What’s the Buzz: Tell Me What’s Happening in Breast Cancer Screening

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ABSTRACT

Many controversies have come to light related to breast cancer screening recommendations for average- and high-risk populations. This manuscript focuses on factors to consider when coordinating and conducting breast cancer screening programs in an average or “healthy women” population. As presented at the 2016 ONS Congress, a brief comparison of current screening recommendations among various organizations for early detection of breast cancer is provided. Lessons learned regarding key components of successful screening programs such as being patient focused, accessible, and sustainable are shared. Practice implications such as gaining confidence in providing individualized patient education, encouraging every woman to discuss her risk of breast cancer with her health-care provider, advocating for patients needs and being involved in or aware of clinical and translational research on the efficacy of the clinical breast examination and screening services are critical roles for nurses and advanced practice nurse providers.

Key words: Average risk, breast cancer screening, nurses roles, screening recommendations

Introduction

The past few years have been fraught with controversies related to breast cancer screening recommendations for average- and high-risk populations. This manuscript focuses on factors to be considered effective when coordinating and conducting breast cancer screening programs in an average or “healthy women” population. The American Cancer Society,\(^1\) a highly reputable organization in the United States, defines women at average risk for breast cancer or “healthy women” as those with no personal history of the disease. As presented at the 2016 ONS Congress, a brief comparison of current screening recommendations among various organizations for early detection of breast cancer is provided.
Effective Screening in Average-risk Women

When most nurses think of secondary cancer prevention thoughts turn to what behaviors or actions, patients can adopt to detect disease early when it is most amenable to treatment. Early detection is a key strategy of secondary cancer prevention but to be truly beneficial it should include four key components: Be patient focused, accessible, sustainable, and allow for seamless follow-up and/or referral. Offering services that are patient focused not only comprises a dedicated facility or area carved out in a Radiology Department for women to wait separate from the general radiology patient population but also one where women feel comfortable with individualized care given to them. For example, a dedicated cancer center may have outreach workers who speak a patient’s native language and serve as lay navigators to them from the time they meet in a community outreach program through screening, follow-up, or referral.

Accessibility ensures that no matter where a potential consumer resides, they have the means to access services. Many urban cancer centers have satellite outpatient offices in suburban and rural areas that are open variable hours. These programs may assist patients in arranging transportation services and provide a “one-stop” visit so that intake, provider examination, education, and screening mammography occurs in the same encounter. Sustainability occurs when a center provides services for both insured and uninsured or underinsured patients. One such service is a primary grant funded Cancer Outreach Program that has been in existence for 15 plus years. It is directed by an Advance Practice Nurse (APN) and she and another APN provide weekly cancer screening clinics to a vulnerable population through grant funding from a variety of grantors such as the New Jersey Cancer Education and Early Detection Program, Susan G. Komen, and Avon Breast Cancer Foundation. The services provided include not only the full realm of cancer screening but also follow-up and referral for benign or malignant conditions diagnosed through the outreach program.

Screening Controversy

As previously noted, slight variation in screening mammography recommendations for women at average risk has led to controversy. Community members may experience confusion and misunderstanding related to messages the media provides about breast cancer screening recommendations. This may result in individuals avoiding screening behaviors and services altogether. Nurses working both in and outside of the oncology specialty may also question whose recommendations should be promoted and how to broach the subject of breast cancer screening with their respective patients of average risk.

Professional organizations in the Americas such as the American Medical Association (AMA), the American College of Obstetrics and Gynecology (ACOG),[6] the American College of Radiology (ACR)[3] and Society of Breast Imaging, ACS, National Comprehensive Cancer Network (NCCN)[4] and Siu and United States Preventive Services Task Force (USPSTF)[5] all have put forth recommendations that differ slightly. Each agency now negates monthly breast self-examination, a longtime staple activity promoted by the ACS. This practice has changed to patients practicing a behavior called breast awareness. The frequency of clinical breast examination (CBE) conducted by health-care providers has also been called into question. Most importantly, as noted in the literature, the role of mammography and its harm versus benefit continues to be debated.[6‑9] Experts have cited both false positives and over diagnosis being a controversial issue linked to screening mammography. With False-positive findings, the most common outcome is women being recalled for additional imaging. A small percentage of women are recalled go on to biopsy yet the majority of these women will have benign findings.[10] Hubbard et al.[6] shared data about a cohort study of the cumulative probability of false-positives recall or biopsy recommendations. The factors they associated with false-positives included greater mammographic breast density, use of post-menopausal hormone therapy, longer intervals between screening, and lack of comparison images for review by radiologists. The same researchers noted over diagnosis of breast changes that would not have led to symptomatic breast cancer if undetected by screening. Estimates in literature from empirical studies related to false positives and over diagnoses vary from < 5% to > 50% of cases reviewed.[10] Concept of over diagnosis is hard to understand as we simply do not have the tools to be able to determine which cancers are progressive and which are not. While the concept of false positives and over-diagnoses continues to be researched, a reference by Oeffinger et al.,[10] can provide nurses whom would like to further explore this topic with a discussion of both of these listed factors in addition to quality-adjusted life expectancy, age to begin screening and screening interval. In contrast, Oeffinger et al.,[10] also shared that evidence synthesis revealed screening mammography in women aged 40–69 years is associated with reduction in breast cancer deaths across a range of study designs, and inferential evidence supports breast cancer screening for women 70 and older who are in good health.
Making Sense of the Breast Cancer Screening Recommendations

To assist patients to understand the controversy related to breast cancer screening in the average population, nurses need to familiarize themselves with the numerous stakeholders that make and publish guidelines. A review of a sampling of the above-mentioned organizations is provided as well as a concise [Table 1] that highlights each of many organizations’ breast cancer screening recommendations.

