030.⁹

Integrating TB and nutrition can help deliver on several global goals with a fast-approaching deadline of 2030 and the Lusaka Agenda:

The Sustainable Development Goals

By providing equitable access to nutrition and TB services for patients – and their households, these integrated programs can effectively tackle hunger and health inequalities and prevent TB, particularly in underserved communities.

The Lusaka Agenda

Launched on Universal Health Coverage Day (December 12, 2023),¹⁰ sets out a vision to improve coordination among global health stakeholders and recalibrate the relationship between national governments and multilateral organizations. The agenda is aimed at ensuring that partners working in the same areas collectively deliver on what communities truly need, rather than operating in silos and missing critical opportunities. This approach is closely aligned with the vision of this report – to promote integration because of what it can deliver for the community.



The Gatsibo Rice Mill in Gatsibo district, Rwanda buys rice from local farmers, and processes it for local consumption.

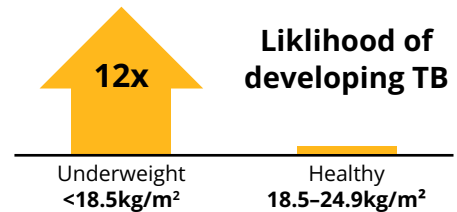
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The interconnected burden of TB and undernutrition

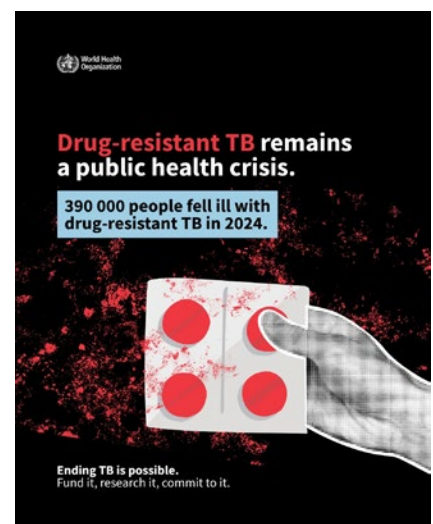
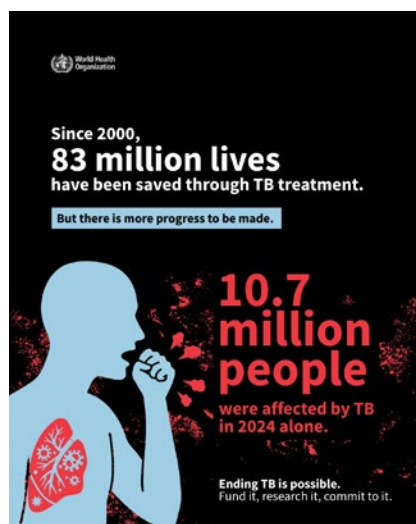
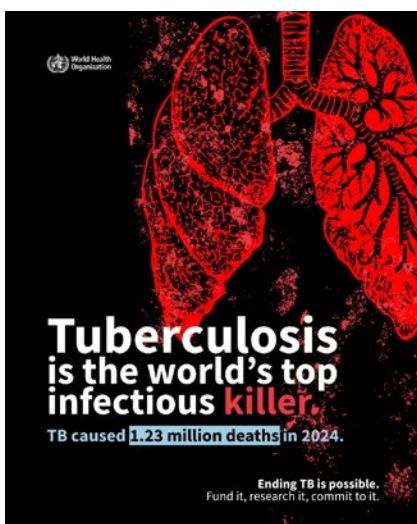
TB is the world's deadliest infectious disease, with 10.7 million new cases and 1.23 million deaths reported in 2024.¹¹ Though it is entirely preventable and curable, TB continues to spread, particularly in low- and middle-income countries where poverty, undernutrition, and barriers to care persist. Meanwhile, over 733 million people faced hunger in 2023, and more than 2.8 billion could not afford a healthy diet.¹² These are not separate crises. They are deeply interconnected by poverty.

