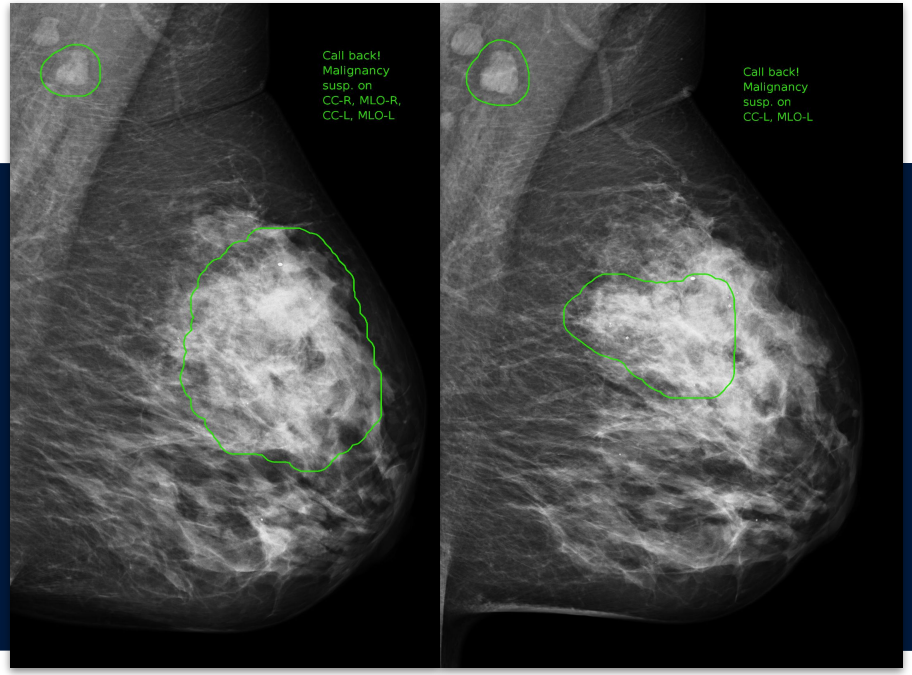

KHEIRON
MEDICAL TECHNOLOGIES
Giving every woman a better fighting chance against breast cancer
with the world's most advanced cancer detection AI

A life or death problem

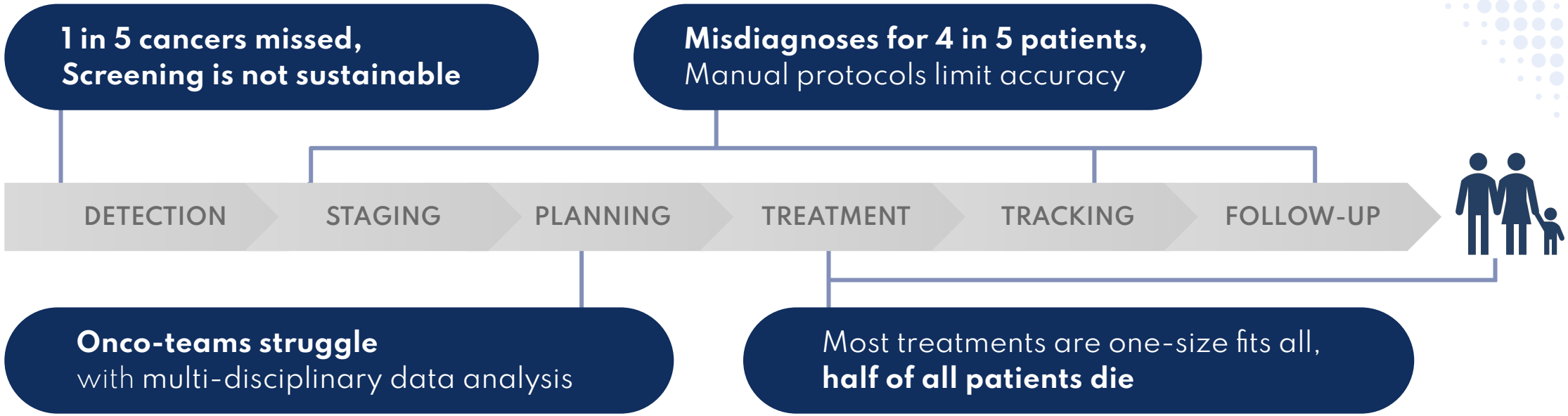
This woman's life could have been saved if her cancer had been detected cancer earlier. Our goal is to save millions by using AI to radically improve cancer diagnostics



This cancer was missed in screening and later **this woman died. Our technology, Mia, found the cancer** in images from **2 years earlier**

The scale of the problem

260M people across the globe are expected to die of cancer by 2040. Millions of deaths are avoidable with AI diagnostics.



