Groundbreaking AI is delivering better results for mammogram patients at Shin Imaging Center

The power of artificial intelligence (AI) in breast imaging has left a formerly skeptical radiologist "pleasantly surprised."

For the last three years, Shin Imaging Center locations in Orange and Los Angeles Counties, CA have been reading patient mammograms with AI-based computer aided detection (CAD) tools, alongside a widely used non-AI CAD. Dr. Lina Le, Director of Breast Imaging for Shin Imaging Centers, found that CureMetrix cmTriage™ and cmAssist® tools consistently improved her ability to quickly and accurately detect possible breast cancers, no matter the patient's history or breast density.

"I was skeptical about AI at first, but after using cmTriage and cmAssist, I was pleasantly surprised," said Dr. Le. "CureMetrix's AI tools work with any type of mammogram from any vendor. They have improved my workflow, helping me review the most suspicious cases right away, and determine more swiftly whether I need to recall the patient for additional workup."

cmTriage is the first FDA-cleared AI-based triage software for mammography in the U.S. It is a workflow optimization tool that enables a radiologist to customize, sort, and prioritize their mammography worklist based on cases that may need immediate attention, versus the traditional "first in, first out" protocol. As highlighted in recent studies, cmTriage has been able to help radiologists read mammogram scans up to 30% faster.

cmAssist is a CAD software that uses AI to help radiologists identify, mark, and score regions of interest and possible anomalies on a screening mammogram. Each anomaly it flags is assigned a unique, data-driven neuScore™ which provides the radiologist a quantitative measure of suspiciousness of a marked region of interest, ranging from 0 (least suspicious) to 100 (highly suspicious). In a published study, cmAssist, investigational SaaS, demonstrated an average 27% increase in radiologists' rate of cancer detection without a significant increase in false-positive recalls. Compared with conventional CAD, cmAssist has the potential to deliver a 69% reduction in false positives, with an 83% reduction in false marks for calcifications and a 56% reduction for masses.
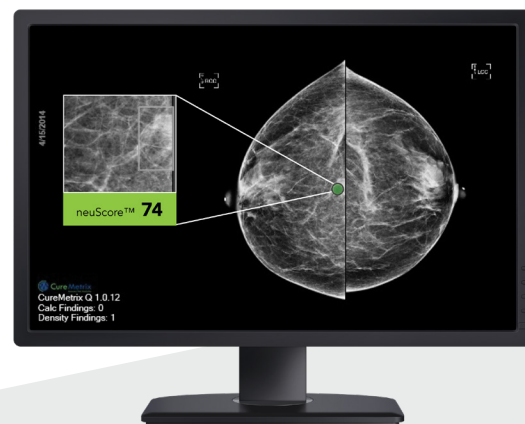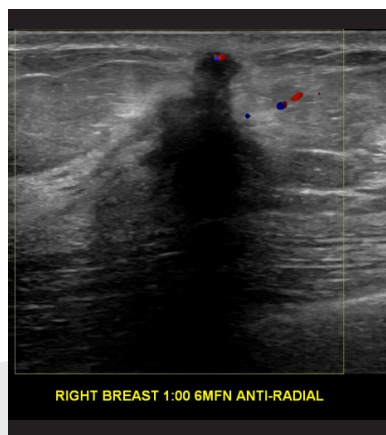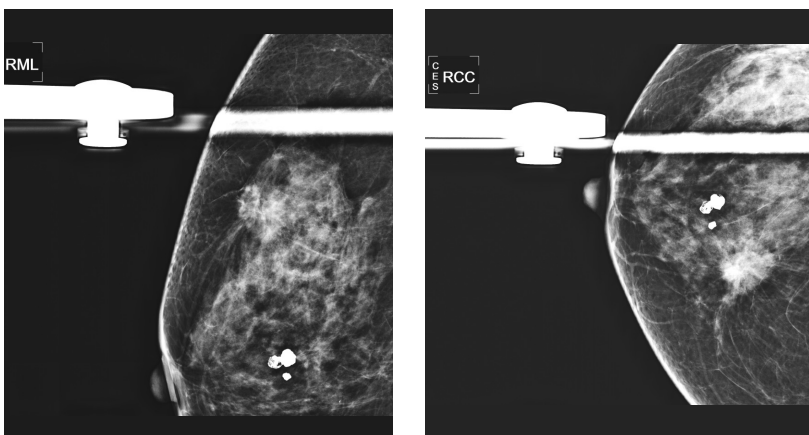
Shin Imaging Center
Case Study #1