Undernutrition is the leading risk factor for TB worldwide and is linked to nearly one million (970,000) TB cases each year.¹³ When the body does not get enough essential nutrients, such as carbohydrates and protein, or vitamins and minerals, the immune system becomes weaker. This makes it harder for the body to fight TB bacteria and increases the risk that latent TB infection can progress into active TB disease.



A large cohort study from the United States, found that people with a Body Mass Index (BMI) below $18.5\text{kg}/\text{m}^2$ have about twelve times higher risk of developing TB.¹⁴ Scenario modelling¹⁵ based on states in India – which has the highest TB burden in the world and high levels of undernutrition – showed that even if nutrition improves modestly, there are larger reductions in TB cases and deaths than if nothing changes. In the most optimistic scenario (where undernutrition almost disappears), TB cases could drop by roughly 60–70% and TB deaths by 40–68% over 20 years, compared to doing nothing to improve nutrition. This study suggests that addressing undernutrition alongside medical care could reduce the TB burden in high-undernutrition settings more effectively than strengthening TB treatment programs alone.

Global tuberculosis report 2025, Infographics.
Photo credit: World Health Organization.

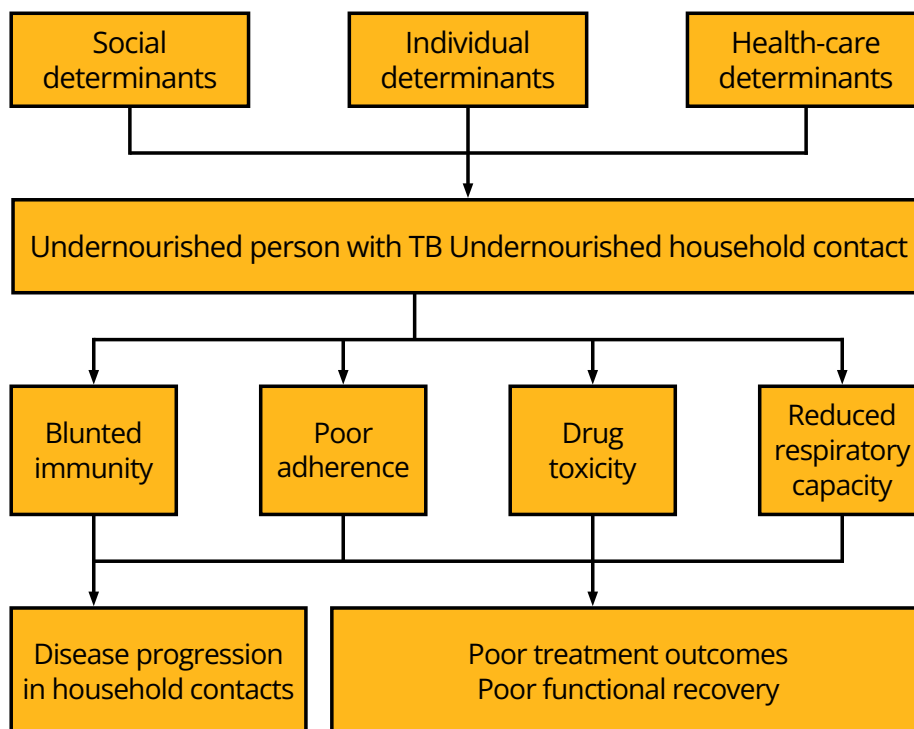


People who are both undernourished and sick with TB are more likely to die. The relationship is cyclical. TB causes weight loss, reduced appetite, and muscle wasting, which worsen undernutrition. Undernutrition, in turn, leads to longer treatment, harsher side effects, and a higher risk of treatment failure or disease relapse as TB drugs are harder to tolerate and less effective in undernourished people.

Despite the well-established link between undernutrition and TB, programs still operate largely in silos. Global nutrition initiatives rightly prioritize pregnant women and young children, but this narrow focus overlooks a major high-risk group: adults who have TB or are vulnerable to developing it. As a result, many people affected by TB are excluded from food security, health, and social protection programs that could significantly reduce their risk of illness, treatment failure, and death. This is not simply a clinical or programmatic gap; it reflects a broader systemic failure to address the social and economic drivers of TB, such as poverty.