We are building AI solutions to improve cancer diagnostics across the entire pathway, starting with breast cancer

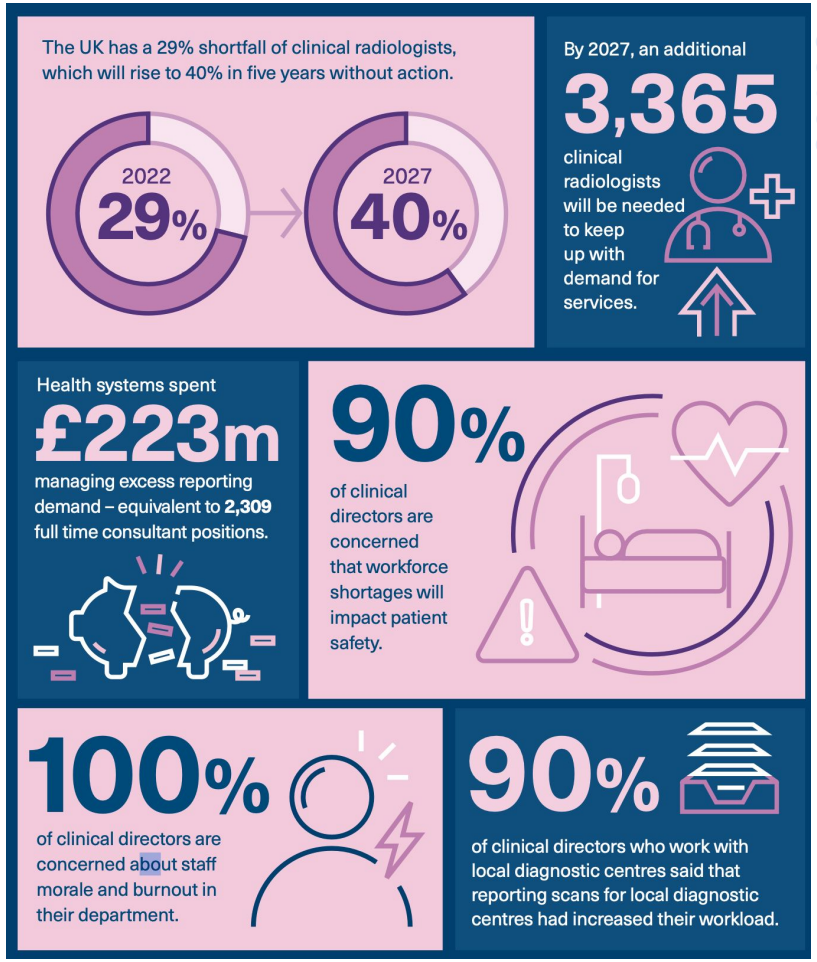
Early detection is key but there are not enough radiologists

“It’s a ticking time bomb” - 2022 RCR report June 2023

This week the Prime Minister talked about the **important role that AI can play in cancer detection.** His remarks could not have been more timely.

As described in the recent Royal College of Radiologists’ report, the lack of sustainability of radiology services in the UK is putting patients’ lives at risk.

- **29% shortfall** in clinical radiologists, growing to **40% in 5 years.**
- **52% of vacancies** have been **open for more than 12 months.**

