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CASE STUDY · MARLUC SYNOPSIS

AI-read chest X-rays in tuberculosis case finding in the Philippines

IMPLEMENTED 2021 ONWARDS · HEALTH AND LIFE SCIENCES · PHILIPPINES · BAND C · PARTLY PROVED

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After WHO first recommended computer-aided detection software for TB screening in 2021, case-finding programmes in the Philippines began screening people with chest X-rays read on the spot by AI. A peer-reviewed analysis of 52,840 people screened in four regions found the AI caught most confirmed cases but flagged many people without TB. The Department of Health says AI-powered X-rays are now part of its national screening drive.

ABOUT THIS SYNOPSIS

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AT A GLANCE

Frontier case: AI used for a scientific, medical or engineering breakthrough. MarLuc grades what has changed in practice so far.

AI used: AI computer-aided detection on chest X-rays: qXR (Qure.ai) gives each image a TB abnormality score from 0 to 1, and people scoring 0.50 or more are sent straight for a molecular test.

Implemented: 2021 onwards. Grade: band C, Process change, Partly proved.

Headline result, as reported: In 52,840 people screened in four regions from 2021 to 2024, AI-read chest X-rays flagged TB with 95.6% pseudo-sensitivity but 18.4% positive predictive value; the Department of Health says AI-powered X-rays are now used nationally

1 · The case

The facts, as reported by the 5 sources listed at the end. Where a source is silent, the field says "Not reported".

Organisation

Department of Health (Philippines), with the USAID-funded TBIHSS project. The Department of Health of the Philippines, which runs the national TB programme, working with donor-funded case-finding projects. A joint WHO and Department of Health release puts the Philippines at 625 people developing TB per 100,000 in 2024, 6.8% of cases worldwide. Canvas block: 4. Operations and process. Also 6. Technology and data.

Business challenge

The challenge. The Philippines has one of the highest gaps between TB notifications and estimated incidence, per the 2025 study. Patients waited up to several days for X-ray results and had to return for a sputum test, by the Siemens Healthineers and PBSP account, and some did not come back.

How it was addressed. WHO recommended computer-aided detection software for TB screening in March 2021. From May 2021 the USAID-funded TBIHSS project screened people in communities, workplaces and hospitals in four regions: everyone consenting got a chest X-ray scored by qXR, those scoring 0.50 or more went for a molecular test, and those scoring lower waited for a radiologist's reading. In 2025 a Siemens Healthineers and PBSP project announced AI reading at 28 sites, and the Department of Health said it uses ultra-portable AI-powered X-rays in its drive to screen 12 million people by 2026. [1] [2] [3] [4] [5]

Who implemented it

Qure.ai (Software vendor): Supplied the qXR AI software used in the TBIHSS case finding and present at the PBSP project launch..
TBIHSS project (FHI 360) (Industry partner): Ran the USAID-funded case finding in four regions; its staff analysed the programme data..
Siemens Healthineers and Philippine Business for Social Progress (ACCESS TB) (Industry partner): Announced AI chest X-ray reading at 28 public hospitals and health centres in 2025..
The 2025 study's authors are affiliated with TBIHSS at FHI 360 and the Philippine College of Radiology. Which AI products the Department of Health uses nationally is not reported in the sources opened.

Technology (SEAM pillar E)

SEAM types: T8 Predictive / ML models. Deployment: Not reported. Vendors and products: Qure.ai, qXR version 3.

Where it was built in: Built into community, workplace and hospital case finding: every consenting person aged 15 and over gets a chest X-ray, the AI score decides referral for a molecular WHO-recommended rapid diagnostic test, and people the AI scores negative wait for the official radiologist reading.

What changed

Before: X-rays waited for a radiologist, sometimes for days, and many people with TB were missed. After: in these programmes, AI scores the X-ray on the spot, in under a minute by the partners' account, and flagged people are asked for a sputum sample straight away; screening covers people with and without symptoms. [1] [2] [3] [4] [5]

What it cost

Not reported for the programmes. A 2026 Ateneo de Manila model estimated Php 877,330 a year for AI-assisted reading against Php 1.14 million for manual reading, for 1,000 people in rural health units.

What it saved

Not proved. The study reports a TB yield of 1.57%, above national prevalence, and says AI increased X-ray coverage by screening more people in a shorter time; it did not measure operational performance. The 2026 model found AI would no longer necessarily save money with lower reading fees or Philippine accuracy estimates. [1] [2] [3] [4] [5]

Governance and control

WHO guidance sets the standard. In the analysed programme a radiologist still read AI-negative X-rays and molecular tests confirmed every diagnosis. The study found the fixed threshold produced many false positives and recommended recalibrating or retraining the model on local data.

S2 · Accountable owner · Claimed
The Department of Health leads TB screening under its PhilSTEP2 plan, and the Secretary of Health says AI-powered chest X-rays are already in use. [3]

A1 · Safe use · Evidenced
The peer-reviewed analysis describes consent before X-ray, and molecular testing to confirm any AI flag before diagnosis. [2]

A2 · Human in the loop · Evidenced
People scored negative by AI waited for the official radiologist reading, and symptom screening by trained health workers ran alongside. [2]

A3 · Monitoring and assurance · Evidenced
Programme data were analysed in a peer-reviewed study, which found the fixed threshold left 83% of AI-positive people without TB and recommended local recalibration or retraining. [2]

A4 · Vendor AI · Evidenced
The study names the product and version (qXR version 3, Qure.ai) and says it was chosen through the project's procurement procedures; authors declare no competing interests. [2]

A5 · Agent controls · Not reported
No agents described.

