School of Medicine and Public Health
UNIVERSITY OF WISCONSIN–MADISON

Clinician's Guide to Breast Cancer Screening in Older Women

Viktoriya Ovsepyan, BA; Sarina Schrager[1] MD, MS
1. University of Wisconsin Department of Family Medicine & Community Health

Background

- Age is the major risk factor for late-life breast cancer
- Breast cancer accounts for 30% of all new cancer diagnoses in women[1]
- Approximately 41% of all incident breast cancers and 57% of all breast cancer deaths occur among women aged 65 years and older, with breast cancer incidence peaking between the ages of 75-79[2]
- Screening mammography recommendations for older women are lacking and remain controversial because randomized trials did not include women over the age of 74, and very few trials included women over the age of 70
- Observational data suggests that screening may be beneficial for older women with a life expectancy of over 10 years, since it takes about 11 years to prevent 1 breast cancer death per 1,000 women screened[3]

Objective

The aim of this project was to develop a breast cancer screening guide for primary care clinicians who take care of women over the age of 74.

Methods

We reviewed screening mammography guidelines from the major medical organizations in the United States, Canada, Australia, and the UK, then completed an extensive literature review to find the supporting original research for these recommendations.

Screening Mammography Recommendations for Older Women at Average Risk

Source (Year Issued)	**Should women in their 70's get mammograms?**	If yes, how frequently?
U.S. Preventive Services Task Force (2016)[4]	Yes, until age 74 Beyond age 74: No recommendation due to insufficient evidence	Every 2 years
American Cancer Society (2015)[5]	**Yes** **Continue screening as long as patient has good overall health & a life expectancy of 10 years or longer**	**1 to 2 years**
American College of Physicians (2019)[6]	Yes, until age 74 Beyond age 74: Screening not recommended	Every 2 years
American Academy of Family Physicians (2016)[7]	Yes, until age 74 Beyond age 74: No recommendation due to insufficient evidence	Every 2 years
American College of Obstetricians & Gynecologists (2017)[8]	**Yes, until age 75** **Beyond age 75: Decision to stop screening should be based on a shared-decision making process that includes a discussion of the patient's health status and longevity**	**1 to 2 years**
American College of Radiology (2017)[9]	**Yes** **Screening recommendations should be tailored to individual circumstances such as life expectancy, comorbidities, and the intention to seek (and ability to tolerate) treatment if a cancer is detected**	**Every year**
Canadian Task Force on Preventive Health Care (2018)[10]	Yes, until age 74 Beyond age 74: No recommendation due to insufficient evidence	2 to 3 years
National Health Service, United Kingdom (2015)[11]	Yes, until age 73 Beyond age 73: No recommendation, but patients remain eligible for screening	Every 3 years
Royal Australian College of General Practitioners (2018)[12]	Yes, until age 74 Beyond age 74: No recommendation due to insufficient evidence from randomized trials. However, observational studies favor extending screening to patients with a life expectancy of at least 10 years	Every 2 years

Results

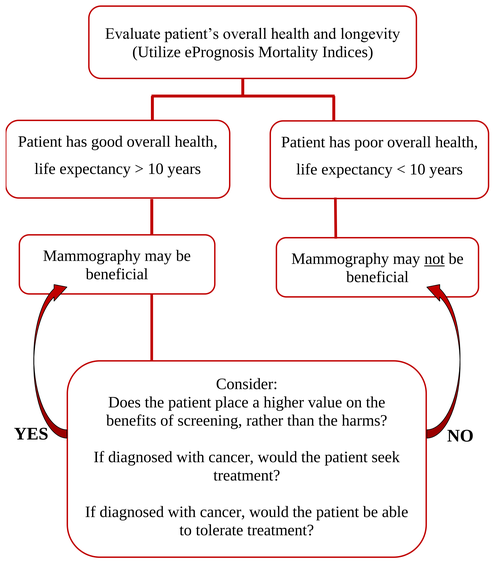
- The decision to continue or stop breast cancer screening after age 74 should:
  - Include a discussion of the risks & benefits of screening in older women
  - Take into account the patients' overall health, life expectancy & preferences
  - Involve a shared decision-making process
- Generally, screening may be beneficial for women without severe comorbidities, and a life expectancy of 10 or more years
- Mortality indices, such as those available on the ePrognosis website, can be used to corroborate clinical judgement about life expectancy[13]
  - ePrognosis offers a risk calculator and online breast cancer screening decision aid
- Breast cancer screening health decision aids can be utilized to improve a patients' understanding of the risks and benefits of screening in older women
  - Beth Israel Deaconess Medical Center decision aid for women 75-84 years old and another aid for women 85 years or older[14,15]
  - University of Sydney decision aid for women 70 years or older[16]

