

Asymptomatic TB and its programmatic implications

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The implications of the new WHO definition of asymptomatic TB (aTB) on the work of national health programmes





Resurgence in interest in asymptomatic TB

- First global TB strategies since 1993 primarily focused on diagnosing and treating TB in people presenting for care
- TB screening and active TB case finding became more prominent in the post-2015 End TB Strategy and in discussions on TB elimination
- More people with aTB (a.k.a. subclinical TB) detected by disease prevalence surveys and screening





Asymptomatic TB: definitions

why define asymptomatic TB?

- WHO TB definitions do not distinguish between symptomatic and asymptomatic disease, making it difficult to have a common understanding of aTB
- A common definition can enhance surveillance and also advocate for more appropriate diagnostics to use for screening and confirmation. Defining asymptomatic TB will also signal its importance in programmatic management
- Many countries already notify and treat TB patients who do not declare symptoms even if most do not have a clear aTB definition





International Consensus for Early TB (ICE-TB)



• In March 2024, the International Consensus for Early TB (ICE-TB) group published a definition for aTB

"Individuals are without, not aware of, or do not report any symptoms during a symptom screen or medical history, and have no physical signs that would be recognized as indicative of tuberculosis upon clinical examination"

 Building upon this work, WHO convened experts in October 2024 to discuss the relevance of current knowledge on aTB to programmatic action





TB disease: A person with disease caused by the *M. tuberculosis* complex *Bacteriologically confirmed:* A person from whom a biological specimen is positive by a WHO-recommended rapid diagnostic test, culture, or smear microscopy

Bacteriologically confirmed: (currently "Clinically diagnosed"):

A person who does not fulfil the criteria for bacteriological confirmation but has been diagnosed with TB disease by a medical practitioner who has decided to give the person a full course of TB treatment. This definition includes pulmonary cases diagnosed based on radiographic abnormalities and extrapulmonary cases diagnosed based on suggestive clinical presentation or histology. Clinically diagnosed cases subsequently found to be bacteriologically positive (before or after starting treatment) should be reclassified as bacteriologically confirmed.







Asymptomatic TB: new definitions

Current definitions	Asymptomatic TB subsets
	Asymptomatic TB subsets
<i>TB disease:</i> a person with disease caused by the <i>M. tuberculosis</i> complex	Asymptomatic TB (aTB):
	A person with TB disease who did not report
	symptoms suggestive of TP during screening
	symptoms suggestive of TB during screening
Bacteriologically confirmed: A person from whom a biological specimen	Asymptomatic TB, bacteriologically confirmed
is positive by a WHO-recommended rapid diagnostic test, culture, or smear microscopy	(aTB-C): A person with bacteriologically
	confirmed TB who did not report symptoms
	suggestive of TP during screening
	suggestive of TB during screening
Bacteriologically unconfirmed (currently "clinically diagnosed"): A person	Asymptomatic TB, bacteriologically
who does not fulfil the criteria for bacteriological confirmation but has	unconfirmed (aTB-U). A person with
been diagnosed with TB disease by a medical practitioner who has	he stariele sizelly we confirmed TD who did not
includes nulmonary cases diagnosed based on radiographic	bacteriologically unconfirmed TB who did not
abnormalities and extrapulmonary cases diagnosed based on suggestive	report symptoms suggestive of TB during
clinical presentation or histology. Bacteriologically unconfirmed cases	screening
subsequently found to be bacteriologically positive (before or after	
starting treatment) should be reclassified as bacteriologically confirmed	
World Health	END TB





CXR: chest X-ray; TB: tuberculosis; TPT: TB preventive treatment; WHO: World Health Organization.

Asymptomatic TB: implications for WHO guidance (1)

SURVEILLANCE

- Addition of the new definitions on aTB, rewording of "clinically diagnosed", classification by method of diagnosis
- Data elements for aTB for countries with case-based surveillance

INFECTION PREVENTION & CONTROL

- More explicit consideration and mention of aTB in triage and respiratory separation in waiting areas and elsewhere
- Early start of treatment also in people with aTB

TB PREVENTIVE TREATMENT

- Rule out algorithms based on symptom screen ahead of starting TPT would need to be modified, especially for sTB-U, in people of different ages and co-morbidities
- Should contacts of an index case with asymptomatic TB (DS-TB or RR-TB) be given TPT at same priority of people exposed to symptomatic TB?