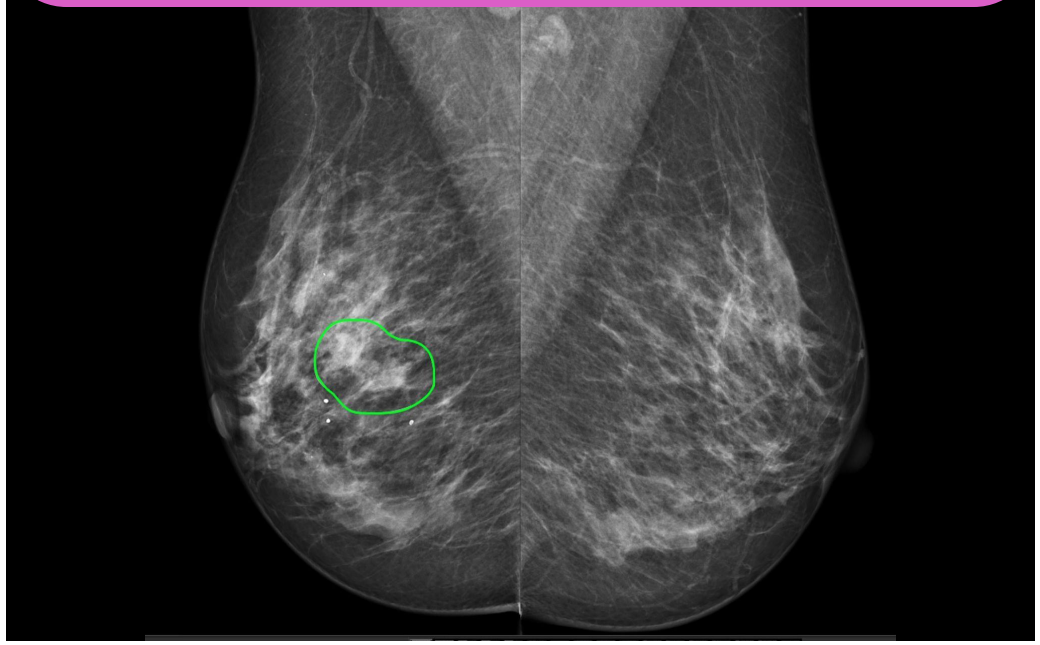


AI is the only solution to this problem - Meet Mia

Mia has been developed to make the same decision as a radiologist. Should a woman be called back for assessment?

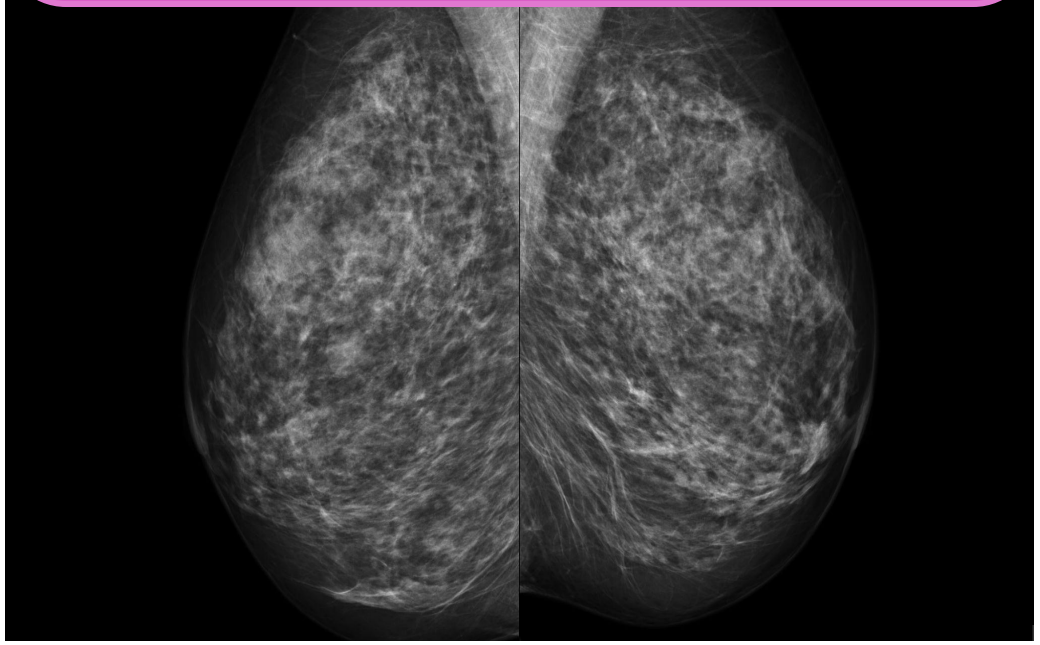
A difficult positive

Doctors missed it. We found it.