This is an asymptomatic screening of a patient with very dense breasts, no prior studies or breast surgeries, and no family history of breast cancer. cmAssist marked the patient's mammogram correctly after the radiologist identified an abnormality, assigning the suspicious area a very high neuScore of 88-90. After assessment, the doctor recalled the patient for diagnostic workup.
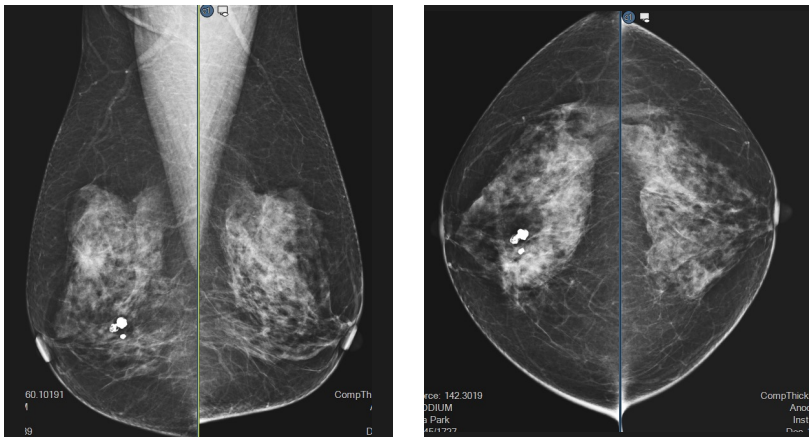
Screening mammogram; woman with dense tissue and complex pattern
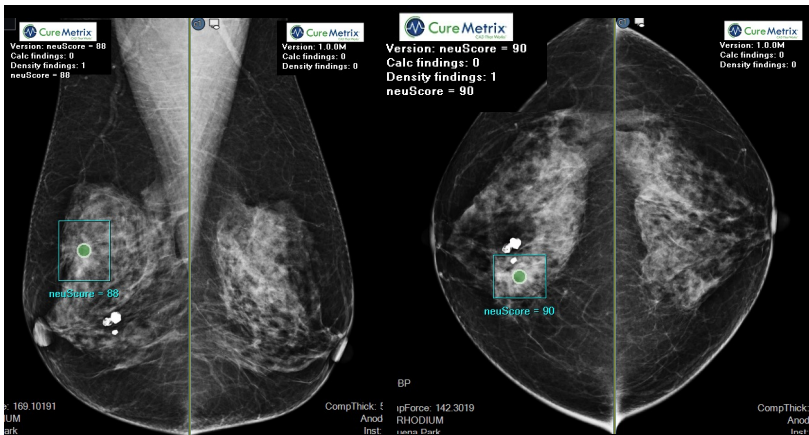
With cmAssist, a partially obscured mass was marked in both projections, with high neuScore™ of 88 and 90

Results

Additional screening with CureMetrix AI and a breast ultrasound confirmed the presence of a mass in the patient's breast, which was then biopsied. The biopsy found that it was an invasive ductal carcinoma.


The patient was recalled and the workup and biopsy confirmed this as an invasive ductal carcinoma (IDC)
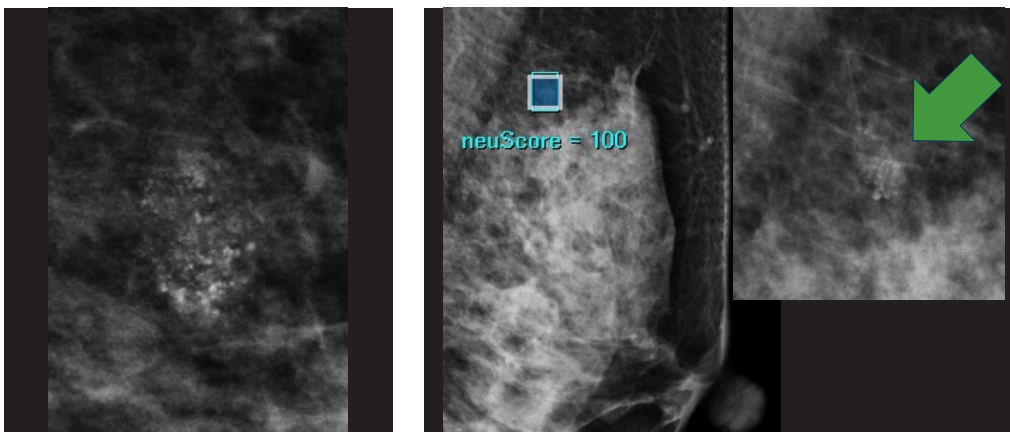
Shin Imaging Center
Case Study #2