Asymptomatic TB: implications for WHO guidance (2)

SCREENING

- Significance of symptom screening (what can it do, what can't it do) and how to handle algorithms having an initial symptom screen and sequential positive testing
- Greater importance of community-wide screening based on evidence on transmissibility of aTB

RAPID DIAGNOSTICS & TB INFECTION

- Should there be different algorithms for people without symptoms?
- Paediatric decision algorithms, especially for <10y
- What algorithms to define aTB-U (e.g. CXR)
- Role of tests of TB infection for aTB

TREATMENT & CARE

- Additional research into optimized treatment regimens for aTB, including children and adolescents, people with HIV and co-morbidities
- Acceptability of treatment by people with aTB, who may be less motivated to start and complete treatment than people who feel sick



Asymptomatic TB: evidence needed

Natural history Burden Transmission Prevention & vaccination Screening Diagnosis Treatment Operationalization





Asymptomatic TB: top scoring research areas

	Mean
Research Areas	Score
Impact of detection and treatment of aTB on reducing transmission and incidence	4.65
TB screening strategies and aTB	4.58
Diagnostic reference standards for aTB	4.42
Optimal treatment for aTB (confirmed and unconfirmed)	4.42
Chest X-ray, computer-aided detection and other imaging approaches that are operationally	
feasible	4.12
Impact of aTB treatment on recurrence of TB and on mortality	4.05
Tools to measure <i>M tuberculosis</i> transmission	4.05
Measurement of the progression of aTB to clinical forms and vice-versa ("reversion")	4.02
Relative infectiousness of confirmed and unconfirmed aTB	4.00





October 2024



MAF-TB: progress and way forward

Health Topics ~ Countries ~ Newsroom ~ Emergencies ~ Data 🗸 K Featured topics Asymptomatic tuberculosis and implications Asymptomatic TB for programmatic action **Ensuring meaningful engagement** of civil society and communities affected by TB Not all individuals who have tuberculosis (TB) present to health services with symptoms or declare that they are sick. Thus, people with asymptomatic forms of disease - sometimes referred to as subclinical TB - may only be identified during screening or during TB prevalence surveys. Recent reviews estimated that about half of people with TB detected by national TB prevalence surveys had bacteriologically confirmed disease but reported no classical TB TB and pregnancy symptoms (e.g. persistent cough) when questioned (1-5). The natural history of TB remains incompletely understood. Current thinking sees asymptomatic TB as a stage on a continuum that moves from infection The second national TB inventory with Mycobacterium tuberculosis complex to clinical disease. Although both progression and reversion between these states are known to occur, less is study in Indonesia known about what causes these events to happen and at what rate. Studies of these phenomena have not adequately described the symptom status of participants (6, 7).

What is the public health significance of asymptomatic TB?

Interest in the public health significance of asymptomatic TB has increased in recent years, owing to a growing emphasis on screening and earlier diagnosis. The World Health Organization (WHO) released its first compilation of evidence-based recommendations for TB screening in 2013, and updated them in 2021 (8-11). WHO has also released guidance on TB disease prevalence surveys and surveillance; the guidance also touches on active case finding

About WHO ~



https://www.who.int/teams/global-tuberculosis-programme/tb-reports/globaltuberculosis-report-2024/featured-topics/asymptomatic-tb



Global

tuberculosis report

February 2025

Report of the WHO consultation on asymptomatic tuberculosis

The report summarizes the discussions of the technical consultation convened by WHO on 14–15 October 2024 in Geneva to agree on a framework and definition of aTB relevant for TB programmes and research, and to identify research gaps on aTB and set priorities that are critical for WHO guidance.

Report of the WHO consultation on asymptomatic tuberculosis





https://iris.who.int/bitstream/handle/10665/380616/9789240106932-eng.pdf

WHO colleagues (esp. C Miller, M Zignol, T Kasaeva, K Floyd, I Law, N Arinaminpathy, A Kanchar, S den Boon)

H Esmail, A Zaidi, A Coussens, R Houben and other participants of the WHO consultation on aTB, 2024

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