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Can India Eliminate TB by 2025?

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Tuberculosis (TB) is a severe public health issue in India, accounting for a quarter of the global TB burden. While the World Health Organisation (WHO) has set a goal to end the TB epidemic by 2030, India committed to ending the disease by 2025, a mission backed by Prime Minister Narendra Modi. But the crucial question here is whether it is an achievable target?



According to the WHO, only 60 per cent of TB cases in India are notified to the national TB programme. Incidentally, most patients do not seek medical attention at all or are not diagnosed until the disease is in its advanced stages. At this juncture, technology comes in to assist in early and better TB detection. Early detection is a key strategy called out in theGlobal Plan to End TB.

Challenges on the road

Despite technological advancements, numerous challenges remain in the fight against TB in India. One of the biggest is the lack of access to healthcare in rural and remote locations. Many people in these areas do not have access to the same resources and technology as those living in urban areas. They may not have the necessary awareness to seek medical attention in time; even if they do, the plight of Primary Health Centres (PHCs) in rural locations abates the situation. The PHCs do not have access to diagnostic tools and suffer from a severe shortage of trained personnel to read reports and guide patients onto the correct treatment pathway. All of these factors, coupled with the rising cost of care, make diagnosing and treating TB significantly tougher.

Another challenge is the high number of drug-resistant TB cases in India. This type of TB is much harder to treat and requires more expensive, specialised drugs and a longer duration of treatment. Lack of research and an inability to implement measures to cap the treatment and drug costs are aiding the spread of the epidemic.

Though India has a detailed National Strategic Plan for TB elimination, its efficient execution depends on the State Health System. Indian states are at varied maturity levels in the health system, so TB service delivery also varies. In many places, it is affected by a lack of skill set to deliver TB services. While the Government of India's (GOI's) focus on decentralised, comprehensive Primary Healthcare delivery is now bearing fruit, it will take more time to implement effectively and become a well-oiled system.

Way forward to achieving the milestone

The GOI is moving to decentralise delivery and pivot to Health and Wellness Centres (HWC). The push to empower HWCs using digital tools and telemedicine will improve the quality of care and reduce costs. Government investment in digital health platforms to improve TB detection and treatment has been on an upward trajectory over the past decade. However, as the TB ending targets were predated in 2025, more investment is needed to speed up the fight against TB.

Optimal use of existing digital health platforms can also be a vital stepping stone in the game plan for improving TB detection and treatment in India. India has been a leader in developing innovative programmes that support the goal of Universal Health Care (UHC), including the National Digital Health Mission (now known as Ayushman Bharat Digital Mission or ABDM) and the

National Health Systems Resource Centre (NHSRC). For example, ABDM aims to provide a unique health ID to every citizen and link it to their health records, including TB diagnosis and treatment. This will allow for better tracking of TB cases and ensure continuity of care.

The industry also has a role to play in eliminating TB in India. India is known as the world's pharmacy. Pharmaceutical companies must invest in research and development to find new, more effective drugs to treat TB. They can ensure that new and affordable TB drugs and diagnostic tools are developed and made available in India. Partnering with companies that develop Artificial Intelligence (AI) solutions which help in early detection and patient treatment support can ensure a streamlined process for solving patient detection and dropout rates.

AI technologies will become essential for case finding and patient support as we reimagine post-pandemic healthcare. However, we must also recognise the need for regulation and oversight to ensure product quality. As we move forward with AI in healthcare, we must ensure that the technology is used in a way that is consistent with our values and safeguards patient privacy. We must work together to ensure that the technology is being developed and deployed safely, effectively, and ethically.

We need diverse multidisciplinary partnerships to ensure the adoption of new technology like AI in healthcare. The government should take the lead in constituting these partnerships, which include healthcare providers, researchers and technology companies. At the same time, technologies cannot be parachuted into an ecosystem. Instead, they must be positioned in a way that healthcare workers can value the benefits.

Role of deep tech

One of the most promising advancements in TB detection is the use of AI by radiology companies that use machine learning algorithms to analyse chest X-rays and identify signs of TB. This technology can potentially improve the accuracy of TB diagnosis and reduce the number of missed cases.

Typically, AI in radiology has been used in community-based active case finding, which assists in real-time reporting and triage of presumptive cases for diagnosis. These interventions have improved the turnaround time of diagnosis. New-generation AI tools come with the capability to identify multiple lung abnormalities and detect hidden cases, increasing the scope for incidental disease diagnosis. These features will empower health systems and bridge the skillset gap. Now, these tools are deployed in urban healthcare settings with heavy footfalls, where AI oversees all chest X-rays taken in the facility and scans for varied disease markers.

AI-enabled X-ray reading can increase efficiency in remote locations where there is a shortage of X-ray interpretation skills. In addition, integrating AI into healthcare systems can lead to fewer hospitalisations or emergency room visits, improved morbidity and mortality, and more decentralised care that lowers healthcare costs or enhances the effectiveness of healthcare delivery.

AI can also help in the early diagnosis of TB by identifying individuals at high risk of contracting the disease. For example, by analysing data on a person's lifestyle and medical history, AI algorithms can predict which individuals are at the highest risk of developing TB. This information can be used to target screening and prevention efforts, which can ultimately lead to a reduction in the number of TB cases.

Can the G20 summit 2023 be the catalyst?

The G20 summit is an important platform for world leaders to come together and address major healthcare issues, including universal health coverage (UHC) and more robust health systems to respond to global health emergencies. One area where India has the potential to play a leading role in the G20 is the use of digital technologies to enhance primary healthcare.

As India assumes the G20 presidency in 2023, actions must reflect the need of the hour – to promote a human-centric approach to technology, encourage increased knowledge sharing in critical sectors like digital public infrastructure, and strongly emphasize digital health. In addition, AI technologies will be essential for incidental case finding and monitoring as we work to reimagine post-pandemic primary healthcare.

Adopting a multi-pronged approach is essential, focusing on early detection, diagnosis, and treatment of TB and addressing poverty, malnutrition and uneven healthcare access. With a concerted effort and collaboration, we can work towards a TB-free

India by 2025.

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