Objectives

1. Summarize current, prominent breast cancer screening guidelines.
2. Identify key differences between current breast cancer screening guidelines.
3. Recognize populations to which guidelines do not apply.
4. Analyze benefits and risks of breast cancer screening with mammography.
5. Support informed decision-making on breast cancer screening between providers and patients.

Case 1

45 year old woman comes in for a preventive health visit. She has no family history of breast or ovarian cancer, has had no breast biopsies and no prior mammograms. She asks, "What are the recommendations for breast cancer screening for me?"

You recover quickly and respond, "According to the United States Preventive Task Force…"

a) Women should obtain a baseline mammogram at age 40 followed by regular screenings every 2 years.
b) Women should not undergo screening mammograms until age 50.
c) Women should not undergo screening mammograms until age 50 if they are at low risk of developing breast cancer.
d) The decision to start screening mammography in women prior to age 50 years should be an individual one.

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Case 1 continued…

Eager to learn more, your patient asks, "But what about the American Cancer Society? Do they have the same recommendation?"

You think back to a recent PriMed talk and happily recall that, "The American Cancer Society recommends that…"

a) Women with an average risk of breast cancer begin annual screening mammograms at age 40.
b) Women with an average risk of breast cancer begin biennial screening mammograms at age 40.
c) Women with an average risk of breast cancer begin annual screening mammograms at age 45.
d) Women with an average risk of breast cancer begin annual screening mammograms at age 50.

You think back to a recent PriMed talk and happily recall that, “The American Cancer Society recommends that…”

a) Women with an average risk of breast cancer begin annual screening mammograms at age 40.
b) Women with an average risk of breast cancer begin biennial screening mammograms at age 40.
c) Women with an average risk of breast cancer begin annual screening mammograms at age 45.
d) Women with an average risk of breast cancer begin annual screening mammograms at age 50.

Case 1 continued…

Your patient appreciates your candor and asks a final question, “Should I keep doing my own monthly breast exams?”

You thoughtfully respond….

a) Breast self exams reduce breast cancer mortality, so I’d recommend continuing.
b) Breast self exams are not recommended by either the U.S. Preventive Services Task Force or the American Cancer Society.
c) Breast self exams can be helpful, but only if they are done properly.
d) Breast self exams are no longer recommended, but both the U.S. Preventive Services Task Force and the American Cancer Society recommend you have a clinical breast exam.

You thoughtfully respond….

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Review of Guideline Differences

Quick Glossary on Recommendations

U.S. Preventive Services Task Force

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low		I		

Bibbins Domingo K. USPSTF’s presentation on screening for breast cancer from the 2016 ACOG Consensus Conference. http://www.uspreventiveservicestaskforce.org/Page/Document /UpdateSummaryFinal/breast-cancer-screening1. Accessed August 29, 2016

Quick Glossary on Recommendations

American Cancer Society

- Strong recommendation:
  - The benefits of adherence outweigh the undesirable effects
- Qualified recommendations
  - There is clear evidence of benefit but less certainty about the balance of benefits and harms, or about patients' values and preferences

Oeffinger KC, et al. JAMA. 2015; 314(15):1599-1614

Recommendations on when to start

U.S. Preventive Services Task Force

The decision to start screening mammography in women prior to age 50 years should be an individual one. Women may choose to begin biennial screening between the ages of 40 and 49 years.
(C recommendation)

American Cancer Society

Women with an average risk of breast cancer should undergo regular screening mammography starting at age 45.
(Strong Recommendation)
Women should have the opportunity to begin annual screening between the ages of 40 and 44 years.
(Qualified Recommendation)

Final Update Summary: Breast Cancer: Screening. U.S. Preventive Services Task Force. January 2016. http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening. Accessed August 22, 2016

Oeffinger KC. et al. JAMA. 2015; 314(15):1599-1614

Recommendations on screening intervals

U.S. Preventive Services Task Force

40-49: Biennial
(C recommendation)

50-74: Biennial
(B recommendation)

American Cancer Society

45 to 54: Annual
(Qualified Recommendation)

55 years and older: Biennial with the opportunity to continue annual.
(Qualified Recommendation)

Final Update Summary: Breast Cancer: Screening. U.S. Preventive Services Task Force. January 2016. http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening. Accessed August 22, 2016

Oeffinger KC, et al. JAMA. 2015; 314(15):1599-1614

Recommendations for women 75+

U.S. Preventive Services Task Force

Insufficient evidence to assess benefits and harms.
(I Recommendation)

American Cancer Society

Women should continue screening as long as overall health is good and they have a life expectancy of 10 years or longer.
(Qualified Recommendation)

Final Update Summary: Breast Cancer: Screening. U.S. Preventive Services Task Force. January 2016. http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening. Accessed August 22, 2016

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Breast Self Exams and Clinical Breast Exams

U.S. Preventive Service Task Force

- Recommends teaching ***against*** breast self exam
  (D Recommendation)
- Current ***evidence is insufficient*** to assess the additional benefits and harms of clinical breast examination (CBE) beyond screening mammography.
  (I Recommendation)

American Cancer Society

- ***Does not*** include a recommendation for routine performance of or instruction in breast self-examination.
- ***Does not*** recommend clinical breast examination (CBE) for breast cancer screening among average-risk women at any age.
  (Qualified Recommendation)

Final Update Summary: Breast Cancer: Screening. U.S. Preventive Services Task Force. January 2016. http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening.
Oeffinger KC, et al. JAMA. 2015; 314(15):1599-1614