The most recent Guideline Update from American Cancer Society[1] and a guide for nurses published by the Oncology Nursing Society[11] states that women with average-risk breast cancer should start annual screening mammography at age of 45 years. The ACS[1] also includes the caveat that a female may by individual choice begin having screening mammograms at age of 40 years. An annual mammography schedule should continue until age of 54 years at which time mammograms can be offered every other year or continue annually as long as the women is healthy and expected to live another 10 years. CBE is not recommended for average-risk women of any age due to research not showing a clear benefit of physical breast exams done by health professional for breast cancer screening. According to the ACS,[1] this change in the recommendations was based on systematically reviewed clinical research evaluating mammography on breast cancer mortality, life expectancy, false-positive findings, over diagnosis, and quality-adjusted life expectancy.

The historical significance of the ACS may not be known by many nurses. It was established in 1913 as a nationwide community-based voluntary organization that follows principles highlighted by independent systematic review of evidence and external review from outside experts related to cancer.

A second organization, the USPSTF, often goes head to head with the ACS when comparisons of secondary prevention related to cancer recommendations are compared. The USPSTF was first convened by Public Health Service in 1984 to evaluate clinical research and assess merits of preventive measures that include not only screening tests but also counseling, immunizations, and preventive medicines. The recommendations of the USPSTF[3] are based on evidence that is graded from “A to D” and “I.” With screening, the grades range from certainty that a procedure such as CBE or screening mammography is of moderate to high net benefit to moderate to high certainty that the service has no benefit or harms outweigh benefits. The grading of an “I” equals insufficient evidence.

The USPSTF[5] recommendations’ primary screening for breast cancer with conventional mammography is such that imaging should start at age of 50 years and proceed every other year to age of 74 years. This service is graded a “B” as there is high certainty that the net

![Table 1: Comparison of breast cancer screening recommendations by organizations](http://www.facingourrisk.org/our-role-and-impact/advocacy/documents/breast-screening-comparison-chart.pdf)
benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial. Offering women screening mammography before age of 50 years is an individual decision that should made between the patient and provider. This recommendation is graded a “C” which translates to moderate certainty that the net benefit is small.\(^5\) No recommendation is given regarding screening mammography in women aged 74 years and over as the USPSTF cites insufficient evidence or “I” to assess the balance of benefits and harms of this service.

For nursing and medical clinicians working in the specialty of cancer or oncology, perhaps the most resourceful and respected organization is that of the NCCN. This alliance of 27 leading cancer centers proposes recommendations or guidelines determined by results of panel member review of best evidence that ranges from category 1 (high level evidence and uniform consensus), 2A (lower level evidence with uniform consensus), 2B (lower level evidence with consensus) to 3 (disagreement that intervention is appropriate).\(^4\) The NCCN Guidelines Version 1.2015 follows an algorithm. Asymptomatic women with a negative physical examination who have average risk for breast cancer would follow one of two paths. Women aged 25 through 39 years are recommended to receive a CBE every 1–3 years. They should also practice breast awareness which is being familiar with ones breast tissue and promptly reporting any change to a provider. Screening for those aged 40 years and above consists of annual CBE and screening mammography as well as breast awareness.\(^4\)

### Approaching the Breast Cancer Screening Recommendations Puzzle

The question the nurse may ask is how do I weigh the evidence and decide whose recommendations to follow? The answer is to follow the recommendation that best fits ones institutional policy and/or procedure. Also remember that any recommendation should not replace the professional judgment of the health-care provider. Nurses need to explore if an algorithm specific to their organizational structure, patient population, and current clinical best practice exists. It must be annually reviewed to make sure it is up to date. Within this advanced practice nurses practice, the employing cancer center combined the recommendations from ACR,\(^3\) ACS,\(^1\) and NCCN\(^4\) to develop an algorithm for breast cancer screening in both average risk and high-risk individuals. It outlines educational and research related tools and resources for use in clinical practice. As such, women aged 20–39 years should consider a CBE every one to three years, women aged 40 years and over should have CBE every year with average risk women should starting annual screening mammograms at age of 40 years. Screening with mammography is considered as long as patient is in good health and is willing to undergo additional testing such as tomosynthesis (three-dimensional mammography) or contrast-enhanced spectral mammography and a biopsy if an abnormality is detected. Breast awareness is also highly encouraged among all age groups. Providers use their individual knowledge and judgment and counsel women about the benefits, risks and limitations of screening mammography and employ diagnostic or high-risk screening/surveillance as opposed to average-risk screening as needed.\(^12\)

### Practice Implications

Based on the above discussion of breast cancer screening, nurses in general need to be familiar with the evidence related to screening, recognize that screening recommendations may continue to change and know their own institutions or practice policy related to secondary prevention. Nurses must feel confident providing individualized patient education, encouraging every woman to discuss her risk of breast cancer with her health-care provider, advocating for patients needs and being involved in or aware of clinical and translational research on the efficacy of the clinical breast exam and screening services.

The RN and APN and other providers should encourage and promote breast awareness not only in their individual patients but also throughout the community by advocating for an active community outreach program. One must remember that every woman is at risk for breast cancer just by the fact that they of the female CIS gender.

According to Leung,\(^13\) a Section Chief of Breast Imaging, “screening mammography continues to be the single most cost-effective tool in early breast cancer detection and mortality reduction. This point must always be kept in mind when considering screening guidelines.” It is important for us as a profession to recognize that the evidence does not support a one-size-fits all approach. Familiarize yourself with screening procedures for the healthy women and if appropriate or outside of your expertise advocate for further screening and follow-up for your patients.

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