



AIMed
RADIOLOGY

The World's Leading Events on Artificial
Intelligence in Medicine and Healthcare

REAL Impact of ARTIFICIAL Intelligence?

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Qure.ai

Artificial intelligence rivals radiologists in screening X-rays for certain diseases

In a matter of seconds, a new algorithm read chest X-rays for 14 pathologies, performing as well as radiologists in most cases, a Stanford-led study says.



JOURNAL of the
NATIONAL CANCER INSTITUTE

Stand-Alone Artificial Intelligence for Breast Cancer Detection in Mammography: Comparison With 101 Radiologists

Alejandro Rodriguez-Ruiz, Kristina Lång, Albert Gubern-Merida, Mireille Broeders, Gisella Gennaro, Paola Clauser, Thomas H Helbich, Margarita Chevalier, Tao Tan, Thomas Mertelmeier ... [Show more](#)

JNCI: Journal of the National Cancer Institute, djy222,
<https://doi.org/10.1093/jnci/djy222>

Published: 05 March 2019 [Article history](#) ▼



FOREFRONT OF INNOVATION · Published May 21

Google AI detected lung cancer better than radiologists, study shows

How do I **Trust** AI?

**PEER REVIEWED
PUBLICATIONS**

**VALIDATION
ON YOUR OWN
DATA**

ENOUGH?

WHAT CAN DID AI ACHIEVE ?



CASE STUDY 1 :

Using AI to Reduce Delays in Care Decisions

Customer Scenario

LOCATION : Manilla, Philippines

4 Chest X-ray Mobile Vans
doing 1500+x-rays daily for **TB
screening**

Radiologists take up to **3
weeks** to report on scans



Our Solution

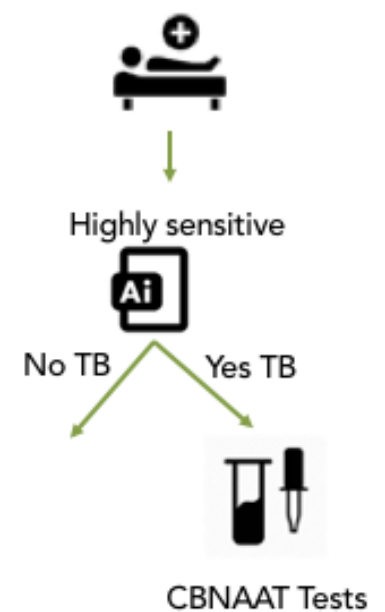
AI screens for **TB positive** cases

Results confirmed within **4-5 hours**

EXISTING WORKFLOW

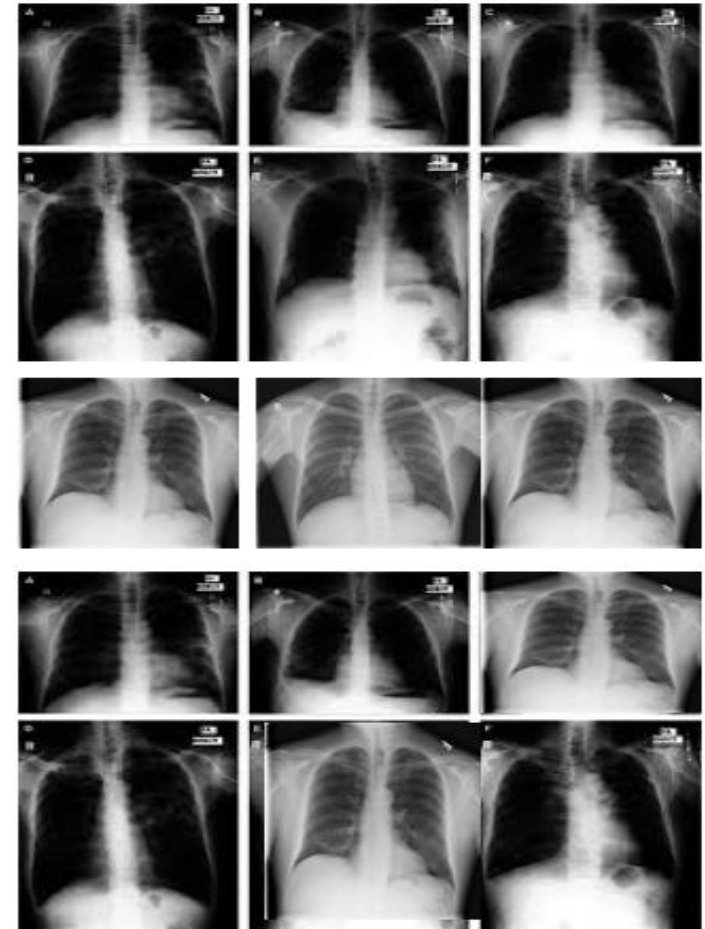


CHANGED WORKFLOW



Challenge 1

Does **AI actually generalize** well on varieties of chest X-rays taken by different technologists with varied skill levels and acquired collected from different machines?



