Canadian Task Force on Preventive Health Care

Breast Cancer Screening for Women Not at High Risk: Draft Guideline Recommendations

THESE ARE DRAFT RECOMMENDATIONS. FINAL GUIDELINE AND RECOMMENDATIONS WILL BE RELEASED AT A LATER DATE.

Who do these recommendations apply to?

- This guideline is for women* with average or moderately increased risk of breast cancer.
- It is not for women with a personal or family history of breast cancer, genetic risks (e.g., BRCA 1 or 2), or symptoms, like a lump.

Recommendations for Breast Cancer Screening

- **Breast cancer screening is a personal choice.** Women aged 40 to 74 should be provided information about the benefits and harms of screening to make a screening decision that aligns with their values and preferences. If someone in this age range is aware of this information and wants to be screened, they should be offered mammography screening every 2 to 3 years.
- **For women aged 40 to 49, based on the current evidence (trials, observational studies, modelling and a review on values and preferences), we suggest not to systematically screen with mammography.**
- **Because individual values and preferences may differ, women 40-49 who want to be screened after being informed of the benefits and harms should be offered screening every 2 to 3 years. (conditional recommendation, very low certainty)**

- **Benefits and harms:** In ages 40 to 49, we found that the harms may outweigh the benefits.
- **Patient values and preferences:** Our systematic review on values and preferences showed that a majority of patients aged 40 to 49 may not weigh the benefits as greater than the harms. However, all sources of information, including patient partners/clinical expert feedback, demonstrated variability in patient values and preferences.
- **Race and ethnicity:** There are data showing variability in incidence, mortality, subtype and stage at diagnosis (e.g., higher mortality in Black women for this age group, even if lower incidence compared to White women). But there is a lack of data on the benefits and harms and on values and preferences from racially and ethnically diverse populations.

Recommendations on Supplemental Screening

- **For women with moderately increased risk due to high breast density (Category C and D) or due to family history,** we did not find any evidence on the benefits of supplemental screening for outcomes important to patients (e.g., stage at diagnosis, death). Therefore, we do not suggest the use of MRI or ultrasound as supplementary screening tests (conditional recommendation, very low certainty).
- Moderately increased risk due to a family history of breast cancer is defined as one first-degree or two second-degree relatives diagnosed after age 50. Any more extensive family history or multiple risk factors (e.g., high breast density and a family history of breast cancer) may put an individual at high lifetime risk.
- If interested in screening, women with moderately increased risk due to a family history of breast cancer or dense breasts should refer to the recommendation that corresponds to their age group.

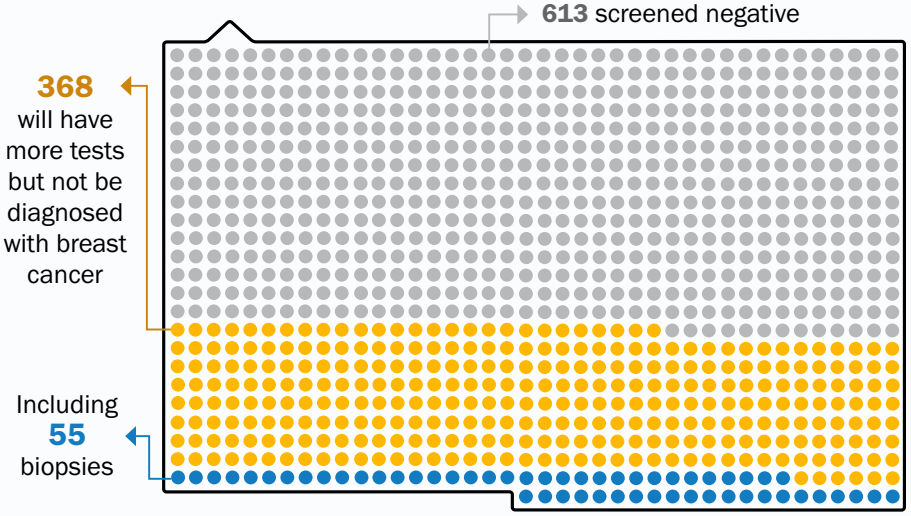
*Cisgendered women, transgender men and nonbinary or other individuals assigned female at birth (who did not have bilateral mastectomy)

SEE SCREENING BENEFITS AND HARMS OVER 10 YEARS →

Benefits and Harms of Breast Cancer Screening Over 10 Years

Screening (Mammogram) for 1000 people ages 40-49

981 not diagnosed with breast cancer



19 diagnosed with breast cancer

17 to 18 will not die from breast cancer over 10 years

2 will be treated for breast cancer that would not have caused problems (overdiagnosis)

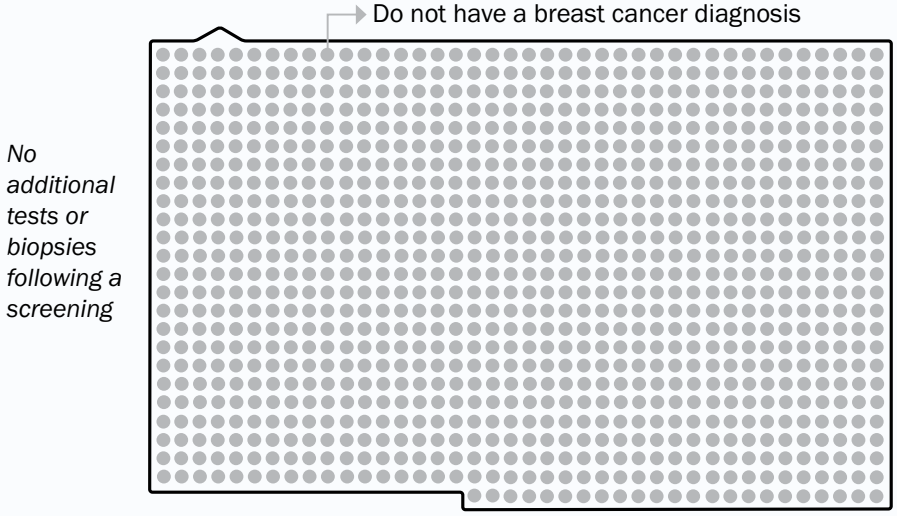
Up to 1 breast cancer death prevented due to screening

