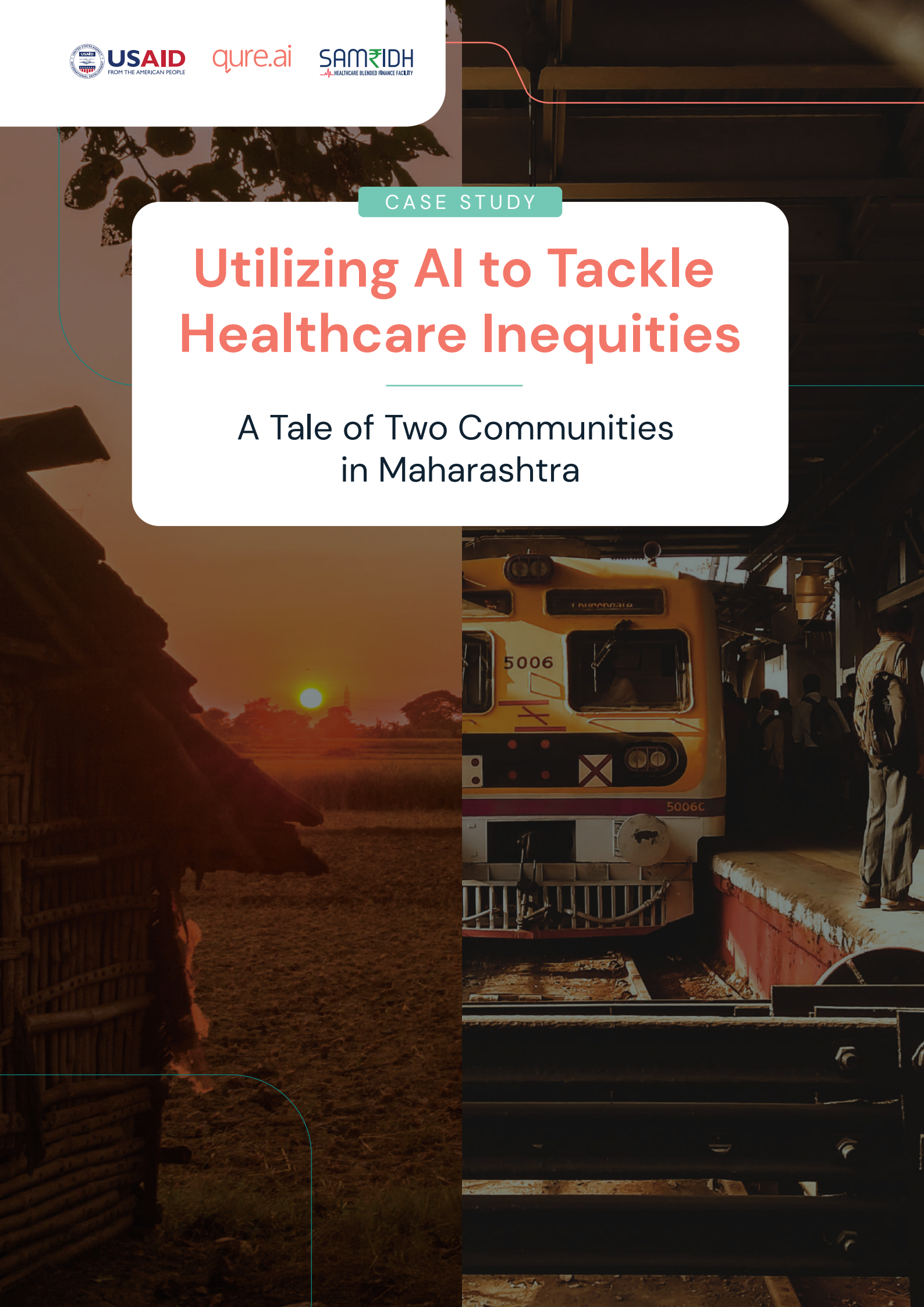


## CASE STUDY

# Utilizing AI to Tackle Healthcare Inequities

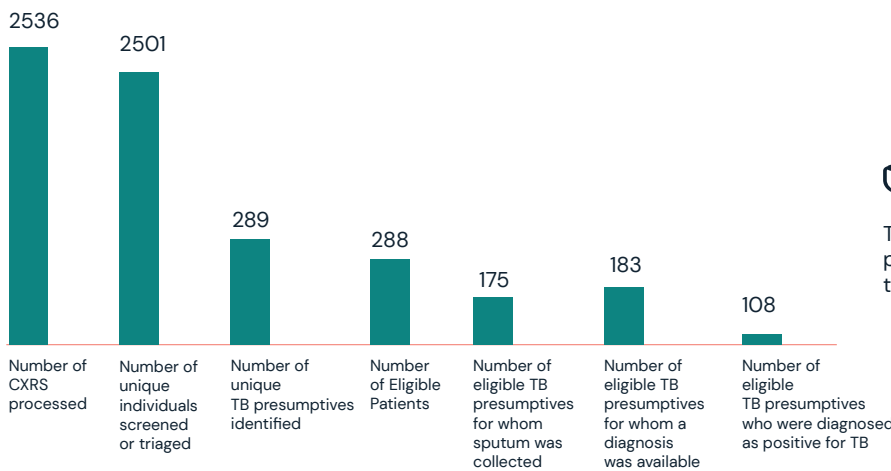
A Tale of Two Communities  
in Maharashtra



# One State, Two Existences

## Mumbai and Chinchpada

The state of Maharashtra in India hosts a tale of two contrasting realities. The bustling metropolis of Mumbai, known as India's wealthiest city, is a stark contrast to Chinchpada, a remote tribal area in Nandurbar District and one of the country's least developed regions. Although these two areas are only 390 kilometres apart, the socioeconomic gap between them is vast. Mumbai shines as India's glamorous financial hub, while Nandurbar struggles with development challenges, recognized as one of the 112 Aspirational Districts by NITI Aayog, India's premier policy-making institution.



### Indira Gandhi Hospital, Mirabhyander



04

Total number of health professionals trained



01

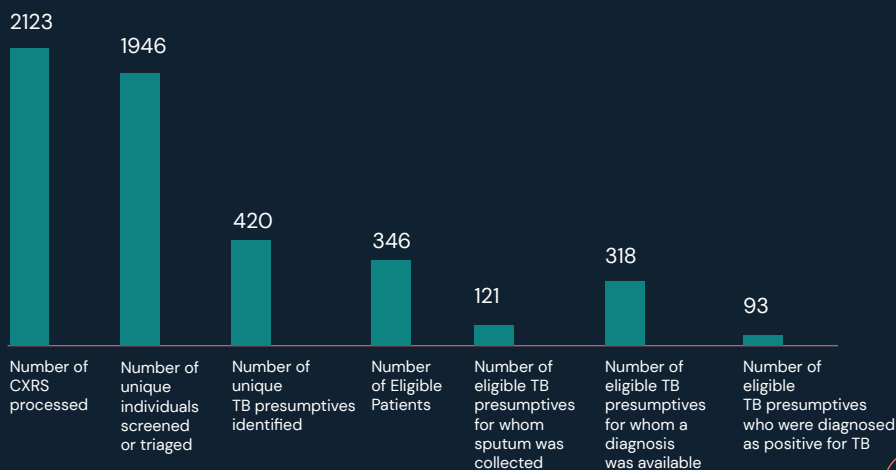
Total number of non-specialists trained

# A Common Health Threat

## COVID-19 and Tuberculosis

Despite their vast differences, both Mumbai and Chinchpada have faced some common adversaries. One was the COVID pandemic that affected the whole country. The other is Tuberculosis (TB). TB remains a leading cause of illness and death in India, with an incidence rate of approximately 210 per 100,000 people. These two communities share common challenges related to TB, even though the specific issues differ.

### Chinchpada



04

Total number of health professionals trained



01

Total number of non-specialists trained

“TB is one of the most common opportunistic infections. So, we also always assess patients for any lung problems. Every patient who comes has to undergo a chest X-ray and a sputum test. So that also tells us whether they have any lung infections.”

**Dr. V. S. Vincent**  
Bharataratna Indira Gandhi Hospital  
Mirabhayander



The façade of the Bharataratna Indira Gandhi Hospital, Mirabhayander



## In remote Chinchpada, barriers to TB diagnosis include

- Geographical distance from healthcare centres
- Delays in receiving X-ray results
- The financial burden of treatment