Burkina Faso | Investing in Health and Nutrition. Photo credit: Global Financing Facility, CC BY-NC-ND 2.0.

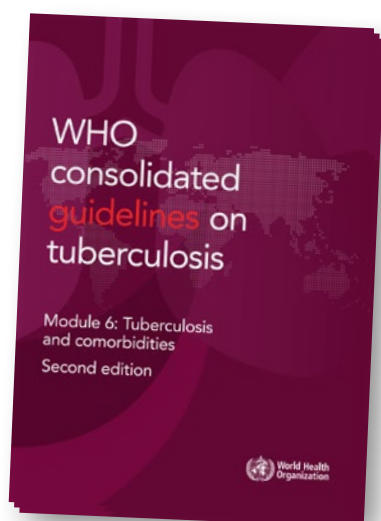


Conceptual framework of determinants of undernutrition in people with and at risk of tuberculosis. Sinha et al. 2025

The World Health Organization (WHO) End TB Strategy¹⁶ explicitly calls for integrated, people-centered TB care and prevention, including action on social protection and other social determinants of health. This vision has since evolved into a more holistic, people-centered approach that recognizes that TB cannot be eliminated through medical treatment alone. Reinforcing this shift, the new WHO TB guidelines¹⁷ make clear that nutrition must be a core component of TB prevention and care, alongside social protection measures¹⁸ to reduce vulnerability and support recovery – not an optional add-on. Together, these recommendations underscore the need to align TB, nutrition, and social protection systems to achieve meaningful and sustained reductions in TB.



WHO HQ main building, Geneva from Southwest.
Photo Credit: Thorkild Tylleskar. CC BY-SA 3.0.



New WHO guidelines

- Household contacts of people with TB should be offered nutritional assessment and counselling as part of contact tracing. If undernutrition is identified, it should be managed according to WHO guidance.
- Nutritional interventions should be offered to individuals with TB who have severe, moderate or mild undernutrition, as part of a comprehensive package of TB care.
- In settings of food insecurity, food baskets in combination with multiple micronutrient supplements should be offered to all households of people with TB.
- Vitamin D supplementation may be provided to people with TB in the context of rigorous research.

There is strong evidence that integrated approaches can save lives. A model developed by the Stop TB Partnership in 2024 showed that investing US\$3 billion annually in nutrition across 30 high-burden countries could reduce TB incidence by 17%.¹⁹ Simple, cost-effective forms of nutritional support (like food, vitamin supplements, and/or cash and vouchers) can boost immunity, improve drug tolerance, and shorten recovery. A more substantial effect on reducing the global TB burden is to end extreme poverty and expand social protections, which could reduce incidence by 84%.²⁰ The use of social protections, such as nutritional support and cash transfers, is a clear human-centered approach to reducing the TB burden.

Ending extreme poverty and expanding social protections could reduce the global TB burden by 84%.

Building the evidence base for integrated solutions: RATIONS trial

India has the highest rates of TB in the world, accounting for 27% of the global burden (2.7 million cases).²¹ Undernutrition is the biggest risk factor for TB incidence in India, accounting for 55% of the TB burden.²²

Between August 2019 and August 2022, a trial called RATIONS²³ (Reducing Activation of Tuberculosis Through Improvement of Nutritional Status) was conducted in Jharkhand state in Eastern India.

The purpose was to determine the effect of nutritional support on reducing TB incidence among household contacts in settings with high prevalences of undernutrition. The trial makes a convincing case that inexpensive nutritional interventions are integral to TB elimination efforts alongside drugs and vaccines.

The trial involved 2,800 patients with pulmonary TB (70.7% men and 29.3% women). People with TB were divided into two groups: the intervention group were people with TB who received food baskets for themselves and their households. In the control group, only the person with TB received the food basket. At the beginning of the trial, over 80% of participants were underweight, nearly half were classified as severely underweight, and just under 3% could perform everyday activities.

