BC CANCER

Provincial Health Services Authority

Breast Cancer Screening and Breast Density

Dr. Charlotte Yong-Hing
Medical Director
BC Cancer Breast Screening

January 15, 2026

I acknowledge with gratitude that we are gathered on the traditional, ancestral and unceded territories of the **xʷməθkʷəy̓əm (Musqueam)**, **Sḵwx̱wú7mesh Úxwumixw (Squamish)**, and **səlílwətaʔ (Tsleil-Waututh) First Nations** who have nurtured and cared for the lands and waters around us for all time.

I give thanks for the opportunity to live, work and support care here.

Disclosures

None.

Acknowledgements

Dr. Colin Mar

Learning Objectives

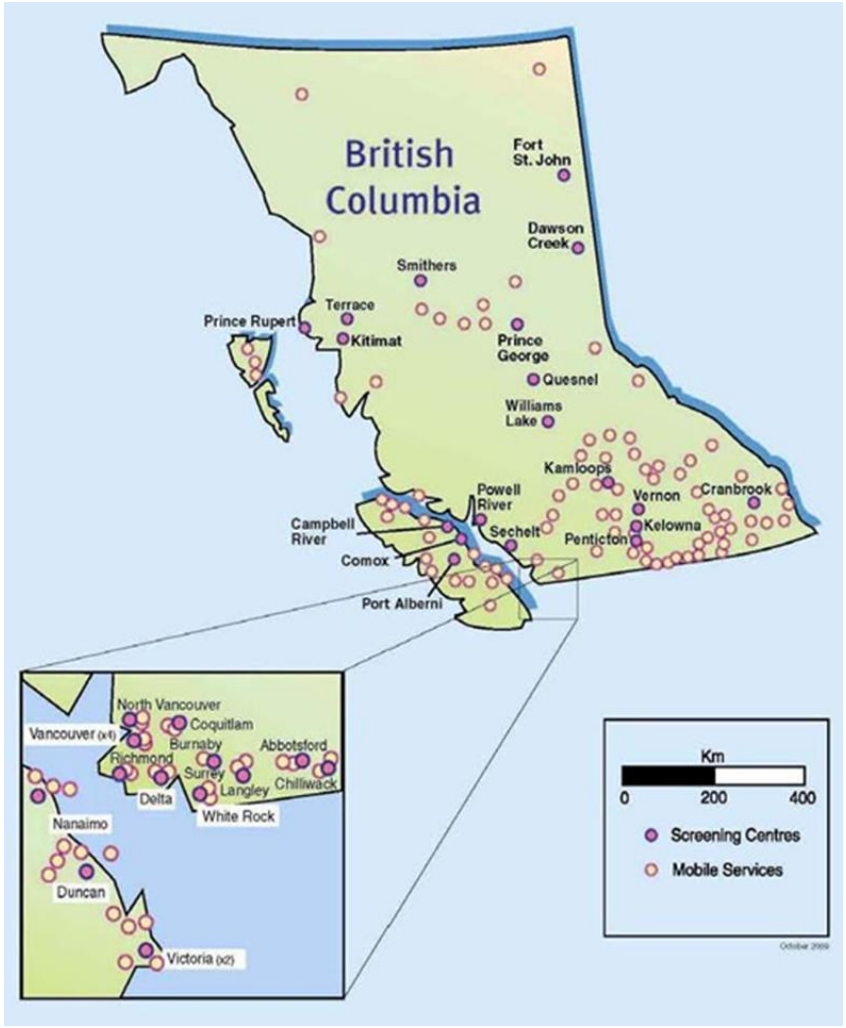
By the end of this session, you will be able to:

1. Describe the current breast screening policy in BC
2. Facilitate an informed decision to screen
3. Describe breast density and other risk factors