Challenge 1

Does **AI actually generalize** well on varieties of chest X-rays taken by different technologists with varied skill levels and acquired collected from different machines?

Our Solution

X-ray AI algorithm trained on data from varied global sources across vendors and diverse profile of facilities.

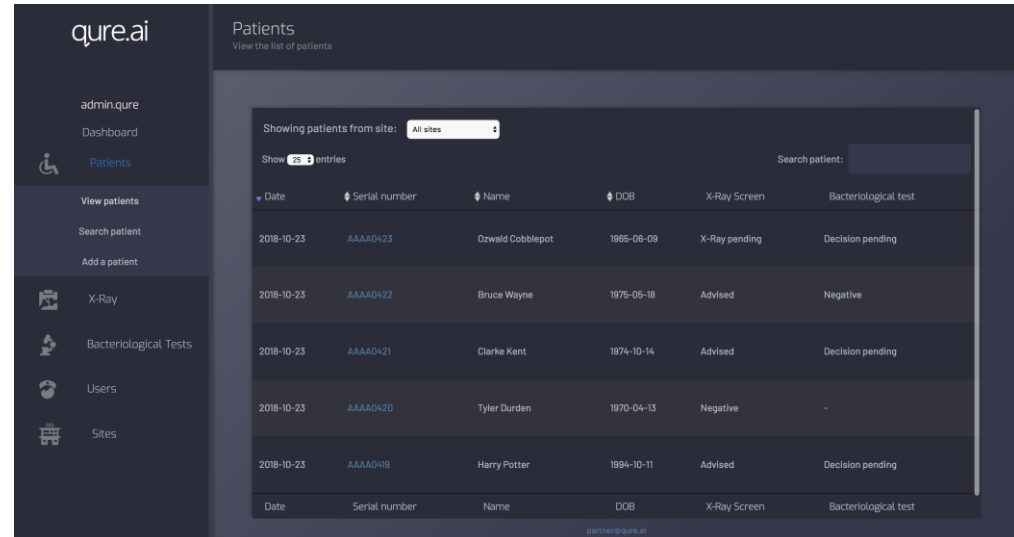
~ 2.4 Million Chest X-rays

Challenge 2

Nobody shall use your AI algorithm till it is easy to use in their **existing workflow**

Our Solution

This customer had a paper based existing workflow. Qure.ai custom built a **end-to-end workflow tool** for TB screening and patient management

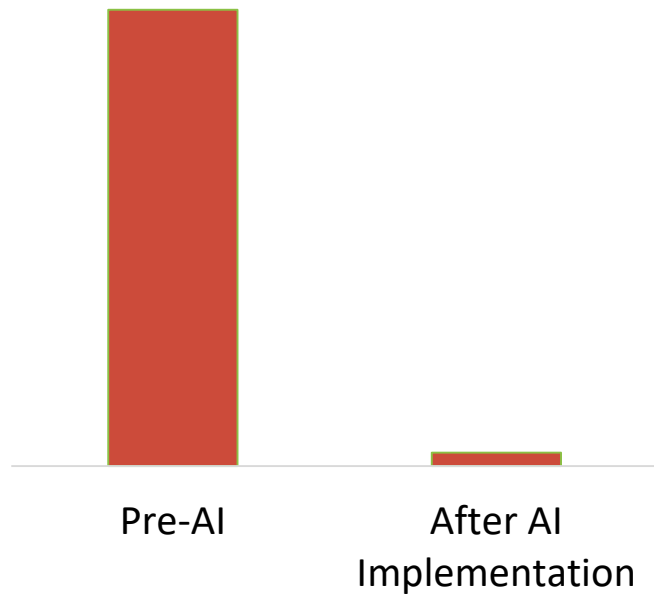


The screenshot shows the 'Patients' management interface in the qure.ai system. The interface includes a sidebar with navigation options: admin.qure, Dashboard, Patients (selected), View patients, Search patient, Add a patient, X-Ray, Bacteriological Tests, Users, and Sites. The main content area displays a table of patients with columns for Date, Serial number, Name, DOB, X-Ray Screen, and Bacteriological test. The table shows 6 entries, with a search bar and a 'Showing patients from site: All sites' dropdown at the top.