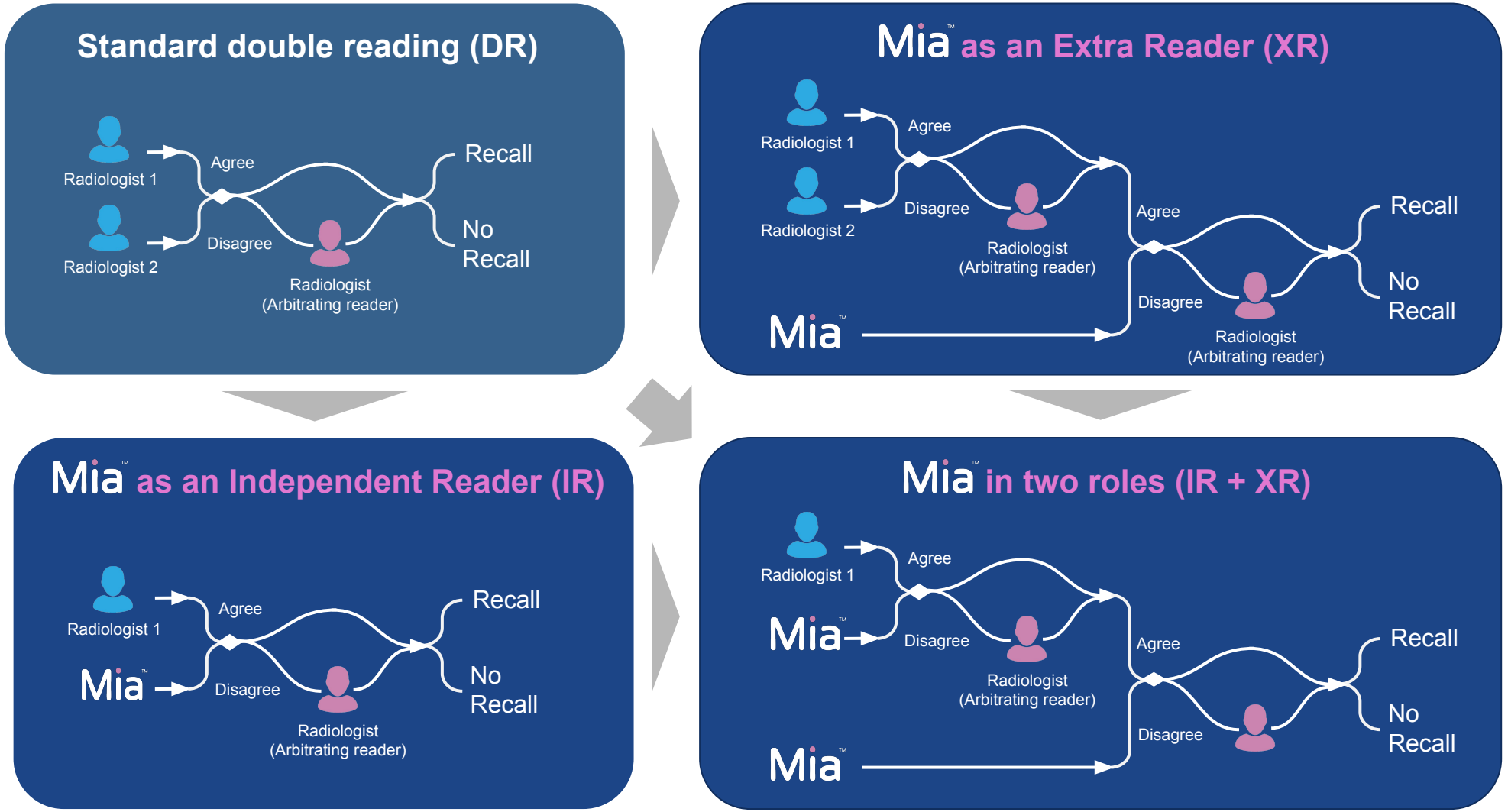
A difficult negative

Doctors recalled. We did not.



AI is the only solution to this problem - Meet Mia

Mia Reader can operate in a variety of different workflows



Mia is already helping to save lives in Europe

As featured on the front page of the New York Times and on CNN, Mia is finding 13% more breast cancers earlier

The New York Times

How Artificial Intelligence Is Being Used to Detect Breast Cancer That Doctors Miss

Hungary has become a major testing ground for artificial intelligence software to spot cancer, as doctors debate whether it would replace them in medical jobs.