A6 · Standards and regulation · Outside scrutiny (a regulator, court, auditor or similar body acted)
WHO's 2021 consolidated screening guidelines recommend computer-aided detection software as a TB screening tool. [1]

What worked, what did not, what is unproven

WORKED

– High pseudo-sensitivity: the AI flagged 95.6% (95% CI 95.1 to 96.1) of people later confirmed with TB among those tested.

– TB yield of 1.57% in case finding, above national prevalence, per the study.

– Screening reached people without symptoms, with 90.5% of those screened receiving an X-ray.

DID NOT

– Low pseudo-specificity (28.1%) and positive predictive value (18.4%): 83% of people the AI flagged did not have TB, adding confirmatory tests.

– The threshold stayed fixed at 0.50 from 2021 to 2024; the authors call for calibration to

– Accuracy estimates are biased by partial verification, because most AI-negative people were never tested, as the authors note.

UNPROVEN

– Whether AI reading increases TB cases found nationally, or treatment outcomes: no comparison group is reported.

– Cost in real programmes: the 2026 study is a model on a theoretical cohort and recommends targeted pilots before nationwide adoption.

– The scale of national use: the Department of Health's statement gives no count of AI units or people screened by AI.

Timeline

Mar 2021 WHO screening guidelines recommend computer-aided detection software among TB screening tools [1]

May 2021 TBIHSS project scales up AI-read chest X-ray case finding in four regions with a fixed 0.50 threshold [2]

Mar 2025 Siemens Healthineers and PBSP announce AI chest X-ray reading at 28 sites in NCR, Central Luzon and Calabarzon [4]

Aug 2025 Peer-reviewed analysis of 2021 to 2024 programme data published [2]

Nov 2025 Department of Health says it already uses ultra-portable AI-powered chest X-rays, and targets 12 million people screened by 2026 [3]

Sept 2026 Ateneo de Manila model suggests AI reading could cost less than manual reading in rural health units, depending on local conditions [5]

2 · Grade and SEAM assessment

MarLuc's opinion, made on the evidence above. How cases are graded: marluc.co.uk/case-studies/how-we-rate

Level of change and impact

Claimed: Not applicable. Grade: C, Process change. Proof: Partly proved. Level of change: Process change.

Process change (Level 2, band C). TB screening in these programmes was redesigned around on-the-spot AI reading of X-rays; the effect on national case detection is not proved.

A process change in TB screening: everyone screened gets an X-ray read by AI in under a minute, by the partners' account, and those flagged go straight to confirmatory testing. The accuracy in programme use is shown in a peer-reviewed analysis; the effect on cases found and national scale rest on project and government statements.

The SEAM view and lessons learnt

WHO's recommendation, donor-funded projects and portable digital X-ray equipment drove adoption; the AI is one part of a wider push that also includes molecular testing, budget growth and screening people without symptoms, so its own effect cannot be separated. The programme

1. Set the AI threshold for local prevalence and testing capacity, and review it regularly.
2. Keep a confirmatory step and a human reader for cases the AI clears.
3. Track the cost of false positives alongside cases found.

Evidence

Score 2 of 4. Partly independent: peer-reviewed retrospective analysis of programme data by project staff and a radiologist, with partial verification of AI-negative results; WHO guideline; Department of Health and partner statements; model-based cost study.

Evaluation method. Retrospective cross-sectional analysis of programme data (May 2021 to March 2024) against molecular test results, with no comparison group; separate decision-analytic cost model.

Sources disagree. WHO's November 2025 release gives an estimated 10.7 million TB cases worldwide in 2024; the Ateneo release and Siemens Healthineers give 10.8 million. Both put the Philippines at 6.8%.

Status. Ongoing: the Department of Health says AI-powered X-rays are in use and plans to screen 12 million people by 2026 (November 2025).

3 · Original sources

Read these in full. To challenge a fact or a grade, use the contact form at marluc.co.uk or the link on https://marluc.co.uk/case-studies/philippines-ai-chest-xray-tb-case-finding

[1] WHO: Consolidated guidelines on tuberculosis, module 2: screening (March 2021)
https://www.who.int/publications/i/item/9789240022676

[2] BMC Global and Public Health (2025): Performance of chest X-ray with computer-aided detection powered by deep learning-based AI for tuberculosis presumptive identification during case finding in the Philippines
https://link.springer.com/article/10.1186/s44263-025-00198-y

[3] WHO Philippines and Department of Health: joint news release on TB screening targets (November 2025)
https://www.who.int/philippines/news/detail/12-11-2025-who--doh-target-12m-filipinos-to-be-screened-for-tuberculosis-by-2026--philippines-aims-to-double-budget-for-tb-services

[4] Siemens Healthineers Philippines: Fighting tuberculosis in the Philippines with AI (March 2025)
https://www.siemens-healthineers.com/en-ph/news/fighting-tuberculosis

[5] News-Medical, from Ateneo de Manila University: AI could expand affordable tuberculosis screening in rural Philippines (September 2026)
https://www.news-medical.net/news/20260925/AI-could-expand-affordable-tuberculosis-screening-in-rural-Philippines.aspx

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