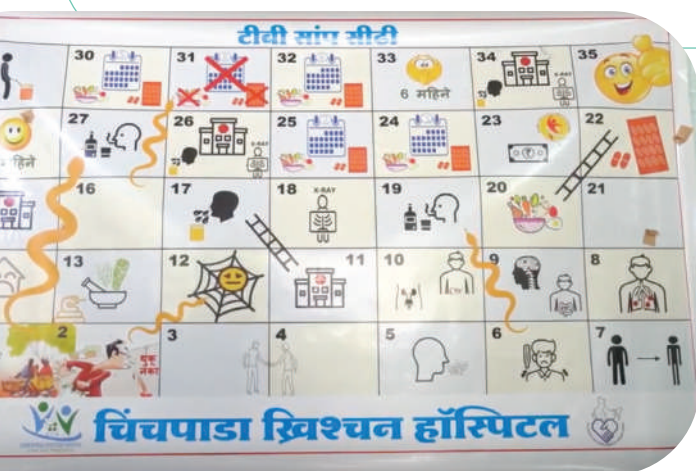
It is well known that tribal communities have a much higher proportion of people with tuberculosis and to add to that, we have the challenges of good healthcare access, especially in remote areas.

Conversely, in the densely populated Mira Bhayander neighbourhood of Mumbai, the confined living conditions facilitate the transmission of COVID and TB, leading to a high risk of undiagnosed patients spreading diseases.

The other challenges are of course to do with our communities which are impoverished, the levels of literacy and awareness are very low. So you often think if there is a good healthcare facility people should come to it because they need that facility. But what we find here is that for people don't perceive their need for a healthcare facility like this and we often have to pursue and convince them that we can help them.



**Dr. Ashita Singh**  
Physician,  
Chinchpada Christian Hospital



A TB awareness themed 'Snakes and Ladders' game at the Chinchpada Christian Hospital

Both areas grapple with a scarcity of skilled clinicians, resulting in an unbalanced doctor-patient ratio.

Initially in our two hospitals, we have X-ray machines, but we don't have radiologists full-time there. So reporting was always the issue. So, all those normal-abnormal X-rays we used to get in the OPD. But our medical officers are continuously changing.

**Dr. Balnath Chakor**  
City TB Officer,  
Mirabhyander



A Tuberculosis awareness workshop at Chinchpada Christian Hospital

# Leveraging AI to Combat Diseases

## The Future of Healthcare

Despite these challenges, a revolutionary solution is emerging: Artificial Intelligence (AI)-enabled technology. AI offers a powerful tool in the battle against COVID and TB, demonstrating its potential to transform healthcare across vastly different communities.

*AI is definitely advantageous for areas like ours where access to health in the remotest areas is not possible.*

**Dr. Deepak Singh**  
**Head and Lead Surgeon,**  
**Chinchpada Christian Hospital**



Dr. Deepak Singh, Head and Lead Surgeon, Chinchpada Christian Hospital

# A Gamechanger in TB Screening

## The Power of AI

SAMRIDH Blended Finance Facility, which is supported by the USAID and implemented by IPE Global, has facilitated the implementation of high-impact healthcare solutions, including AI-powered TB screening tools, across India. Qure.ai, a visionary organization dedicated to accessible and affordable care worldwide, received funding support from SAMRIDH to scale qXR in 50 rural and semi-urban healthcare centres and enable healthcare workers in the dual screening of COVID-19 and lung diseases such as TB in 2020 to enhance chest X-ray screening in 50 rural and semi-urban healthcare centres.



A TB presumptive patient being checked at the Bharataratna Indira Gandhi Hospital, Mirabhyander

In both Chinchpada and Mumbai, Qure.ai implemented its AI-powered chest X-ray screening tool, qXR. The tool distinguishes normal chest X-rays from abnormal ones, which helps with lung health triage. Capable of detecting TB signs in less than a minute, qXR accelerates diagnosis, aiding clinicians in prioritizing TB cases and ensuring that no case goes unnoticed.

# AI in Action

## Clinicians' Perspectives

The clinicians' testimonials underscore the transformative impact of Qure.ai's AI solution, demonstrating how technology can play a pivotal role in addressing healthcare inequities.



*Qure's AI technology reads the X-rays apart from a doctor's eyes. You have artificial intelligence which is doing that assessment on the side. This is a landmark kind of technology for our country because often there are real challenges on the ground. For people travelling long distances and whatever healthcare they access may not have the wherewithal or competence to do an X-ray to make a diagnosis. For places like that, I think this would be a real lifesaving tool.*



**Dr. Ashita Singh**  
Physician,  
Chinchpada Christian Hospital

*In the villages, if the government were to deploy portable X-ray which could upload images onto an AI software like Qure, it would be advantageous for the primary practitioners or the secondary-level practitioners who may not have experience in diagnosing TB to actually be able to diagnose and get patients treatment required at the earliest possible. One of the advantages now of the NTP is that you can actually start treatment based on X-rays. And if the pickup rate increases and the interpretation is faster, it means the patient turnaround time from say two weeks becomes a couple of hours or even just a day.*

**Dr. Deepak Singh**  
Head and Lead Surgeon,  
Chinchpada Christian Hospital



“ Sometimes there are hospitals which are probably just run by an obstetrician and a general surgeon. For them it may not have been a part of their training to deal with tuberculosis patients. In such setups, I think Qure really adds value.”