Breast Screening in BC

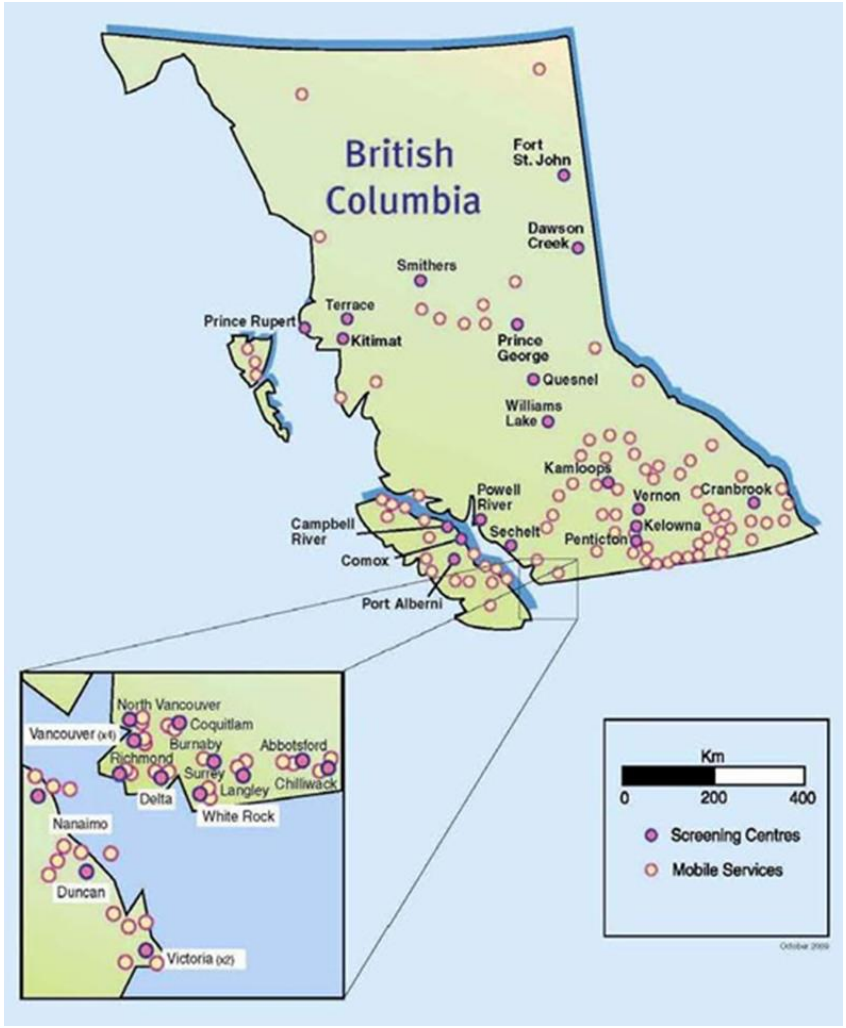
Provincial Breast Screening Access

- Funded and coordinated by BC Cancer Breast Screening
- Contracts with the Health Authorities and private Community Imaging Clinics
- Hospital, community and mobile clinics



Provincial Breast Screening Access

- 37 fixed screening centres
- 3 mobile mammography vans



Why are mammograms important?

- Mammograms save lives by helping to find cancer when it is small, which could mean more treatment options and better results

1 in 8 BC women will get breast cancer in their lifetime.
80% of breast cancer cases are diagnosed in women 50 years or older

Limitations of Screening

- Radiation exposure
- False positives
  - Anxiety
    - Following result
    - Surrounding biopsy (bx)
    - Risks of bx
    - Awaiting bx result
    - Retention rate effect
- False negatives
- Overdiagnosis

Radiation from Mammography

- About 1 return flight to Toronto
- Lifetime risk of fatal breast cancer with exp at 40yo
  - 1.3-1.7/100,000

- IARC 2015: sufficient evidence that BrCa reduction **outweighs** rad-induced malignancy

