

MEALS AS MEDICINES

ADDRESSING UNDERNUTRITION TO END TUBERCULOSIS



Approximately 20% of global TB cases are attributable to undernutrition. Undernutrition affects every organ system due to its effect on metabolism and immune response. We know from studies that 50% of persons with TB (PWTB) are underweight, yet we do not routinely measure a simple metric like BMI (derived from height and weight), which could help direct appropriate interventions. Like HIV, immunodeficiency from undernutrition also complicates TB care. **Leaving nutritionally acquired immune deficiency syndrome (N-AIDS) untreated among PWTB is a failure of care.** Severe undernutrition (BMI < 16kg/m²) has been linked to a two-fold increased risk in unfavorable outcomes, and up to a nine-fold increased risk of developing resistance to TB drugs, and a four-fold increased risk of death. Persons who remain undernourished at the end of therapy are also at elevated risk of recurrent TB disease. Further, undernutrition impairs our ability to test for TB, and the efficacy of vaccines. Lastly, paying for food is a major burden for households that are already struggling with disease-related costs.

Fortunately, **we can treat undernutrition safely and inexpensively.** Nutritional support for PWTB would help improve treatment success, reduce mortality, and provide material support to impoverished families, thus furthering the WHO's goal of eliminating catastrophic costs. Importantly, undernourished persons represent a key and vulnerable population as they are at increased risk of progressing to active TB. **Models suggest that reducing population-level undernutrition could prevent millions of TB cases and deaths cost-effectively.** Food is a TB vaccine we already have.

Lastly, undernutrition is a cross-cutting issue in global health with effects far beyond TB. Action on nutrition would promote numerous sustainable development goals: no poverty, zero hunger, good health and well-being, decent work and economic growth, reduced inequalities, peace, justice, and strong institutions. To end TB, alongside other pressing global health concerns, **undernutrition deserves and requires a strong, synchronized multi-sectoral response.**

As leaders, we ask you to commit to the following:



Acknowledge undernutrition as an important determinant & comorbidity of TB and prioritize implementation of the WHO's multisectoral accountability framework for TB (MAF-TB) and the WHO's 2013 nutritional guidance for PWTB to integrate nutritional assessment and care into standard TB treatment protocols.



Engage with affected communities throughout the UNHLM process to understand the impact of TB on their nutritional well being, and with national TB programs and development organizations to develop a multi-sectoral response to undernutrition.



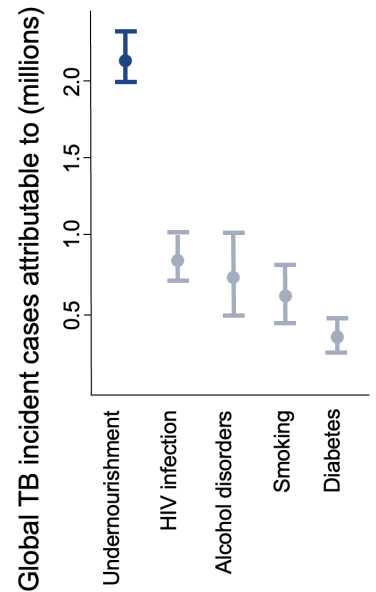
Measure BMI for PWTB at treatment initiation, end of intensive phase, and end of treatment, and publish these data in the annual global tuberculosis report. Mandate measurement of nutritional parameters in all trials of non-nutrition TB interventions.



Intervene with nutritional support, such that by 2028, 90% of PWTB have nutritional assessments, 90% of undernourished PWTB receive nutritional support, and 90% of PWTB receiving support have a 5% BMI increase after 2 months of therapy.



Fund research to develop optimal nutritional interventions (cash or in-kind) and delivery mechanisms. Provide TB programs with dedicated funding and technical assistance for providing nutritional support to PWTB & their household contacts



Additional reading:

1. Union Nutrition-TB Working Group. Reducing undernutrition in persons with TB and populations is important to achieve END TB targets. URL: <https://bit.ly/3ANI04L>
2. Sinha et al. Food for thought: addressing undernutrition to end tuberculosis. Lancet Infect Diseases. URL: <https://bit.ly/3HxYhxs>
3. Cegielski & McMurray. Relationship between malnutrition & tuberculosis: evidence from studies in humans and experimental animals. IJTLD. URL: <https://bit.ly/41ZN5C6>