

# Cancer Risk Assessments: Creating Clarity for Clinicians and Patients

## Current Guidelines Offer Conflicting Advice, Requiring A More Comprehensive Approach to Determining Risk

Breast cancer is among the leading causes of cancer illness and mortality in the United States. As a result, the disease has been the focus of significant research and attention, leading to groundbreaking medical advancements and increased prevention and awareness. Despite the progress, there remains substantial debate and confusion around how and when to screen women for breast cancer.

Women of all ages and backgrounds are understandably concerned about breast cancer, and questions abound: At what age should I begin receiving mammography screening? How often should I be screened? At what age should I stop? The short answers to these questions may depend on who you ask. A variety of medical guidelines offer direction on screening and prevention from respected healthcare institutions and organizations. Considered in isolation, each guideline offers a useful course of action. However, when reviewed in a broader context, the guidelines are confusing and conflicting. Updates to the guidelines regarding breast cancer screening have patients' health and well-being in mind, however, the confusion and contradiction among different guidelines has resulted in an undesirable outcome: Providers

may either be causing patient stress with unnecessary procedures or perhaps worse, failing to act at all.

In recent years, new screening guidelines have ushered in a period of heightened confusion that the medical community is now working through. In 2009, the U.S. Preventative Services Task Force (USPSTF) published guidelines recommending that women 50-74 years of age are most likely to benefit from biennial mammography screening while indicating that evidence did not support mammography screening for women aged 40-49<sup>1</sup>.

Then in 2010, the Society of Breast Imaging announced that women at average risk of breast cancer should begin annual screening with

mammography at age 40<sup>2</sup>. In 2015, the American Cancer Society (ACS)



recommended average risk women should receive annual screenings at 45, and biennially starting at 55<sup>3</sup>. In 2016, the USPSTF revised its previous guidelines, issuing a “C” recommendation indicating that higher-risk women may benefit from beginning mammography screenings in their 40s<sup>4</sup>. The American College of Radiology in June 2016 subsequently voiced support for a Senate bill that would delay implementation of those guidelines from 2017 to 2019<sup>5</sup>. In summary, the age at which women begin, and the continued frequency of the screening, varies greatly depending on the organization issuing the guidelines and creates confusion for both clinicians and patients.

While age is one driver to determine when to begin screening, how frequently to screen, and what additional screens or tests should be completed, the guidelines also rely on a largely unknown factor for most women – their calculated lifetime risk of breast cancer. For example, the ACS guidelines recommend annual MRI plus mammography for women with a lifetime risk of breast cancer of 20% or higher based on validated risk models, even if under age 40. The American Society of Breast Surgeons (ASBrS) similarly revised its guidelines in 2015, adding a recommendation for screening mammograms before age 40 for women with a lifetime breast cancer risk of 15-20% as well as a supporting MRI for women with a lifetime breast cancer risk of greater than 20%.

To adhere to the revised breast cancer screening guidelines, a patient and her physician must know the patient’s risk profile. This can only be discerned through cancer risk assessment – a practice that is underutilized in primary care.

A patient seeking clarity often finds that her primary care provider is also confused by the guidelines. The challenges for clinicians, across all care settings, are in both navigating patients through the conflicting guidelines and utilizing a consistent approach to identifying high-risk patients. With tools such as cancer risk assessment at their disposal, clinicians can employ a consistent approach in providing patients with an appropriate individualized course of action.

The need for greater clarity is significant. Each year nearly 250,000 cases of invasive breast cancer will be diagnosed in the United States<sup>6</sup>. To adhere to the revised breast cancer screening guidelines, a patient and her physician must know the patient’s risk profile. This can only be discerned through cancer risk assessment – a practice that is underutilized in primary care<sup>7</sup>.

## STUDY: A POPULATION AT RISK

A recent study by a team at Massachusetts General Hospital underscores the danger presented when patients do not know their individual risk profiles. The researchers, including lead investigator Dr. Jennifer Plichta, a breast surgery fellow, and senior investigator, Dr. Kevin S. Hughes, co-director of the hospital’s Avon Comprehensive Breast Evaluation Center and co-founder of CRA Health, sought to determine how many women

aged 40 to 44 years in the hospital’s specialty breast practice would be eligible for screening mammograms, genetic testing and MRIs based on the revised ACS guidelines<sup>8</sup>.