6 MIN READ

UK roll out of Mia

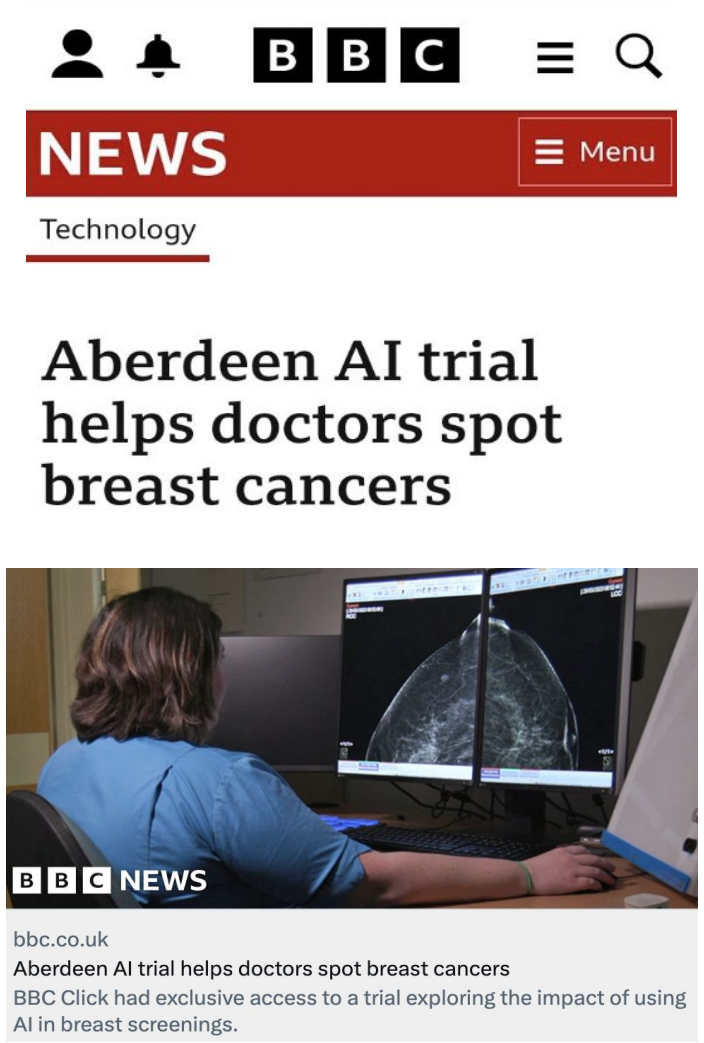
We won a UK Government AI Award to scale Mia in the NHS

For the first time in the UK, Mia is being used to help doctors in the NHS identify breast cancers as part of the GEMINI service evaluation that is being conducted at Aberdeen. As seen on the BBC.

The first UK prospective study of a breast cancer AI is about to start at Leeds. As seen on ITV.

We are conducting a second massive retrospective study (ARIES) and analysis will begin shortly.

We are **currently deploying Mia to 15 NHS sites**



The importance of robust evidence

Proven generalizability is the key

1 Proven in the largest & only conclusive clinical study in the field

275k cases from sites in **2** countries

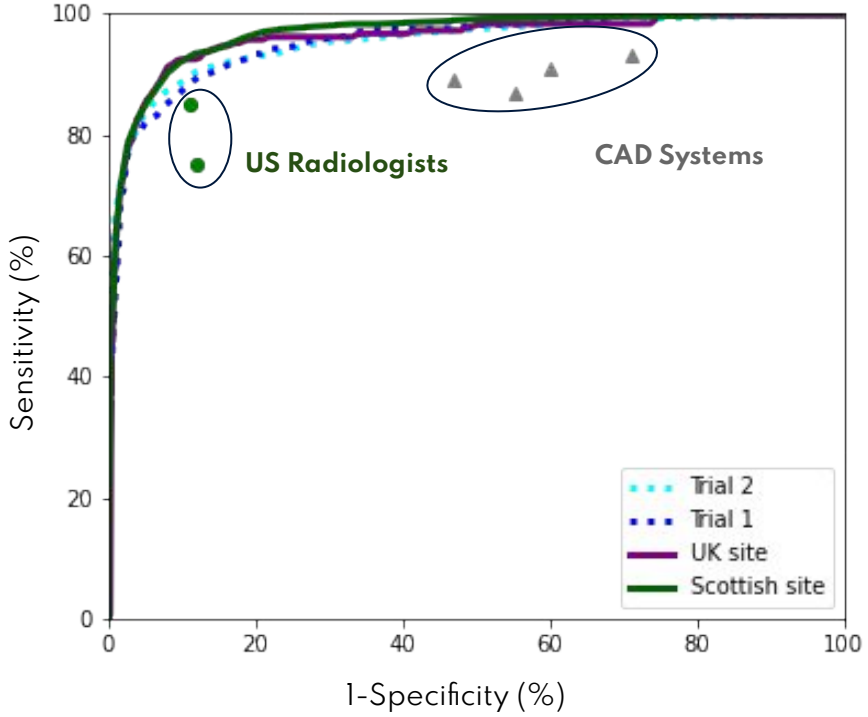
Unenriched samples, **Diverse** data

2 5 external & real-world validations - 87k cases

Performance confirmed

Human performance surpassed

First cancer AI that is proven to generalize



Superiority/non-inferiority at every metric
30% of previously missed cancers found