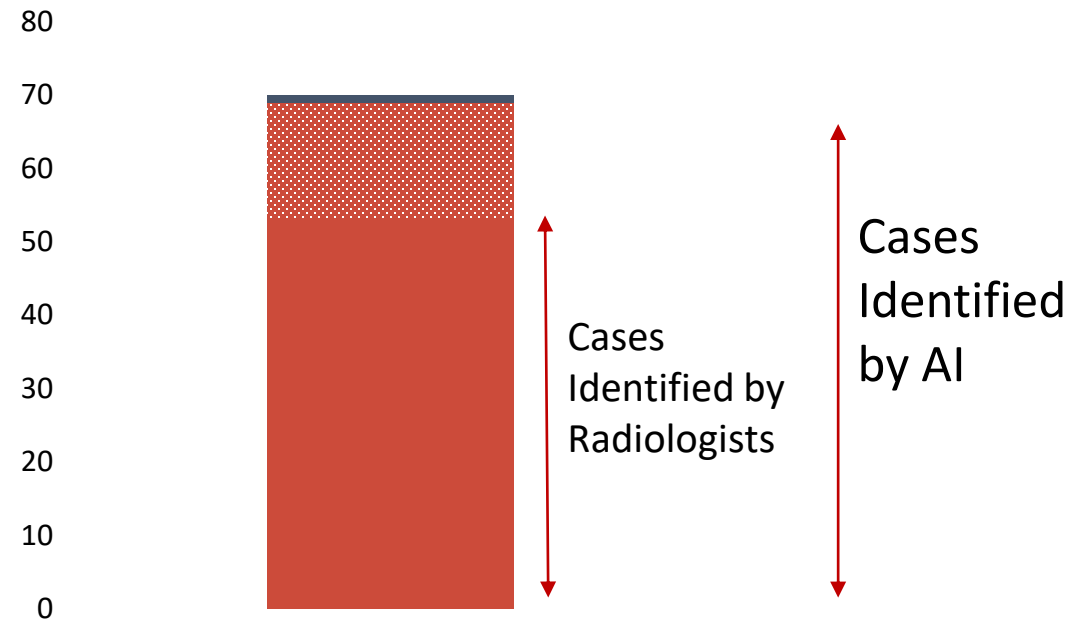
Date	Serial number	Name	DOB	X-Ray Screen	Bacteriological test
2018-10-23	AAAA0423	Ozweid Cobblepot	1965-06-09	X-Ray pending	Decision pending
2018-10-23	AAAA0422	Bruce Wayne	1975-05-18	Advised	Negative
2018-10-23	AAAA0421	Clarke Kent	1974-10-16	Advised	Decision pending
2018-10-23	AAAA0420	Tyler Durden	1970-04-13	Negative	-
2018-10-23	AAAA0419	Harry Potter	1994-10-11	Advised	Decision pending

Impact on Patient Care

TIME TO DIAGNOSIS



TB CASES IDENTIFIED



CASE STUDY 2 :

Using AI to IMPROVE QUALITY

Customer Scenario

LOCATION : South-East Asia

The Joint Commission and other accreditation organizations mandate at least 2-5% **peer review** of reads

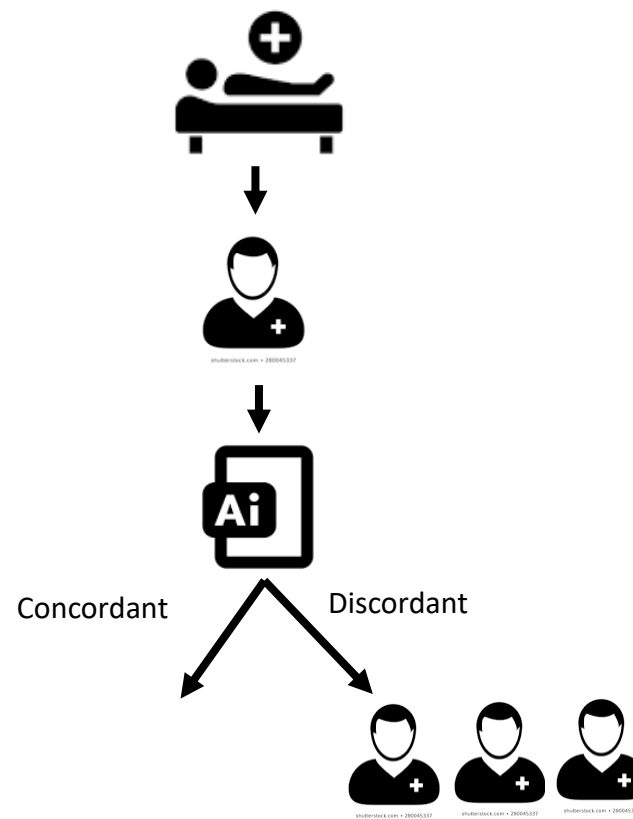
Radiology reads are out-sourced to teleradiology groups/ other countries.
Need to audit the quality of reports.



Our Solution

Tune and deploy AI to audit and re-read the cases after radiologist reads and flag **discordant** cases.

