

A Global Survey on community perspectives of new TB diagnostic samples

Introduction and Rationale

Tuberculosis (TB) remains a global health challenge, demanding timely diagnosis. The limitations of molecular WHO-approved rapid diagnostics (mWRDs) are particularly pronounced in low- and middle-income countries, prompting a shift towards novel sample types. This survey study investigated community perspectives on two emerging TB diagnostic methods—tongue swab sample and urine sample.

The survey was carried out by NDWG (New Diagnostic Working Group). The survey was conducted among persons with TB and TB survivors registered in respective TB networks in selected countries, globally. A total of 251 participants from the African region (AFR), Region of the Americas, European region, Southeast Asian region and Western Pacific region participated in the survey.

Objective

The primary objective of the survey was to examine community needs with respect to the two novel samples in terms of perceived facilitators and barriers of the novel sample and what the community considers as an ideal TB diagnostic test.



Key Findings from the Survey

Experiences with current TB diagnostic samples

- Overall, 37% of the participants felt uncomfortable during their TB testing process out of which 43% of the participants experienced pain and discomfort during sample collection.
- Among them, 30% did not receive clear instructions about the testing procedures.
- Half of the people with extra pulmonary TB were not comfortable during the testing process.
- Overall, more than 50% of the participants encountered barriers to accessing testing facilities due to financial constraints, challenges in transportation and financial dependency on others.

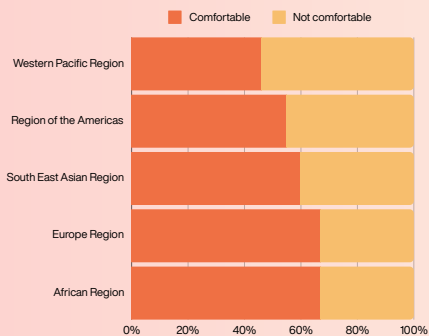


Figure 1: Geographic distribution of participants' comfort with current TB diagnostic samples

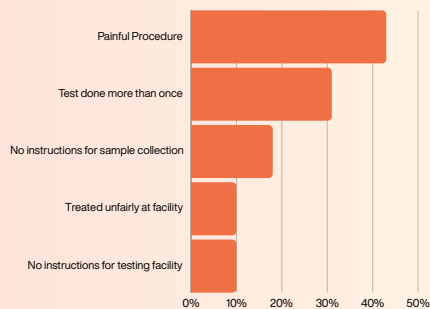


Figure 2: Reasons for discomfort with TB diagnostic tests

Perceived benefits of tongue swabs and urine samples

- 50% of participants perceived the potential for point-of-care testing as an advantage of the tongue swab 43% recognized the same advantage for urine samples.
- The reported barriers to accessing healthcare facilities for timely diagnosis among participants may be associated with their preference for point-of-care testing.
- Specifically for the tongue swab sample, 37% of participants identified 'no additional privacy required' as a distinct benefit, highlighting that the sample collection process does not necessitate extra privacy.
- For the urine sample type, 53% of participants found the sample collection process to be easy, and 40% believed there was reduced stigma associated with urine samples.
- Some challenges were also raised regarding both tongue swabs and urine samples – particularly the accuracy of the test results in both testing methods.

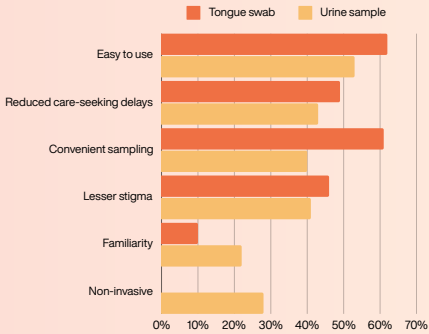


Figure 3: Perceived benefits of the new TB diagnostic samples

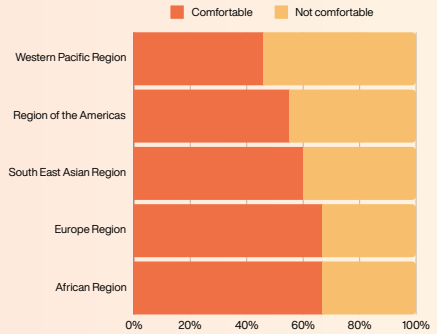


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What an ideal TB test looks like