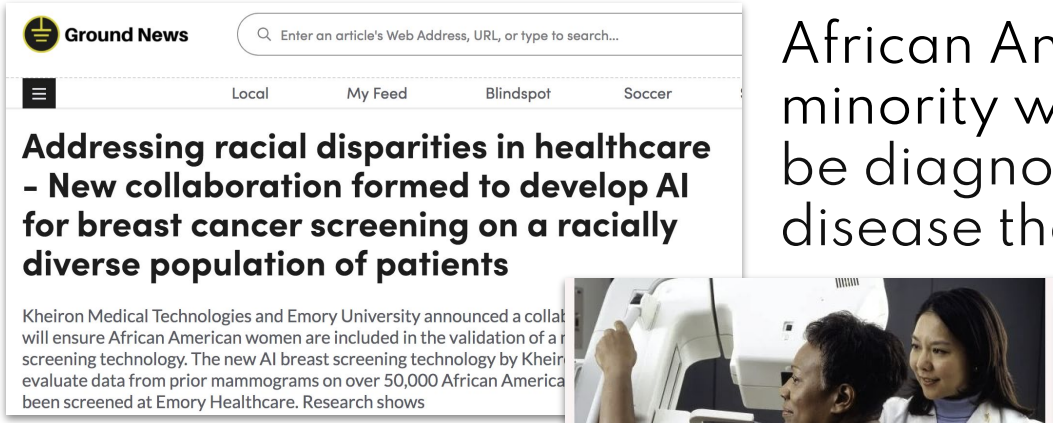
How to build inclusive AI

We are committed to creating ethical and equitable AI

BC CANCER

Provincial Health Services Authority

We are collaborating with leading medical centers all over the world to ensure that our products can help every woman, everywhere.


Ground News

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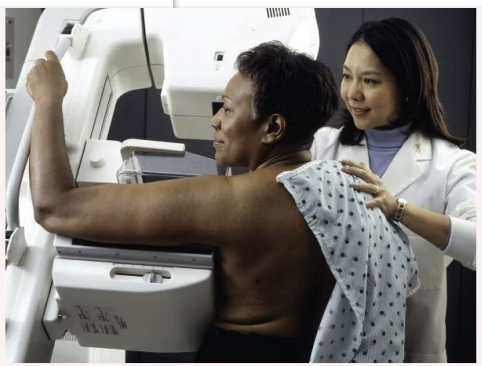
Addressing racial disparities in healthcare - New collaboration formed to develop AI for breast cancer screening on a racially diverse population of patients

Kheiron Medical Technologies and Emory University announced a collab
will ensure African American women are included in the validation of a r
screening technology. The new AI breast screening technology by Kheir
evaluate data from prior mammograms on over 50,000 African America
been screened at Emory Healthcare. Research shows

African American and other minority women are more likely to be diagnosed with later-stage disease than other women