Benefits of Screening	Risks of Screening
• Specificity & sensitivity of mammography improves with older age • The proportion of invasive versus ductal carcinoma in-situ cases rises with older age • Finding breast cancer at an early, asymptomatic stage → more conservative treatment • Finding breast cancer at an early, asymptomatic stage → reduces mortality	• Overdiagnosis (increases with age) • False positives (even though they decrease with age) • Follow-up procedures such as additional mammograms, ultrasounds, & breast biopsies • Older women may have cognitive impairment & other comorbidities that make follow-up procedures more difficult • Negative psychological effects

Incorporate Elements of Shared Decision-Making

- Explain the need for a discussion, present the options
- Establish a partnership with the patient
- Explain harms & benefits of screening, check patients' understanding, elicit patients' preferences
- Discuss overall health & longevity, assess patients' understanding, explore patients' preferences
- Integrate the patients' preferences into the decision-making process

An algorithmic approach to breast cancer screening for women over the age of 74



Maximize Patients' Understanding:

- Explain risk with absolute risk reductions instead of relative risk reductions[17]
- Utilize visual aids to convey risks, such as pictographs[17]
- Frame discussions in terms of increasing harms in relation to decreasing benefit, especially when conveying to patients that they are unlikely to benefit from screening mammograms due to poor health (example below).[18-19] Strategies, videos, and practice phrases for communicating prognosis to patients can be found on the ePrognosis website.[20]

"If we take your health history into consideration, it's very unlikely that getting another screening mammogram will benefit you. Based on your medical conditions, you have a very small chance of dying from breast cancer. However, those same medical conditions put you at a greater risk for experiencing the harms of screening mammograms. If you notice any changes in your breasts, such as nipple discharge, pain, or lumps in your breasts, then I would suggest that you come in for a diagnostic mammogram. Otherwise, I don't think that it would make sense to look for something with screening that may or may not harm you in the future. Instead, let's talk about what we can do to improve your health now. We can go over your exercise habits, current medications, and talk about what we can do to prevent falls. What do you think about that?"

Case Study: Using a Health Decision Aid and the Three Talk Model to discuss breast cancer screening in older women

Jane is a 76 year-old woman presenting for a physical. She has well-controlled HTN, lives on her own, and maintains a physically active lifestyle. Jane has been getting bi-annual screening mammograms for many years, and finds them reassuring, since she has personally known women with breast cancer. At this appointment, Jane is wondering if she needs to schedule a screening mammogram.

1. Choice Talk
You let Jane know that she can continue with biannual screening, or stop screening altogether, and that you can work with Jane to reach a decision that would be best for her. To start, you tell Jane that it is unclear if screening mammograms benefit women over the age of 74, and you explain why. Then, you offer to discuss Jane's overall health, life expectancy, and personal preferences together with her to decide whether to continue, or stop, bi-annual screening.

1. Option Talk
Using the health decision aid, you review Jane's medical history and answer questions about her ability to perform everyday physical tasks. Based on Jane's lack of co-morbidities, and good physical health, you see that she may benefit from screening mammograms. Before moving on, you ask Jane if she has any questions or concerns about what you have discussed so far.

Next, you use the health decision aid to review the harms and benefits of screening mammography in older women. You explain to Jane the risks of false positives and overdiagnosis, as well as the potential mortality benefit, and show her the pictographs that convey this information in the decision aid. Briefly, you review the treatment options for breast cancer, so that Jane considers whether or not she would choose treatment, if cancer was found on her mammograms. Afterwards, you asses Jane's understanding.

1. Decision Talk
Now that you have discussed whether screening mammograms are likely to benefit Jane and reviewed the risks and benefits of screening with her, you ask Jane about her preferences for screening. Lastly, you integrate Jane's preferences and values into the final decision and remind her that you can re-visit this discussion in the future as well.