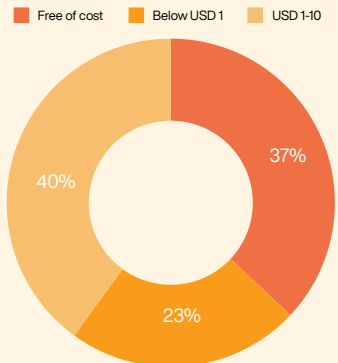
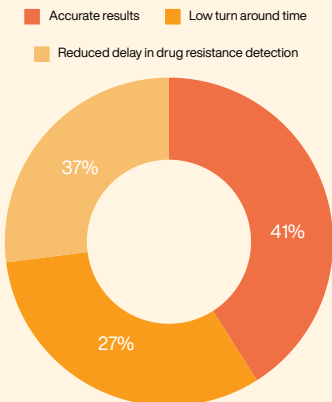
59% of the participants prefer a **TB diagnostic test which reduces delay**, whether it is delay associated with drug resistance testing or general delay in getting the results.

67% reported that an **ideal test should be easily accessible** out of which half of them prefer a home testing kit with an instructional guide.

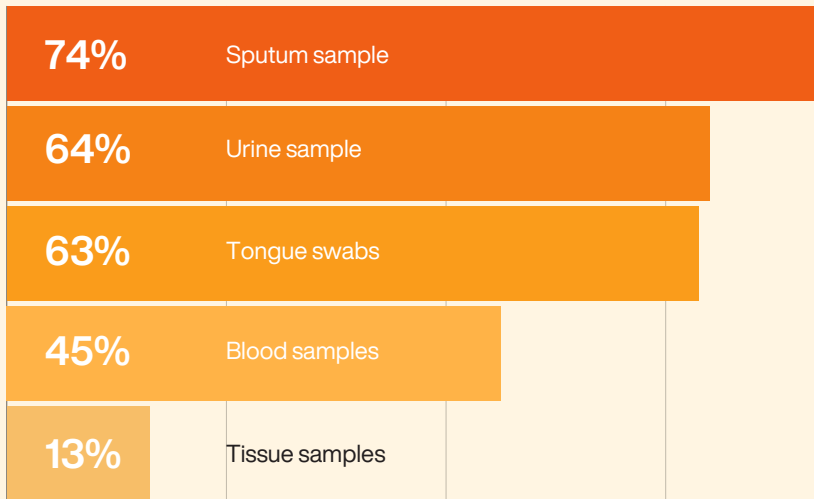
The survey also revealed that in terms of accuracy, an ideal diagnostic test should be more than or **comparable to current diagnostic tests**.

Majority of respondents from Africa (26%) and Americas (29%) wanted a test that was **free of cost**.

34% from the South East Asia region preferred to pay **less than USD 1** for the test. The European region was most willing to pay USD 1-10 for a test.



Most preferred sample



Key Takeaways

Diagnostic tests need to be **affordable and equitably distributed**, addressing financial constraints and transportation challenges which can be reduced by investing in point of care samples within the new TB diagnostic landscape.

Understanding of **diagnostic tests and access points should be improved** by developing and sharing comprehensive Information, Education, and Communication (IEC) materials with communities, preferably in local languages.

Diagnostic tests could be **tailored to regional variations** in sample preferences, test types, and costs to overcome specific barriers within each region.

Majority of the challenges associated with the sputum samples were cost and accessibility specific and not directly associated with the sample. Hence, further research is needed to determine whether an ideal diagnostic test would be **cost-effective and point of care, a non-sputum sample, or both**.