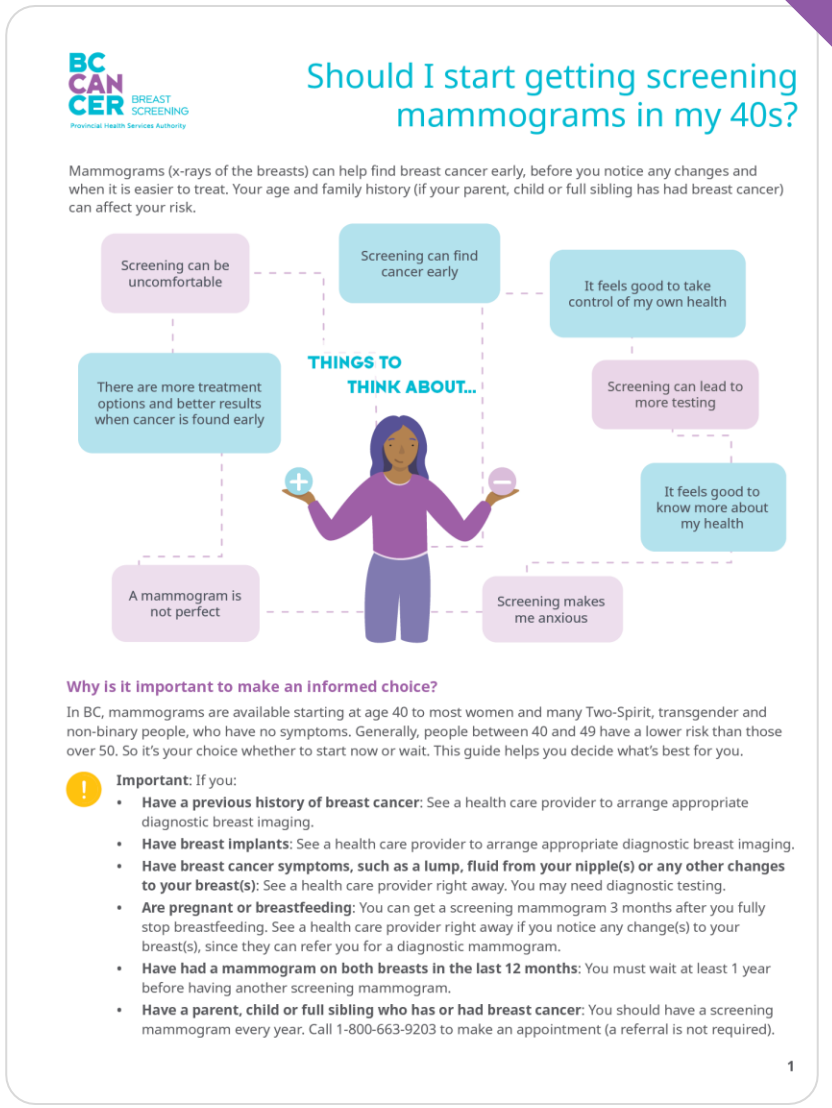
Overdiagnosis

- Screen-detected neoplasm which would never have become clinically apparent before patient's death
- Leads to overtreatment
- Issue: cannot distinguish these cancers from those that will progress
- Occurrence: 2 – 10 – 48%
- Patient values

Decision Aid for People Aged 40 to 49

New!

- A resource to help people decide whether they would like to start getting screening mammograms in their 40s
- Outlines factors to consider, including the benefits and limitations
- Available at www.screeningbc.ca/breast or scan the QR code:



BC CANCER BREAST SCREENING
Provincial Health Services Authority

Should I start getting screening mammograms in my 40s?

Mammograms (x-rays of the breasts) can help find breast cancer early, before you notice any changes and when it is easier to treat. Your age and family history (if your parent, child or full sibling has had breast cancer) can affect your risk.

Why is it important to make an informed choice?

In BC, mammograms are available starting at age 40 to most women and many Two-Spirit, transgender and non-binary people, who have no symptoms. Generally, people between 40 and 49 have a lower risk than those over 50. So it's your choice whether to start now or wait. This guide helps you decide what's best for you.

Important: If you:

- **Have a previous history of breast cancer**: See a health care provider to arrange appropriate diagnostic breast imaging.
- **Have breast implants**: See a health care provider to arrange appropriate diagnostic breast imaging.
- **Have breast cancer symptoms, such as a lump, fluid from your nipple(s) or any other changes to your breast(s)**: See a health care provider right away. You may need diagnostic testing.
- **Are pregnant or breastfeeding**: You can get a screening mammogram 3 months after you fully stop breastfeeding. See a health care provider right away if you notice any change(s) to your breast(s), since they can refer you for a diagnostic mammogram.
- **Have had a mammogram on both breasts in the last 12 months**: You must wait at least 1 year before having another screening mammogram.
- **Have a parent, child or full sibling who has or had breast cancer**: You should have a screening mammogram every year. Call 1-800-663-9203 to make an appointment (a referral is not required).