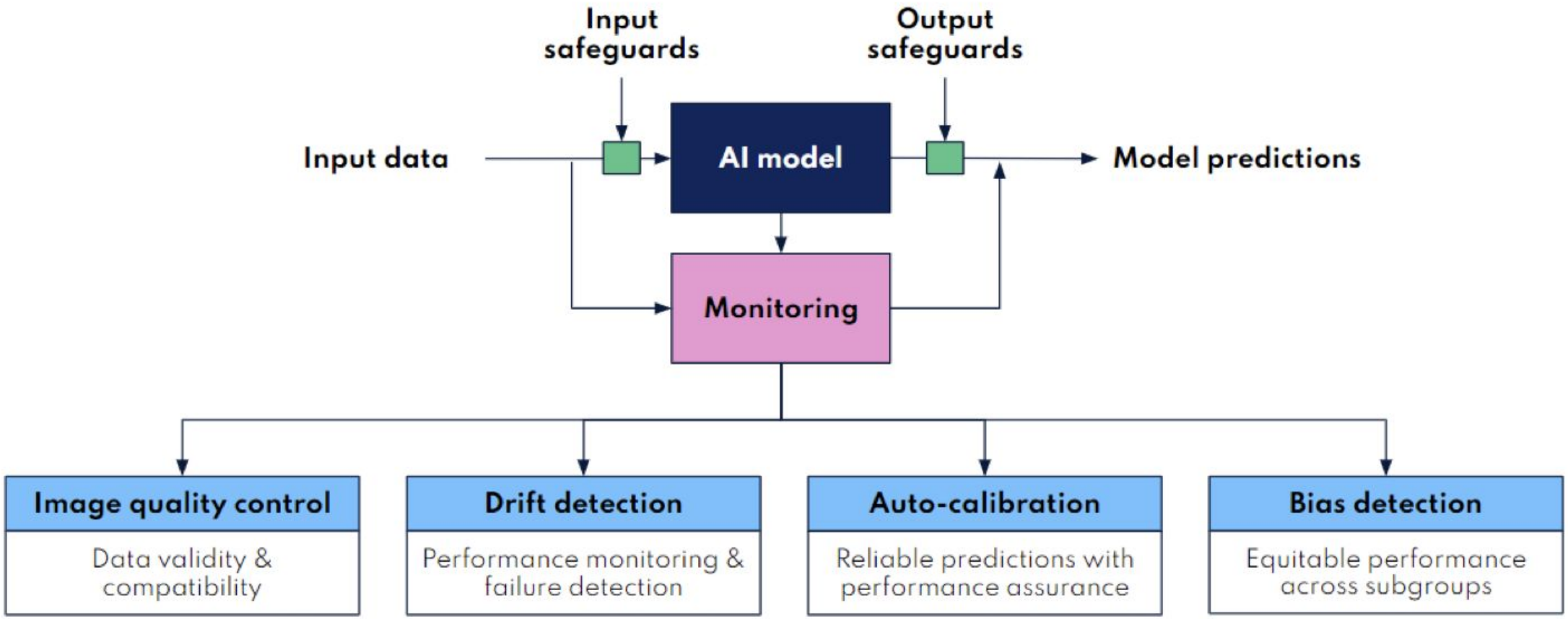
AI MED

ARTIFICIAL INTELLIGENCE IN MEDICINE

In a new collaboration between Kheiron Medical Technologies and Emory University, the British machine learning start-up announced in November that its AI breast screening technology, Mia, would evaluate data from prior mammograms on over 50,000 African American women taken at Emory Healthcare. The partnership aims to reduce potential biases in Mia and address the historic underrepresentation of African Americans in breast cancer research and the development of AI tools.