This is another asymptomatic routine screening patient with dense breasts. The patient had a mammogram three years prior at a different facility, and no family history of breast cancer. cmAssist flagged two groups of calcifications in the patient's image and assigned them high neuScores. cmAssist also flagged one of the groups on the prior mammogram. The second smaller group was new, and the patient was recalled for a diagnostic mammogram.
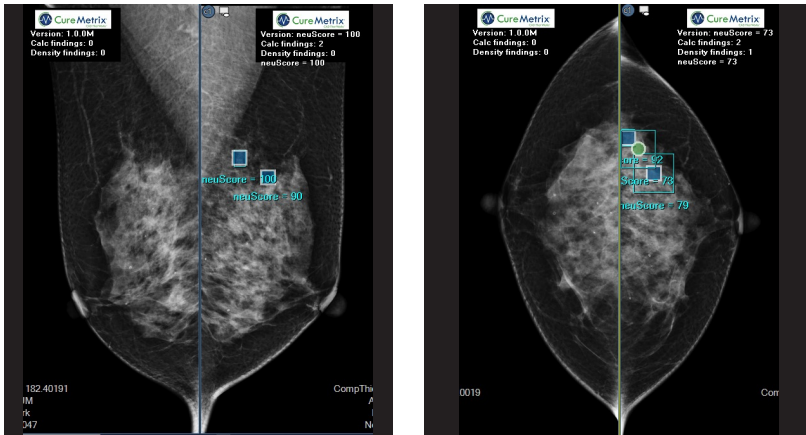
CureMetrix flagged two subtle groups of calcifications, both projections showed high neuScores.
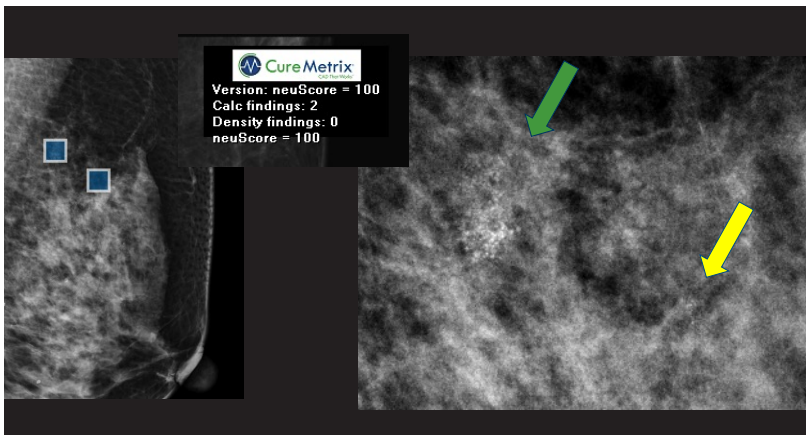
Magnified views – Stereotactic biopsy confirmed malignancy. The second smaller group marked with yellow arrow was new. AI aided the radiologist in recalling this patient.

Results

The patient underwent a stereotactic breast biopsy, which identified these calcifications as malignant. This indicates that the patient's **cancer was missed** in the previous mammogram, and **could have been diagnosed at least 2 years earlier** with the help of AI.

Outside study from 2015, three years prior, shows missed cancer flagged by cmAssist AI with neuScore of 100.

Cure Metrix®

Dr. Lina Le explains why her practice chose to adopt AI-based CAD for mammography

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We believe that artificial intelligence is the way of the future. Having run CureMetrix AI and [non-AI CAD] simultaneously for the last few years, we've realized that CureMetrix is so much better at providing higher accuracy with a significant reduction in false positive recalls.

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CureMetrix CAD has far fewer flags; the specificity of the markings allows me to focus on truly suspicious findings.

cmTriage helps me batch my high priority and low priority cases, allowing me to organize my worklist and spend my time where it's needed the most.

cmAssist is a second pair of eyes, a checkpoint that helps us accurately determine which patients we need to call back for additional screening or biopsy.

To learn how CureMetrix can make an impact in your practice, email us at **info@CureMetrix.com**

SHIN Imaging Center serving Orange and Los Angeles counties is focused on providing the latest diagnostic imaging technology. SHIN Imaging has always focused on the compassionate personal side of diagnostic care as much as the technical side. We strive to ensure our quality care principle that each patient is unique and deserves specialized attention.

CureMetrix is a global leader in artificial intelligence (AI) for medical imaging, committed to the advancement of technology that improves cancer survival rates worldwide. CureMetrix supports the radiologist to dramatically improve the accuracy of detection and the classification of anomalies in mammography exams and helps identify women at risk for heart disease. Our mission is to help save lives and support improved clinical and financial outcomes.