

# Breast MRI CAD

## Breast MRI CAD



### Technology In Brief

#### What Is It:

- Computer-aided detection (CAD) for breast MRI studies utilizes image post-processing software to evaluate abnormal breast tissue and characterize tumor morphology

#### How Does it Work:

- MRI CAD produces a 3D image and highlights growth abnormalities as well as provides radiologists with a structured reporting feature for lesion characterization
- CAD applies a color-coding system that enhances visualization of tissue properties indicative of tumor development. CAD maintains the ability to rapidly process over 1,000 MRI tomographic images per breast exam.

#### Adoption Status:

- Early Adopter

#### FDA Status:

- Approved for some systems

#### Major Vendors:

- Confirma, CAD Sciences, Invivo, TeraRecon, Bracco

#### Competing Products:

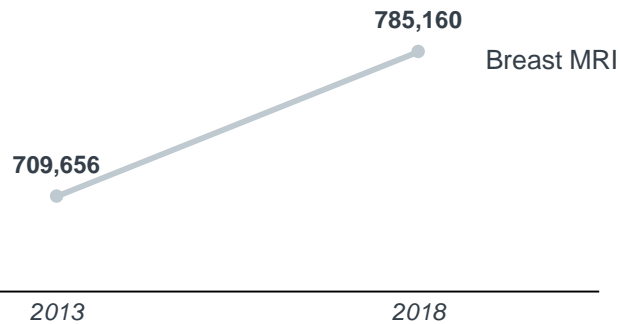
- Ultrasound, automated breast ultrasound, molecular breast imaging, positron emission mammography, digital breast tomosynthesis

Consideration	Service Line Strategy Advisor's ' Take
<b>Clinical</b>	<ul style="list-style-type: none"> <li>• CAD is currently being evaluated as a valuable MRI application that could be used to reduce the high false-positive rate observed in breast MRI</li> <li>• It is currently used primarily as an adjunct to increase sensitivity only</li> </ul>
<b>Reimbursement</b>	<ul style="list-style-type: none"> <li>• Reimbursed by a small number of insurers as add-on CPT code 0159T with variable reimbursement in 2012 HOPPS based on contractor</li> </ul>
<b>Cost</b>	<ul style="list-style-type: none"> <li>• \$50K - \$75K for software</li> </ul>
<b>Payer Coverage</b>	<ul style="list-style-type: none"> <li>• Varies based on payer</li> </ul>
<b>Market Potential</b>	<ul style="list-style-type: none"> <li>• MRI is the standard secondary modality for breast screening and diagnosis, and CAD will likely be increasingly used to augment physician judgment in the future</li> </ul>
<b>Operational Needs</b>	<ul style="list-style-type: none"> <li>• Very little beyond software installation and integration</li> </ul>
<b>Impact in Accountable Care</b>	<ul style="list-style-type: none"> <li>• Can improve patient throughput and improve the accuracy of diagnosis and pre-surgical planning</li> </ul>
<b>Competitive Take</b>	<ul style="list-style-type: none"> <li>• The competitive edge that the addition of breast CAD would give to a center is unknown</li> <li>• CAD may have the ability to help radiologists process patient images faster with possible competitive implications</li> </ul>
<b>Position on the Adoption Curve</b>	<ul style="list-style-type: none"> <li>• Early Adopter</li> </ul>

# CAD Elevates Diagnostic Capabilities and Improves Workflow

## Market & Financial Overview

### Market Estimates

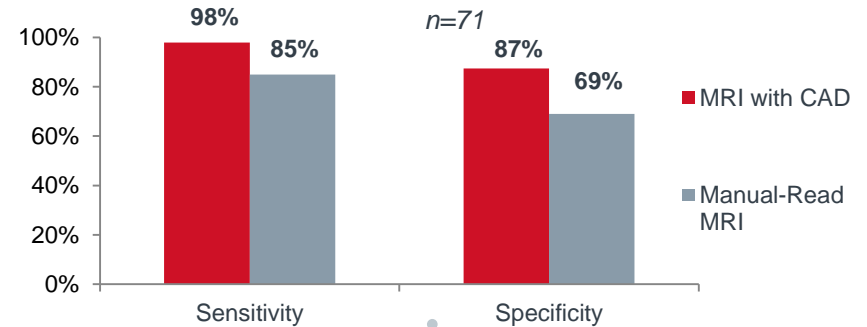


### Reimbursement Rates

CPT	2013 Final Rate	2014 Final Rate
0159T	Varies based on Medicare contractor, though most do not reimburse	Varies based on Medicare contractor, though most do not reimburse

## Clinical Considerations

### Sensitivity and Specificity of Manual-Read MRI vs. MRI with CAD



This retrospective study showed the utility of breast MRI with CAD as compared to breast MRI evaluated with a manual read alone. This study was able to demonstrate that evaluation with CAD is more effective than manual-read interpretations in both detecting cancers and reducing false-positives. This study, one of a number in the field of computer-assisted decision-making, is pointing the way towards the increased use of computers in the diagnostic realm. In the future, CAD is expected to grow significantly.



### Keys for Investment Success

- Hospital administrators should let the adoption of this technology be physician-driven based on radiologists' comfort reading images with and without CAD
- Hospital administrators should take into consideration the operational and clinical limitations of their current breast center. Breast MRI with CAD has been shown to increase patient throughput, and this could aid centers to alleviate a patient backlog