Family members of individuals with pulmonary TB received a monthly food basket and micronutrient pills for 6 to 12 months, depending on whether they had multidrug-resistant TB. This intervention significantly improved treatment outcomes. Researchers

observed a 39% to 48% reduction in TB incidence among these families compared to those who did not receive the nutritional intervention. A 5% weight gain at two months of treatment, attributed to the food basket, was associated with a 60% reduction in TB mortality.

These findings highlight the need for nutritional support to be an integral component of health programs to improve treatment outcomes.

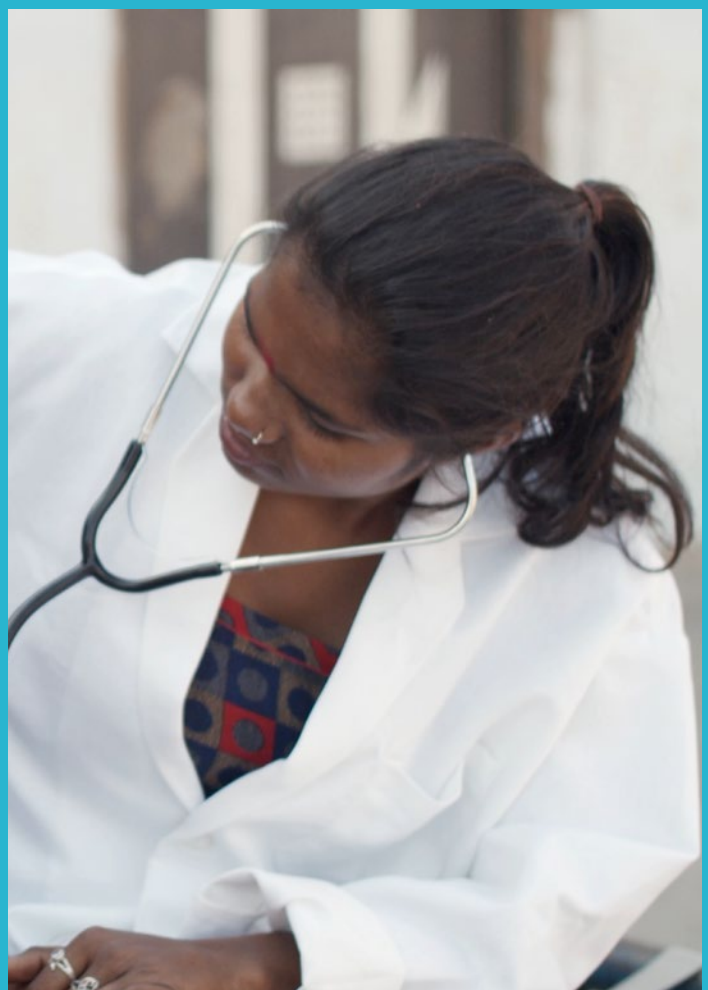
Scaling up interventions for nutritional support in people with TB in India (50% coverage) has the potential to prevent 234,000 deaths and 46,700 new infections between 2023 and 2035.²⁴

The RATIONS trial strengthens the case for TB-nutrition integration. This finding operationalizes WHO's call to address social determinants and supports the inclusion of nutrition interventions within TB programs as both a therapeutic and preventive strategy.

The Lusaka Agenda, WHO guidelines, and emerging evidence point to a clear policy direction: **integrating TB and nutrition services within national health systems is both feasible and impactful.** Countries can advance this agenda by incorporating nutrition support into national TB strategies, aligning financing across sectors, and delivering services through strengthened health systems. Such approaches not only improve TB outcomes but also advance broader goals of equity, efficiency, and health system resilience.



On the ground:
Stories of integration & impact



Latin America

Blanca's story: Ground-up solutions for TB, nutrition, and system resilience in Peru

In Peru, communities have faced the intersecting challenges of poverty, food insecurity, and TB. When poverty is measured by access to housing, education, and healthcare, figures show that poverty in Peru is worse than the money-based figures suggest. About 32% of people in Peru – around 11 million people – lack basic services, and in rural areas this rises to 70%.²⁵ The large proportion of people living in poverty has contributed to Peru being one of the 30 countries with the greatest burden of MDR-TB. In 2024, TB incidence in Peru was at 139 cases per 100,000²⁶, the highest in the Americas region.