Conclusion

More online breast cancer screening health decision aids need to be developed for women over the age of 74, to facilitate and enhance the decision-making process.

National guidelines should be updated to provide clear guidance for screening older women, especially those with limited life expectancies.

1. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2018. CA: A Cancer Journal for Clinicians. 2018;68(1):7–30.
2. Howlader N, Noone AM, Krapcho M, et al. SEER Cancer Statistics Review, 1975-2009 (Vintage 2009 Populations), National Cancer Institute. Bethesda, MD, https://seer.cancer.gov/csr/1975_2009_pops09/, based on November 2011 SEER data submission, posted to the SEER web site, April 2012.
3. Walter LC, Schonberg MA. Screening mammography in older women: a review. JAMA. 2014;311(13):1336-1347.
4. Siu AL. Screening for Breast Cancer: U.S. Preventive Services Task Force Recommendation Statement. Ann Intern Med. 2016;164:279–296.
5. Oeffinger KC, Fontham ETH, Etzioni R, et al. Breast Cancer Screening for Women at Average Risk: 2015 Guideline Update from the American Cancer Society. JAMA. 2015;314(15):1599–1614.
6. Qaseem A, Lin JS, Mustafa RA, et al. Screening for Breast Cancer in Average-Risk Women: A Guidance Statement from the American College of Physicians. Ann Intern Med. 2019;170:547–560.
7. Breast Cancer - Clinical Preventive Service Recommendation. American Academy of Family Physicians. 2016 Jan 22 [accessed 2019 May 21]. https://www.aafp.org/patient-care/clinical-recommendations/all/breast-cancer.html
8. Practice Bulletin Number 179: breast cancer risk assessment and screening in average-risk women. Obstet Gynecol. 2017;130: 241-43.
9. Monticciolo DL, Newell MS, Hendrick ER, et al. Breast Cancer Screening for Average-Risk Women: Recommendations from the ACR Commission on Breast Imaging. J Am Coll Radiol, 2017;14(9):1137-1143.
10. Breast Cancer Update (2018). Canadian Task Force on Preventive Health Care. [accessed 2019 May 21]. https://canadiantaskforce.ca/guidelines/published-guidelines/breast-cancer-update/
11. National Health Service Breast Screening Programme Overview. GOV.UK. 2015 Jun 1 [accessed 2019 May 27]. https://www.gov.uk/guidance/breast-screening-programme-overview
12. The Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 9th edn, updated. East Melbourne, Vic: RACGP; 2018.
13. Yourman LC, Lee SJ, Schonberg MA, et al. Prognostic indices for older adults: a systematic review. JAMA. 2012; 307(2):182–192. Prognostic indices available at http:// www.eprognosis.org.
14. Should I continue having mammograms? For Women Age 75-84 Years. 2013. https://www.bidmc.org/-/media/files/beth-israel-org/research/research-by-department/medicine/division-of-general-medicine-and-primary-care-section-for-research/research-faculty/decision-aid-758432019.pdf
15. Should I continue having mammograms? For women age 85 or older. 2013. https://www.bidmc.org/-/media/files/beth-israel-org/research/research-by-department/medicine/division-of-general-medicine-and-primary-care-section-for-research/research-faculty/decision-aid-8532019.pdf
16. Should I continue having mammograms to screen for breast cancer? A decision aid for women aged 70 and older at their next screening mammogram. 2003. http://www.psych.usyd.edu.au/cemped/docs/Mammogram_DecisionAid.pdf
17. B Schrager, Sarina. Five Ways to Communicate Risks So That Patients Understand. Family practice management. 2018; 25 (6):28-3
18. Schonberg MA, Ramanan RA, McCarthy EP, et al. Decision making and counseling around mammography screening for women aged 80 or older. J Gen Intern Med. 2006; 21(9):979– 85.
19. Torke AM, Schwartz P, Holtz LR. Older adults and foregoing cancer screening: "I think it would be strange." Arch of Intern Med. 2013; 173(7):526–531
20. Lee S, Smith A, Widera E, Yourman L, Schonberg M, Ahalt C. Prognosis Communication. ePrognosis. https://eprognosis.ucsf.edu/communication/video-cancer.php