**Dr. Jibi Jon**  
Physician,  
Chinchpada Christian Hospital

“ The Government should make it compulsory for all the diagnosis centres to implement these artificial intelligence apps so that the motto of NTP program to eliminate TB in 2025 can get solved very easily because presumptive cases are the first indicator which we are supposed to keep track of.”

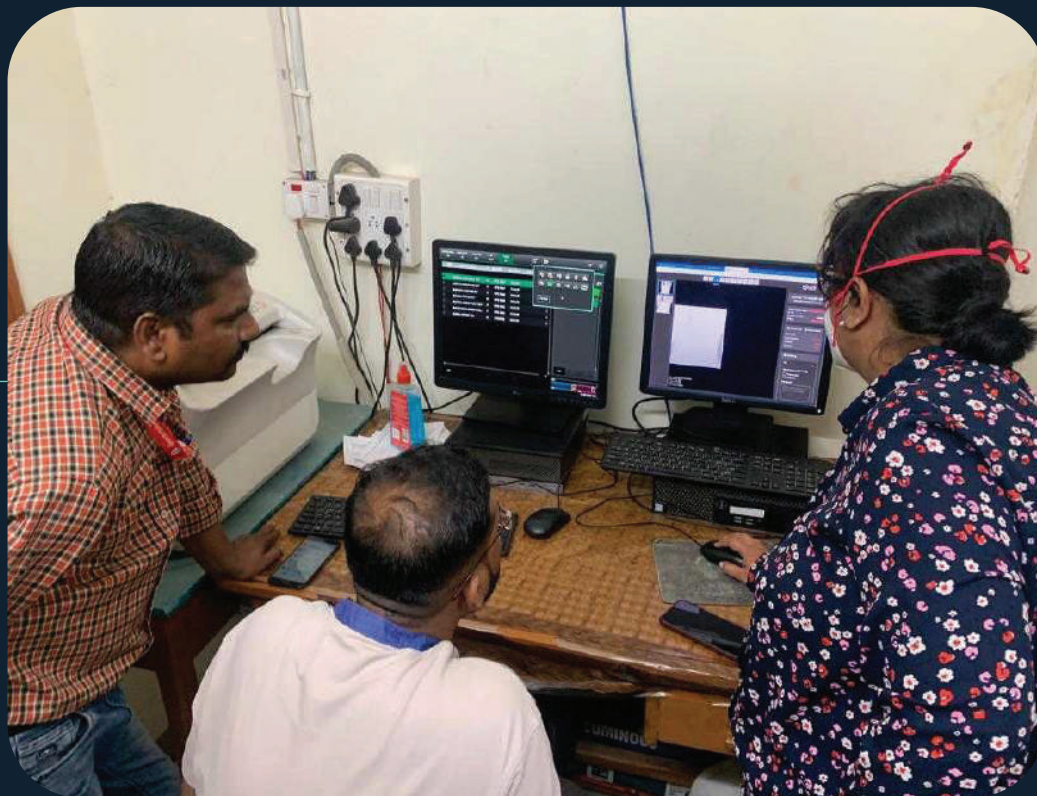
**Dr. Balnath Chakor**  
City TB Officer,  
Mirabhyander



Dr. Balnath Chakor with the Qure.ai team

# Conclusion

## A Vision of Health Equity Through AI



An AI solution-based training session by Qure

The success stories from Chinchpada and Mumbai showcase how the collaborative partnership between Qure.ai and SAMRIDH is revolutionizing healthcare in India's TB-affected districts. The smooth integration of Qure's AI solution across different clinical settings highlights the potential of technology as an equalizer. This progress fuels hope for a future where health equity is a realistic goal, not just an elusive dream.

*My interest in establishing the credibility of Qure in these sorts of setups is because I see it as a great tool for getting a handle on the TB epidemic in our remote communities*



**Dr. Ashita Singh**  
Physician,  
Chinchpada Christian Hospital

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