In response, efforts involving community health workers²⁷ have provided much needed access to holistic psychosocial support for those affected by TB, as shown by Blanca's story.

Blanca is a community health worker (CHW) in Trujillo, Peru – a role she carries out voluntarily, driven by a deep commitment to the well-being of her neighbors. *"The integral care model focuses on the person, not just on their disease,"* she explains. *"We look at their whole life – family, home, daily struggles – because that's where health really begins."*

For Blanca, health isn't just about curing diseases like TB; it's about preventing them in the first place, promoting wellness, supporting recovery, and making sure people are not forgotten once treatment ends. This holistic, person-centered approach is at the heart of what she does. As a CHW, Blanca is often the first to notice when someone is losing weight,

missing meals, or isolating themselves due to stigma. *"We don't just treat symptoms – we try to understand what's happening around the person,"* she says.

Despite their critical role, Blanca and other CHWs are too often left out of formal healthcare planning. *"Healthcare professionals don't always invite us to collaborate,"* she says. *"But we help bridge the gaps – in quality, capacity, and integration."* In her work, Blanca brings together families, nutritionists, nurses, and psychologists to ensure people with TB get the comprehensive care they need, including food support and mental health services.

"We help reduce stigma – even among healthcare workers – and that can change the whole course of someone's treatment," she adds.

Blanca's story illustrates why integrating nutrition and psychosocial support into TB care – and empowering CHWs – is essential to strengthening health systems.²⁸ It's not just about fighting a disease; it's about restoring dignity, preventing future illness, and building resilient communities from the ground up.



Blanca Left

Indo-pacific

Beyond clinical care: Patient-centered TB and nutrition responses in Papua New Guinea

The Indo-Pacific bears a large share of the world's TB and food insecurity burden. More than half of all global TB cases occur in this region – 34% in the WHO South-East Asia Region and 27% in the WHO Western Pacific Region.²⁹ At the same time, about 44% of people facing moderate or severe food insecurity worldwide live in Asia and the Pacific.³⁰

Persistent gender inequalities worsen these challenges.³¹ In most subregions, women are more likely than men to experience food insecurity, except in Eastern Asia. Together, the overlapping pressures of infectious disease, undernutrition, and inequality continue to harm health outcomes across the Indo-Pacific.

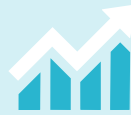
Papua New Guinea sits at the nexus of these converging challenges, with TB as one of the leading causes of death³² and one of the highest rates of child stunting in the world at over 48%.³³ These challenges are most acutely felt in remote and under-resourced settings, where poverty, overcrowded housing, poor sanitation, and limited access to health services create conditions that accelerate TB transmission and complicate treatment.

In 2014, Papua New Guinea's National Department of Health declared Western Province a multidrug-resistant TB (MDR-TB) "hotspot,"³⁴ prompting a multisector emergency response focused on South Fly District and Daru Island, where the TB burden is most concentrated. This response led to

the rapid scale-up of TB diagnostics and treatment services at Daru General Hospital, the only facility providing TB and MDR-TB diagnosis and treatment across the district, alongside a range of community-based interventions.³⁵ These efforts stabilised the outbreak,³⁶ although transmission levels remain high in Daru.³⁷

A key component of the response was the Daru Accelerated Response to Tuberculosis (DART) program, which delivers a person-centered model of care through decentralized community treatment sites across the island.³⁸ Implemented in partnership with organizations including World Vision and funded by the Australian Government, the program supports daily medication administration through directly observed therapy, alongside psychosocial support, counselling, and active follow-up for missed doses.³⁹ Treatment supporters play a critical role in sustaining adherence, including home visits when people are unable to attend treatment sites.⁴⁰

Nutrition support is a central feature of the DART model. Since 2016, MDR-TB patients, and subsequently drug-susceptible TB (TB bacteria are killed by first-line antibiotic treatments) patients, have received food support as part of treatment, including daily meals and food vouchers.⁴¹ Nutritional screening, assessment, and supplementation have also been integrated into TB care, particularly for children.⁴² This approach



Opportunities for advancement

recognizes the physiological demands of TB treatment and the role of adequate nutrition in supporting tolerance of antibiotics, while also acting as a practical incentive for regular attendance.⁴³ Together, these measures represent a significant achievement in delivering integrated, person-centered TB care in a fragile and remote setting and have contributed to improved treatment completion rates.