1

BC Cancer Breast Screening Policy

BC Cancer Breast Screening Policy

Most women, and many Two-Spirit, transgender, and non-binary people, aged 40 and older can have a screening mammogram.

For those at higher risk of breast cancer, screening may be recommended to start earlier.

BC Cancer Breast Screening Policy

For people at average risk:

- Referral not required
- Facilitate informed decision

Age Range	Policy Recommendation
Age 50 to 74	Recommended q2y Pt recall

BC Cancer Breast Screening Policy

For people at average risk:

- Referral not required
- Facilitate informed decision

Age Range	Policy Recommendation
Age 40 to 49	Available q2y Pt recall
Age 50 to 74	Recommended q2y Pt recall

BC Cancer Breast Screening Policy

For people at average risk:

- Referral not required
- Facilitate informed decision

Age Range	Policy Recommendation
Age 40 to 49	Available q2y Pt recall
Age 50 to 74	Recommended q2y Pt recall
Age 75+	Available q2-3y **No** recall

BC Cancer Breast Screening Policy

For people at higher than average risk:

- Higher than average risk:
  - 1st degree relative with Hx of breast cancer
  - Hx of proliferative lesion*
    - Atypical Ductal Hyperplasia
    - Atypical Lobular Hyperplasia
    - Lobular Carcinoma In Situ (classical)

Age Range	Policy Recommendation
Age 40 to 74	Recommended q1y Pt recall
Age 75+	Available q1y if patient is in good general health **No** recall

*For more information: http://www.bccancer.bc.ca/screening/Documents/Breast-Higher-Risk.pdf

BC Cancer Breast Screening Policy

For people at higher than average risk:

- Referral not required
- Facilitate informed decision

Age Range	Policy Recommendation
Age 40 to 74	Recommended q1y Pt recall
Age 75+	Available q1y if patient is in good general health **No** recall

BC Cancer Breast Screening Policy

For people at high risk:

- High risk:
  - High risk gene variant (e.g., BRCA1, BRCA2), or untested first degree relative thereof
  - Chest radiation between age 10 to 30
  - Very strong family Hx:
    - 2 cases of breast cancer in close biological relatives (parent, child, full sibling, grandparent, aunt, uncle, great-aunt, great-uncle) on the same side of the family, both diagnosed before age 50

    or

    - 3 or more cases of breast cancer in close biological relatives on the same side of the family, with at least one diagnosed before age 50.

Age Range	Policy Recommendation
Age 25 to 74	Recommended q1y Pt recall
Age 75+	Available q1y if patient is in good general health **No** recall

BC Cancer Breast Screening Policy

For Two-Spirit, transgender and non-binary people who have had breast/chest reconstruction surgery or have breast/chest tissue from taking gender-affirming hormones:

Anatomy	Policy Recommendation
No history of chest reduction/chest construction surgery (bilateral subcutaneous mastectomy)	Screen as per sex assigned at birth.
History of chest reduction surgery (simple reduction mammoplasty)	
Removal of most, but not all, breast tissue (some tissue used to contour shape of the chest)	Screening mammogram is **not** recommended. Recommend regular follow-up. If at high risk or other concern, consider physical exam and/or diagnostic ultrasound or other modality.
Has breast implants	Ineligible for screening through the BC Cancer Breast Screening Program. Recommend regular follow-up. If at high risk or other concern, consider physical exam and/or diagnostic ultrasound or other modality.
Breast tissue associated with estrogen-based gender-affirming hormone therapy • Taking estrogen for at least 5 years	Screen as per Breast Screening Guidelines.

Knowledge Check: Meet Anh

Anh, who was assigned female at birth, just turned 42.

Anh's maternal aunt was diagnosed with breast cancer at age 62. She's now wondering whether she should start getting screened.

Can Anh get a screening mammogram through the Breast Screening Program?

a) Yes – A screening mammogram is available for those aged 40 to 49, but discussion with the primary care provider is encouraged to allow for informed decision-making.

b) No – Without a stronger family history of breast cancer, Anh is not eligible for the screening program.

c) No – Only those aged 50 to 74 are eligible for the screening program.