With family history: **Up to 1.5**
With dense breasts (C or D Category): **Up to 1.8**
These numbers are estimates based on an increased baseline risk

1 to 2 will die from breast cancer, even if screened

No screening for 1000 people ages 40-49

983 not diagnosed with breast cancer



17 diagnosed with breast cancer

15 will not die from breast cancer over 10 years

No overdiagnosis

No deaths prevented

2 will die from breast cancer

Note: Women in both the screened and unscreened groups may need testing if they experience symptoms. Rounded figures presented are estimates of the available evidence. For a full breakdown, please review the full draft recommendations.

SEE SCREENING BENEFITS AND HARMS OVER LIFETIME →

Benefits and Harms of Breast Cancer Screening Over a Lifetime

- **It is important to have an open discussion about the benefits and harms of screening.**
- Some patients may want information about their lifetime benefits and harms when participating in screening either from the age of 40 or 50.
- **This information is not available from studies. The numbers below are informed by modelling using mathematics and probabilities to try to predict outcomes**.
- The numbers below do not replace the numbers in the 1000 person diagram above, but complement them.
- The figure below compares the **benefit of starting screening at age 40 until age 74, starting at age 50 until age 74 (following all people for their remaining life) and no screening for 1000 women.**

	Starting age 40, screening every 2 years	Starting age 50, screening every 2 years	Without screening
Diagnoses	• **115** breast cancer diagnoses ◦ **32** Stage 3+ diagnoses	• **115** breast cancer diagnoses ◦ **33** Stage 3+ diagnoses	• **109** breast cancer diagnoses ◦ **44** Stage 3+ diagnoses
Deaths	• **21** breast cancer deaths, even if screened	• **21 to 22** breast cancer deaths, even if screened	• **28** breast cancer deaths
Screening Benefits	• **7** breast cancer deaths prevented	• **6 to 7** breast cancer deaths prevented	–
	Screening at 40 vs 50 : 2 less chemo treatments		
Screening Harms	• **2 to 6** overdiagnosis • **840** more tests without a diagnosis of cancer ◦ Including **75** biopsies	• **2 to 6** overdiagnosis • **666** more tests without a diagnosis of cancer ◦ Including **59** biopsies	–

The model used here (OncoSim) has been updated since this analysis was done. We will update those numbers when new results are available.

SEE QUESTIONS ON FAMILY HISTORY, DENSITY AND ETHNICITY →

Moderate Risk: Family History, Density and Screening

What if there is a family history of cancer?

- Moderately increased risk due to a family history of breast cancer is defined as one first-degree or two second-degree relatives diagnosed after age 50. Any more extensive family history or multiple risk factors (e.g., high breast density and a family history of breast cancer) may put an individual at high lifetime risk.
- There is no direct evidence to estimate the benefits and harms of screening these women. To calculate mortality benefits we multiplied the general population baseline risk by 1.6. These estimates have limitations as they are indirect and assume the same effect of screening in both the average risk and the moderately increased risk groups. We considered harms to be the same as they could not be estimated. The benefit for these women is estimated to be “up to 1.5” (vs “up to 1” for average risk) breast cancer deaths prevented in 1000 people (40-49 years old) screened over 10 years.

What if breast density is known and high (C or D category)?

- There is no direct evidence to estimate the benefits and harms of screening these women. To calculate mortality benefits we multiplied the general population baseline risk by 1.9. These estimates have limitations as they are indirect and assume the same effect of screening in both the average risk and the moderately increased risk groups. We considered harms to be the same as they could not be estimated. For these women “up to 1.8” (vs “up to 1” for average risk) breast cancer deaths prevented in 1000 people (40-49 years old) screened over 10 years .
- While dense breasts can make cancer harder to identify, there is a lack of evidence on patient-important outcomes (e.g., mortality, stage at diagnosis) for additional screening (e.g., ultrasound, MRI). We do not recommend supplementary screening - See recommendations (Page 1).

Ethnicity & Screening

Are there any screening recommendations for people of different ethnicities?

There is not enough evidence for the Task Force to provide ethnicity-specific screening recommendations. However, Canadian epidemiological data show the median age at breast cancer diagnosis is younger (52 to 60 years) for non-White than for White individuals (63 years) as well as the median age of death (55 to 71 years) vs 71 years.

- Filipina (at age 40-59) and Arab (age 50-59) women have higher incidence rates (but not death rates); Black women have lower incidence rates.
- Black women (at age 40-49) and First Nations and Métis women (age 60-69) have higher death rates. Additionally, Black women are more likely to have aggressive subtypes of breast cancer (e.g., triple negative). We do not know how screening would impact these disparities.
- Information on differences in breast cancer outcomes based on ethnicity and the absence of evidence about the best screening approach should be provided so that individuals can decide if and when they choose to be screened.

The balance between benefits and harms in these populations is currently unknown.

The Task Force recognizes that these inequities are not simply the result of any biological differences, but also due to systemic racism and health disparities.