However, qualitative evidence from Daru highlights persistent structural challenges that continue to shape the nutritional realities of people undergoing TB treatment. The DART program demonstrates the strengths of community-led, person-centered care, including counselling, psychosocial support, active follow-up and integrated nutrition assistance. Yet the food insecurity experienced by patients and their families is rooted in broader social and economic conditions, including livelihood disruption, relocation and limited access to household food sources during treatment.⁴⁴ These findings suggest that while nutrition support within TB programs is essential, it is not sufficient on its own to address the wider drivers of undernutrition. A more coordinated and systemic response is therefore required.

Daru Island reflects a broader global challenge in TB programming, while also demonstrating what effective, person-centered care can achieve in fragile settings. The DART program highlights the value of decentralised, community-based treatment models that integrate nutrition support, psychosocial care, and active follow-up to improve treatment completion.

Building on these strengths, TB programs in Daru and similar high-burden settings should continue to strengthen and extend decentralised approaches, including exploring community-supported and alternative dispensing models where appropriate, to reduce the need for prolonged relocation and the associated household and nutritional disruption. At the same time, nutrition strategies must move beyond food supplementation alone to address the broader social and structural determinants of undernutrition through stronger integration across health, nutrition, and social protection systems.

Africa

Driving progress through multisectoral accountability in Tanzania

Accountability in the TB response requires a multisectoral approach that reflects how TB is shaped by social determinants such as poverty, nutrition, and inequality. To address this, the Multi-sectoral Accountability Framework for TB (MAF-TB)⁴⁵ was developed as a tool to strengthen collaboration and shared responsibility across health and other sectors and stakeholders – such as the private sector and civil society. The framework enables countries to monitor progress, identify gaps, and integrate TB efforts into broader national strategies, promoting a whole-of-society response.

In Tanzania, early efforts to adopt this approach were supported by government leadership alongside the National TB and Leprosy Program (NTLP) and the Tanzania Stop TB Partnership.⁴⁶ Advocacy played a key role in building momentum. Stakeholders engaged parliamentarians, trained journalists, partnered with youth activists in six high-burden regions, and ran national social media campaigns. These activities helped raise awareness of TB and foster cross-sector partnerships essential for implementing the framework.

These efforts have contributed to significant progress in TB control. Between 2015 and 2023, TB incidence in Tanzania declined by 40%, and TB-related deaths fell by 68%.⁴⁷ Improvements in diagnostics and expanded access to treatment have positioned Tanzania among the few high-burden countries on track to meet WHO End TB Strategy targets.

However, important challenges remain. Undernutrition continues to increase vulnerability to TB, while rising rates of obesity and non-communicable diseases are creating a dual burden of malnutrition that threatens long-term health outcomes.

Recognizing this, the latest version of the MAF-TB identifies addressing co-morbidities and health risks, such as diabetes and malnutrition, as a national priority. The government has also proposed initiatives to bring stakeholders together to co-develop nutrition education programs for people affected by TB, signalling a more integrated and holistic response.



Photo credit: HDT Tanzania



Opportunities for advancement

To sustain momentum, the Tanzanian government and its partners must ensure that the Multisectoral Accountability Framework is fully funded, implemented at scale, and integrated with national nutrition and health strategies. This includes building institutional capacity, aligning resources across sectors, and embedding nutrition into TB policy and planning to create a system-wide response that addresses both prevention and care.



I Photo credit: HDT Tanzania

Building health across the life course: A community-based platform for nutrition and TB integration, Lao People's Democratic Republic

In the Lao People's Democratic Republic (Lao PDR), undernutrition is a major challenge, especially among children and other vulnerable populations. Since 2020, the Health and Nutrition Services Access Project (HANSA), co-funded by the Global Fund, the World Bank, Gavi, the Vaccine Alliance, and the Australian Government, has supported national efforts to expand health and nutrition services in remote villages. Now in its second phase, HANSA, launched in 2024, is scaling up various interventions with up to US\$62 million in funding.