From a cohort of 6,964 new patients age 40 and older without a breast cancer diagnosis seen at the practice between 2011 and 2015, the researchers identified 909

women under age 45 and assessed their risk for a genetic mutation and their lifetime risk of breast cancer based on validated statistical models. The findings suggest that as many as half of all 40- to 44-year old women are at above-average risk of breast cancer. Thus, if a patient does not know of her individual elevated risk status, she may not be getting the breast care recommended by current U.S. screening guidelines.

“Since many patients fell within both groups, half of women ages 40 to 44 would have been eligible for

screening mammography at the age of 40 under the new guidelines,” Dr. Plichta reported at the annual meeting of the American Society of Breast Surgeons in April 2016.

The results highlight the way in which the new guidelines “are a bit of a catch 22,” according to Dr. Hughes. “Many women do not focus on breast cancer issues until they begin regular mammograms. As a result, women may remain unaware that screening at an earlier age is important for their health.”

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## CANCER RISK ASSESSMENT: FILLING THE GAP

Clinicians may be reluctant to integrate individual risk assessments into their practices due to concerns about workflow implications (added time and people) or because of confusion over which of the available models to use. Neither of these fears need be true. In many cases, an efficient risk assessment program can actually improve workflow. Additionally, practices need not choose only one model and create new manual workflow.

In order for risk assessment to become a standard of care, its integration into clinical practice must be as seamless as possible. The technology must be intuitive and the results must be statistically valid. Additionally, and without exception, the assessment must systematically and comprehensively integrate multiple clinically validated models in order to offer a complete picture.

To this end, CRA Health has pioneered the development of a risk assessment solution that integrates into existing workflows (and can help streamline workflows). The software collects patient data, evaluates the established quantitative risk models and clinical guidelines (ACS, ASCO, ASBrS, USPSTF, and others), and produces an individual breast cancer risk profile and clinical decision support for both providers and patients. The software tool includes the most current versions of validated risk

assessment models, including Tyrer-Cuzick 6 and 7, BRCAPro, Claus, Myriad, Gail, PREMM and MMRpro. CRA Health’s solution offers seamless, integrated cancer risk assessment and clinical decision support with major EHRs, patient portals, radiology information systems, and mammography reporting systems. By coordinating and integrating all these activities, this comprehensive solution reduces confusion and uncertainty related to the screening guidelines debate and eases the adoption of breast cancer risk assessment across all care settings. Most importantly, it helps improve clinical outcomes by enabling providers to recommend the right screening to the right patients.

Adoption of a risk-assessment solution into the clinical workflow creates another level of care providers can offer their patients. CRA Health’s tool equips clinicians with a way to gain the knowledge vital to each patient concerned about her potential for developing breast cancer.

All of the breast cancer screening guidelines support shared decision-making, enabling patients and their providers to weigh the risks and benefits of the screening options available. This collaborative and informed approach helps mitigate the confusion surrounding screening guidelines, but it can only be achieved when clinicians

utilize a comprehensive risk assessment tool which provides accurate and actionable information about each patient's breast cancer risk status.

To learn how to implement a risk assessment solution at your healthcare organization, please visit [CRAHealth.com](http://CRAHealth.com) or contact us directly at (617) 936-0301.

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## RESOURCES

- 1 U.S. Preventative Services Task Force 2009 November: Final Recommendation Breast Cancer: Screening
- 2 J Am Coll Radiol. 2010 Jan;7(1):18-27. doi: 10.1016/j.jacr.2009.09.022
- 3 JAMA. 2015 Oct 20;314(15):1599-614. doi: 10.1001/jama.2015.12783
- 4 U.S. Preventative Services Task Force 2016 January: Final Recommendation Breast Cancer: Screening
- 5 Radiology Business, Walter, Michael 2016 June 10: ACR supports new bill to delay implementation of USPSTF screening recommendations until 2019
- 6 American Cancer Society 2016 July: Cancer Statistics Center: 2016 Estimates [cancerstatisticscenter.cancer.org](http://cancerstatisticscenter.cancer.org)
- 7 Bellcross CA, Leadbetter S, Alford SH, Peipins LA. Prevalence and healthcare actions of women in a large health system with a family history meeting the 2005 USPSTF recommendation for BRCA genetic counseling referral. Cancer Epidemiol Biomarkers Prev. 2013 Apr;22(4):728-35.
- 8 Application of the 2015 ACS and ASBS Screening Mammography Guidelines: Risk Assessment Is Critical for Women Ages 40-44; Abstract 0445. Official Proceedings, Volume XVII, 2016 Annual Meeting of the American Society of Breast Surgeons.