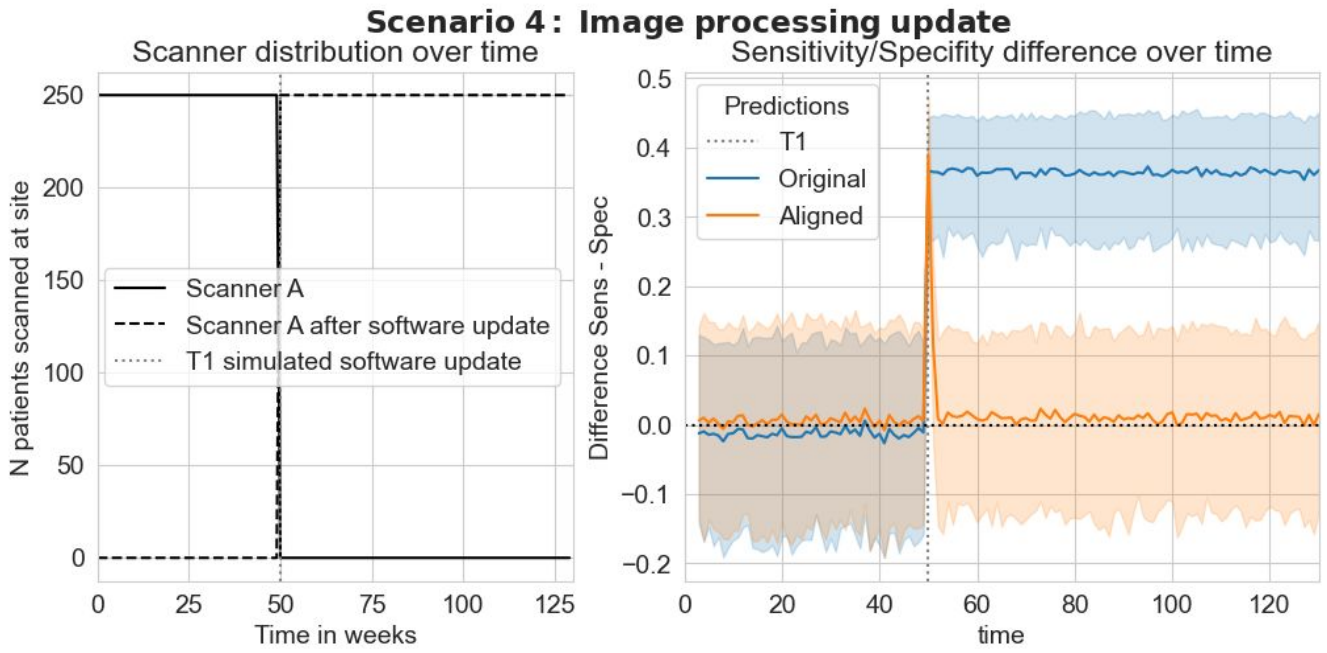
Why monitoring is critical

The story doesn't end when the AI is deployed



Why monitoring is critical

We have developed methods to automatically adapt to changes in the input



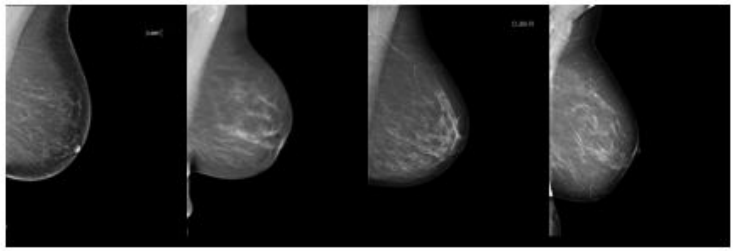
Overview

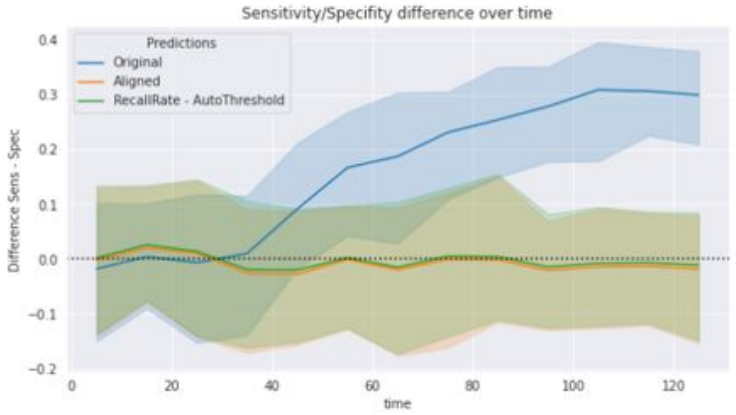
- A model's sensitivity/specificity tradeoff can be disrupted due to changes in the data distribution: e.g. an update to a scanner's post processing software.
- UPA can update a model's threshold automatically to retrieve the desired sensitivity/specificity tradeoff
- UPA can do this with limited data (as few as 1000 cases) and does not require ground truth
- Paper under review in Nature Communications.

Why monitoring is critical

These challenges exist across modalities and these methods are transferable

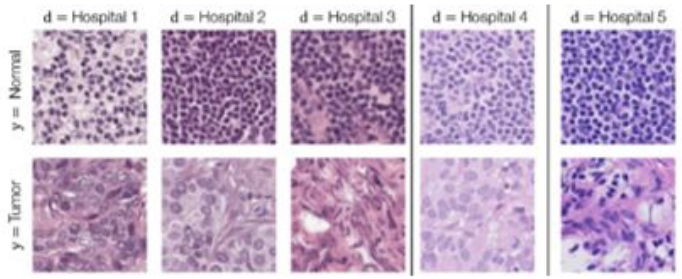
Mammography

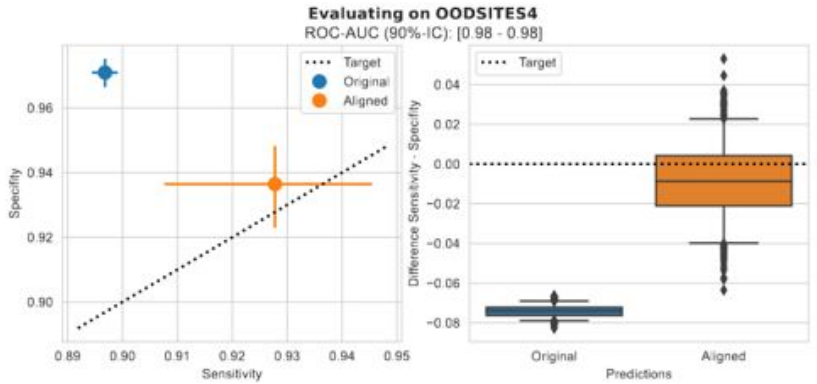




Technology Transfer

Histopathology





Urgent unblocking is required in the NHS

Despite all of this evidence, there is no clear path for adoption

CE marked - class IIa medical device since 2018

Performance validated in 3 peer reviewed publications on large scale retrospective data

Proven safety at sites with novel deployment methodology and monitoring

Independently proven to generalise on retro and prospective unseen data

Built with **massive and diverse datasets** for inclusion

ISO 13485, **14971**, **62304** compliant

Protocols designed to comply with NHS Digital standards, **DCB0129 and DCB0160 and CONSORT-AI, SPIRIT-AI and DECIDE-AI guidelines**

Thank you

Contact

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