These interventions include delivering integrated social and behavior change communication in villages to improve health and nutrition practices, working with communities to improve diets and feeding practices to address low nutrition rates among children, and providing nutrition commodities. The project also integrates nutrition into HIV and TB responses, which helps to address the impact of undernutrition on disease outcomes.

A key feature of HANSA is its community-based model, which brings services directly to underserved populations. While much of the current programming focuses on child nutrition, the platform provides an opportunity to broaden nutrition services to reach other family members, especially adults affected by TB across the life course.



Opportunities for advancement

To maximize impact, existing nutrition programs like HANSA should be leveraged to deliver services not only to children, but to entire households – especially adults affected by TB. Expanding these platforms across the life course can strengthen prevention, improve recovery, and make health systems more responsive to the interconnected realities of malnutrition and disease.



A health worker measures a child's arm with a tape used to detect severe malnutrition at a health center in Luang Prabang, Lao PDR. Photo credit: UNICEF/UNI616389/Brown.



In Tanzania Improvements in diagnostics and expanded access to treatment have contributed to significant progress in TB control

40%

decline in TB incidence in Tanzania (2015-2023)

68%

fall in TB-related deaths (2015-2023).



In Lao PDR, undernutrition is a major challenge, especially among children and other vulnerable populations.



In Peru, communities have faced the intersecting challenges of poverty, food insecurity, and TB.

32%

of people in Peru lack basic services.

70%

of people in Peru living in rural areas lack basic services

139

of MDR-TB cases per 100,000, the highest in the Americas region.



The Indo-Pacific bears a large share of the world's TB and food insecurity burden. More than half of all global TB cases occur in this region.

34%

of TB cases are in the WHO South-East Asia Region

27%

of TB cases are in the WHO Western Pacific Region

44%

of people facing moderate or severe food insecurity worldwide live in Asia and the Pacific.

Conclusion

The relationship between TB, undernutrition, and poverty forms a self-reinforcing cycle that continues to drive disease burden and health inequities. Poverty creates conditions that increase exposure to TB, limit access to adequate nutrition and worsen poverty. In turn, TB exacerbates nutritional deficiencies through increased metabolic demands, weakening treatment outcomes, and further deepening vulnerability. Breaking this cycle requires integrated approaches that address not only clinical management of TB but also nutritional support and the broader social determinants of health.

Without coordinated action across these domains, efforts to control TB will remain constrained, underscoring the importance of

embedding nutrition interventions within TB programs as a critical component of effective and sustainable disease control. Integrated TB responses and social protection measures – including nutritional support – when paired with community-based care and prevention strategies, provide a proven and cost-effective approach to saving lives, improving health outcomes, and reducing poverty.

In a context where global aid and national budgets are increasingly constrained, such integration is not only necessary but also the most efficient way to maximize impact and ensure that scarce resources deliver the greatest possible benefit.



Investing in essential health services, health center in Côte d'Ivoire.
Photo credit: Estelle Ebitty-Doro/The Global Financing Facility

Policy recommendations

Government donors, international institutions, and philanthropies

1. Provide financial support for integrated programs and prioritize country-led TB-nutrition integration in funding strategies.
2. Incentivize cross-sector collaboration between health, nutrition, and social protection partners.
3. Fund community-led organizations and national civil society in community leadership, essential to delivering people-centered care.
4. Donor governments to increase investment in TB programs and interventions, through organizations such as the Global Fund and TB REACH
5. Donor governments to invest in bilateral TB programs that support the policies and investments described under “governments” above.