Knowledge Check: Meet Anh

Anh, who was assigned female at birth, just turned 42.

Anh's maternal aunt was diagnosed with breast cancer at age 62. She's now wondering whether she should start getting screened.

Can Anh get a screening mammogram through the Breast Screening Program?

a) Yes – A screening mammogram is available for those aged 40 to 49, but discussion with the primary care provider is encouraged to allow for informed decision-making.

b) No – Without a stronger family history of breast cancer, Anh is not eligible for the screening program.

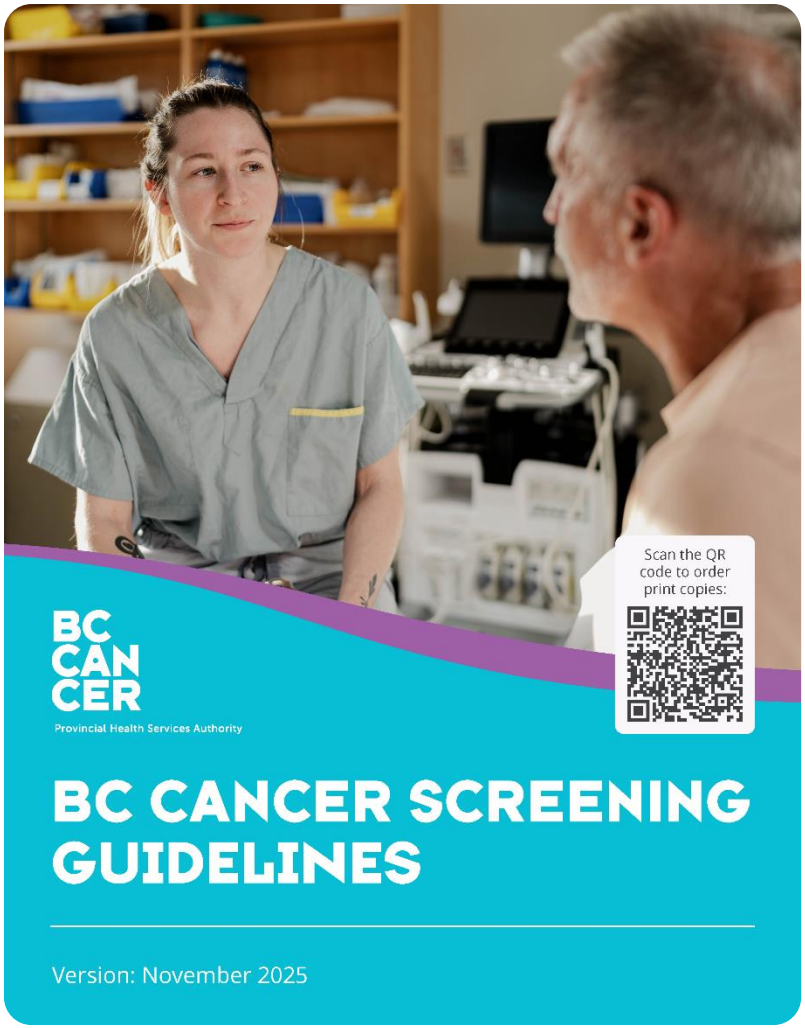
c) No – Only those aged 50 to 74 are eligible for the screening program.

Although the Breast Screening Program is recommended to those aged 50 to 74, there are also services available to those 40 to 49 and 75+. The Breast Screening Program encourages asymptomatic patients in this age category to discuss the benefits and limitations of screening with a health care provider first to make an informed decision.

BC Cancer Screening Guidelines

Up-to-date guidelines for all four screening programs in one convenient document, with:

- Tips on supporting patients with screening
- Ways to help patients understand results
- Built-in tabs for easy navigation



Available at
www.screeningbc.ca/health-professionals

Breast Cancer Risk Factors

What are the risk factors for breast cancer?

