Effective Health Care

Imaging for Breast Cancer Screening
Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Imaging for Breast Cancer Screening*, was found to be addressed by an AHRQ evidence review conducted for the US Preventive Service Task Force titled, *Screening for Breast Cancer: Systematic Evidence Review Update for the US Preventive Services Task Force* (2009) and the associated recommendation. Given that the evidence review and guidelines address this nomination, no further activity will be undertaken on this topic.

  - Screening for Breast Cancer, Topic Page. July 2010. US Preventive Services Task Force. http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrca.htm

  - Nelson HD, Tyne K, Naik A, Bougatsos C, Chan B, Nygren P, Humphrey L. Screening for Breast Cancer: Systematic Evidence Review Update for the US Preventive Services Task Force. Evidence Review Update No. 74. AHRQ Publication No. 10-05142-EF-1. Rockville, MD: Agency for Healthcare Research and Quality; 2009.

Topic Description

Nominator(s): Academic center

Nomination Summary: Two similar topics, one on imaging for breast cancer screening in high-risk populations and one on imaging for breast cancer screening in the general population, were generated by a panel of stakeholders via a priority-setting exercise. The nominator asserts the availability of different imaging techniques has created uncertainty amongst clinicians regarding the best modality for breast cancer screening in both average- and high-risk populations. The nominator states that an evidence review may provide important information to providers and policymakers.

Staff-Generated PICO
Population(s): Individuals at average- and high-risk for breast cancer
Intervention(s): Imaging modalities for breast cancer screening including, but not limited to mammography, scintimammography, ultrasonography, magnetic resonance imaging (MRI), mammography, and tomosynthesis.
Comparator(s): Those listed above (i.e., to each other)
Outcome(s): Morbidity and mortality

Key Questions

1. What is the comparative effectiveness of different imaging modalities for screening

from Nominator: of breast cancer in increased risk populations?

2. What is the comparative effectiveness of different imaging modalities for screening of breast cancer in the general population?

Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.)
- There are a variety of imaging techniques that maybe used to screen both average and high risk individuals, including mammography, magnetic resonance imaging (MRI), ultrasonography, scintimammography, and tomosynthesis. While mammography is considered a standard for breast cancer screening, individuals who are considered high risk for developing breast cancer such as individuals with the BRCA1 or BRCA 2 gene mutation, dense breast tissue, familial history with breast cancer, or a personal history with breast cancer may require screening with additional imaging techniques such as MRI
- This topic was found to be by an AHRQ evidence review conducted for the US Preventive Service Task Force titled, *Screening for Breast Cancer: Systematic Evidence Review Update for the US Preventive Services Task Force* (2009) to inform a guideline.
- Additional, clinical guidelines, two of which are listed below, recommend the use of mammography for routine breast screening in average-risk individuals and MRI for routine breast screening in high-risk individuals:

    - Mainiero MB, Lourenco A, Mahoney MC, Newell MS, Bailey L, Barke LD, D'Orsi C, Harvey JA, Hayes MK, Huynh PT, Jokich PM, Lee S, Lehman CD, Mankoff DA, Nepute JA, Patel SB, Reynolds HE, Sutherland ML, Haffty BG, Expert Panel on Breast Imaging. ACR Appropriateness Criteria® breast cancer screening]. Reston (VA): American College of Radiology; 2012.

    - National Comprehensive Cancer Network. Breast Cancer Screening and Diagnosis. Fort Washington, PA: National Comprehensive Cancer Network, 2013. http://www.nccn.org/professionals/physician_gls/pdf/breast-screening.pdf

- Evidence for screening using alternative imaging modalities such as ultrasonography, scintimammography, positron emission tomography (PET), and computed tomography (CT) is limited and can be considered for future comparative effectiveness research.