Governments

1. Complete and implement the multi-sectoral accountability framework for TB and take a whole-of-government approach to ending TB.
2. Implement commitments from the 2023 political declaration on TB to ensure that 100% of people with TB have access to a comprehensive package of health and social protections (such as cash transfers or food support) by 2027 to protect families from catastrophic costs.
3. Include nutrition interventions in national TB strategic plans and budgets.
4. Implement the World Health Organization (2025) updated guidelines on nutritional assessment and interventions for people with TB and their households.
5. Ensure TB screening and assessment are integrated within nutrition programs.
6. Train frontline healthcare workers to recognize and respond to the TB-undernutrition link.
7. Include civil society and affected communities in the planning, design and implementation of TB-integration programs, supporting community-led approaches.
8. Support country-led pilots and operational research to build the evidence base.

Advocates and civil society

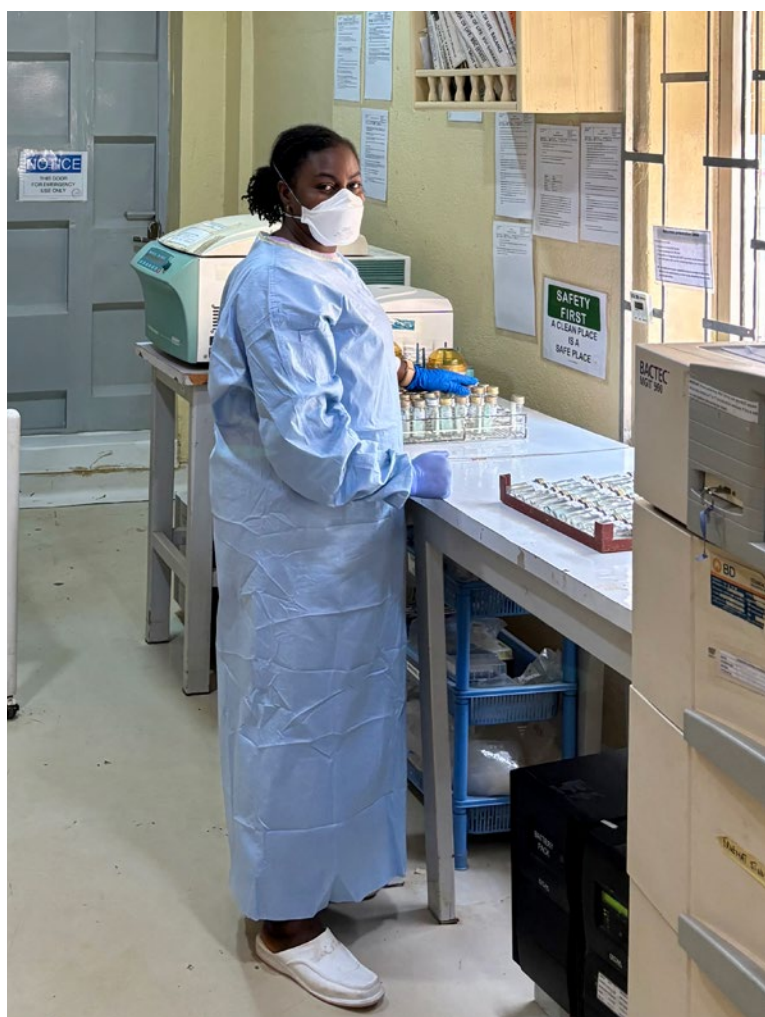
1. Build alliances and partnerships across TB, nutrition, HIV, maternal and child health, and social protection actors to jointly advocate for integrated services and systems.
2. Generate demand for people-centered, human rights-based approaches as global/national citizens.
3. Advocate for integration in national policies and budgets and ensuring nutrition support is incorporated throughout the continuum of TB prevention and care.
4. Engage in efforts to frame nutrition as a right and a public health imperative – as an effective tool for TB prevention.
5. Advocate for equitable access to care and resources, ensuring key and marginalized populations receive targeted TB and nutrition interventions.

The Global Fund

Provide continued support for countries to link TB prevention and care with strong social protection and nutrition interventions.

World Bank

Support countries to invest in robust social protection and TB programs, and to develop policies that link TB care to automatic enrollment in social protection and nutrition programs.



Health worker assessing TB diagnostic tests in Cameroon.
Photo credit: TB REACH.

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