U.S. Preventive Services Task Force: Breast Cancer Mortality Reduction

Age, years	Breast Cancer Deaths Averted With Screening 10,000 Women over 10 Years (95% Confidence Interval)
39-49	3 (0-9)
50-59	8 (2-17)
60-69	21 (11-32)
70-74	13 (0-32)
75+	Unknown

Siu A, et al. Annals of Internal Medicine. 2016;164:279-296

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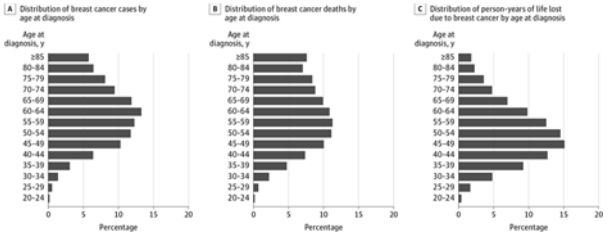
American Cancer Society: Focus on disease burden



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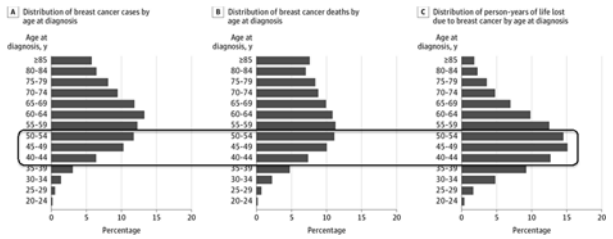

Oeffinger KC, et al. JAMA. 2015; 314(15):1599-1614

No high quality data for recommended intervals

- U.S. Preventive Services Task Force
  - No difference in breast cancer mortality after changing from annual to biennial screening or annual to triennial screening
- American Cancer Society
  - Indirect evidence and mathematical models
  - Canadian meta-analysis showed a reduction in mortality only when women under 50 had screening intervals less than 24 months

Coldman AJ, et al., J Med Screen, 2008;15(4):182-7
Parvinen I, et al. Br J Cancer. 2011;105(9):1388–1391
Tonelli M, et al. CMAJ, 2011; 183(17):1991-2001)

Examining Harms

Harms of Anxiety, Radiation Exposure

- Anxiety
  - Reviews of more than 70 studies
  - Doesn't seem to be a major factor
- Radiation
  - Radiation from standard mammography is low
  - Breast cancer increases with higher doses
  - Estimates 2-11 deaths per 100,000 women starting screening

Nelson H., et al. Annals of Internal Medicine. 2016; 164:256-267

Overdiagnosis

The Most Important Harm….and the Hardest to Explain

- DEFINITION:
  Diagnosis of cancer that would never have progressed to become clinically detectable or threaten health in the absence of screening
- Impossible to directly measure
- Currently, there is no consensus on scientific approach
  - Estimates vary widely in the literature
  - Full range is 0%-50% across all study designs

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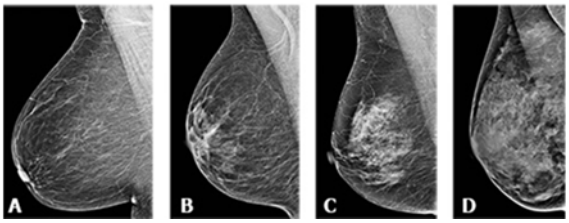


Are Baseline Mammograms Indicated?

- From 1980-1991, American Cancer Society recommended women 35-39 years of age obtained a "baseline" mammogram.
- Follow up evaluation found no benefit of baseline mammography.
- Currently, neither USPSTF nor American Cancer Society recommend baseline mammograms.

Dodd G. Cancer.1992;69(7 suppl):1885–1887.

American Cancer Society Website. http://www.cancer.org/healthy/findcancerearly/cancerscreeningguidelines/chronological-history-of-acs-recommendations. Accessed August 26, 2016

Guidelines *do not* apply to women with high risk

What is high risk?

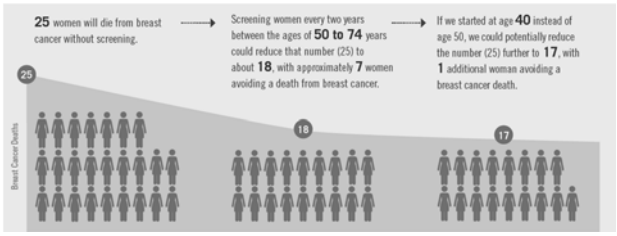
- USPSTF
  - Current physical finding, such as a lump
  - Personal history of breast cancer/atypia/DCIS
  - BRCA mutation
  - Family history resulting in >15% risk
  - Chest radiation
- ACS
  - Personal breast ca history
  - Suspected or confirmed genetic mutation
  - History of chest radiation at a young age

Breast Density: A Sticky Situation

- Legislation in many states (including IL) require notifying women if they have dense breasts
- IL mandates insurance coverage of additional imaging for women dense breasts
- Over 40% of women undergoing mammography will be categorized as having dense breasts
- Likely increases risk of developing invasive breast cancer and decreases mammogram sensitivity
- Both U.S. Preventive Services Task Force and American Cancer Society feels there is not enough evidence to support additional imaging

Melnikow J, et al. Annals of Internal Medicine. 2016; 164:268-278.
Oeffinger KC, et al. JAMA. 2015; 314(15):1599-1614

Out of 1000 women followed until their deaths



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Key Points

- Women 40-49
  - Discussion of benefits and harms of screening
  - Acknowledge variations in guidelines
  - Offer mammography every 1-2 years
- Women 50-74
  - Recommend screening mammography every 1-2 years
  - Acknowledge uncertainty in optimal interval
- Women 75+
  - Discuss benefits and risks, based on patient's current health
  - Offer mammography screening