Our Workflow

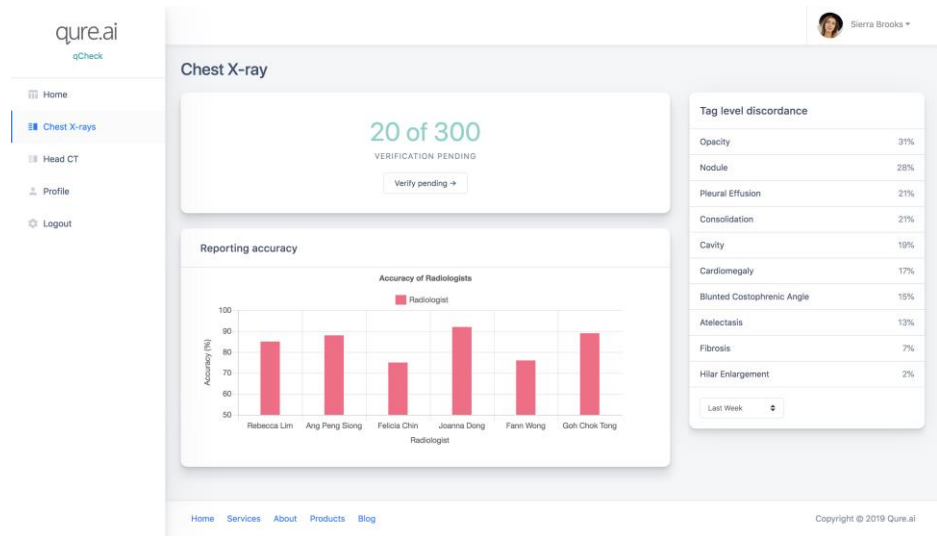


Challenge 1

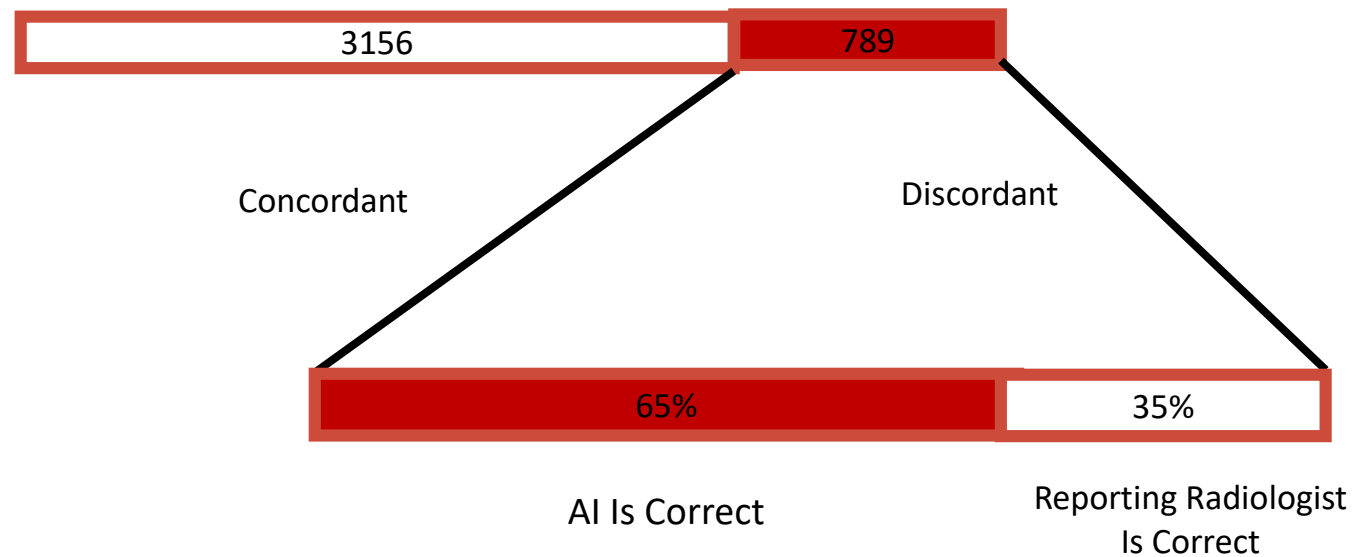
With a large volume of discordant cases, how do you avoid filling the radiology worklist with review cases versus initial case reads for diagnosis?

Our Solution

Order discordant cases in decreasing order of clinical criticality. Let the audit team only review the critical cases.



Results / Customer Outcomes



- **Peer Review** is critical, do not accept anything less than that.
- **Generalizable AI** is not easy to build. Look around for variety and amount of data it is trained on. More importantly, **amount of independent data validated on.**
- **Seamless workflow integration** is critical.
- **Design** of AI systems is critical in order to make them mainstream. Clear design starts with **clear definition of user problem.**

AI is REAL

Thanks to **AIMed**

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