Increasing age

Personal history of breast cancer

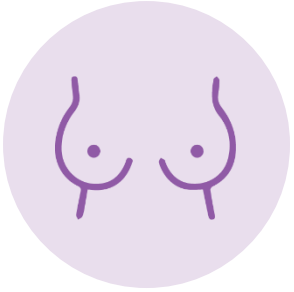
Family history of breast cancer
(parent, child or full sibling)

Certain inherited gene mutations

Menstrual history:
First period before age 12; started menopause after age 55; or post-menopausal

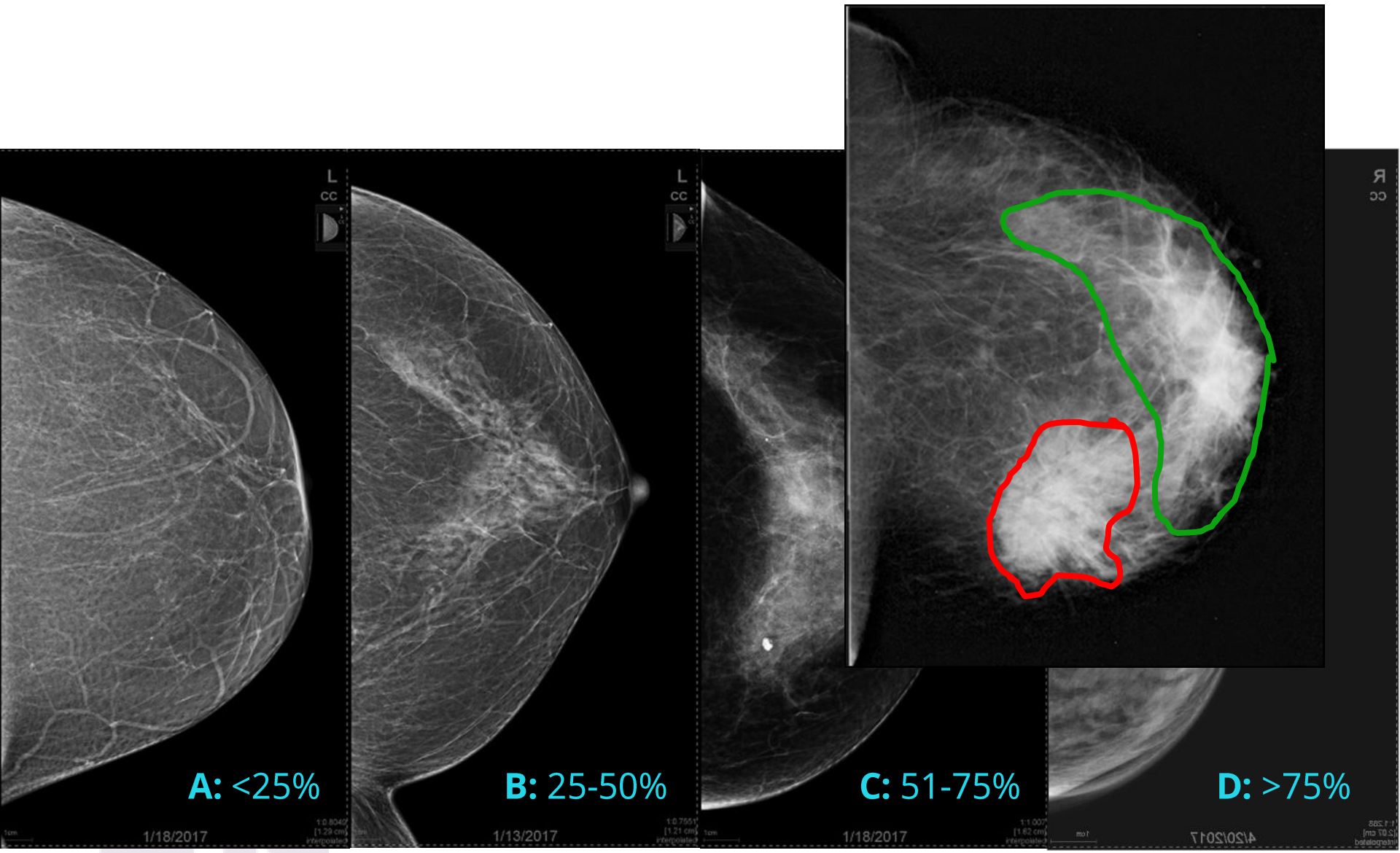
Never breastfed

Never gave birth or gave birth after age 30

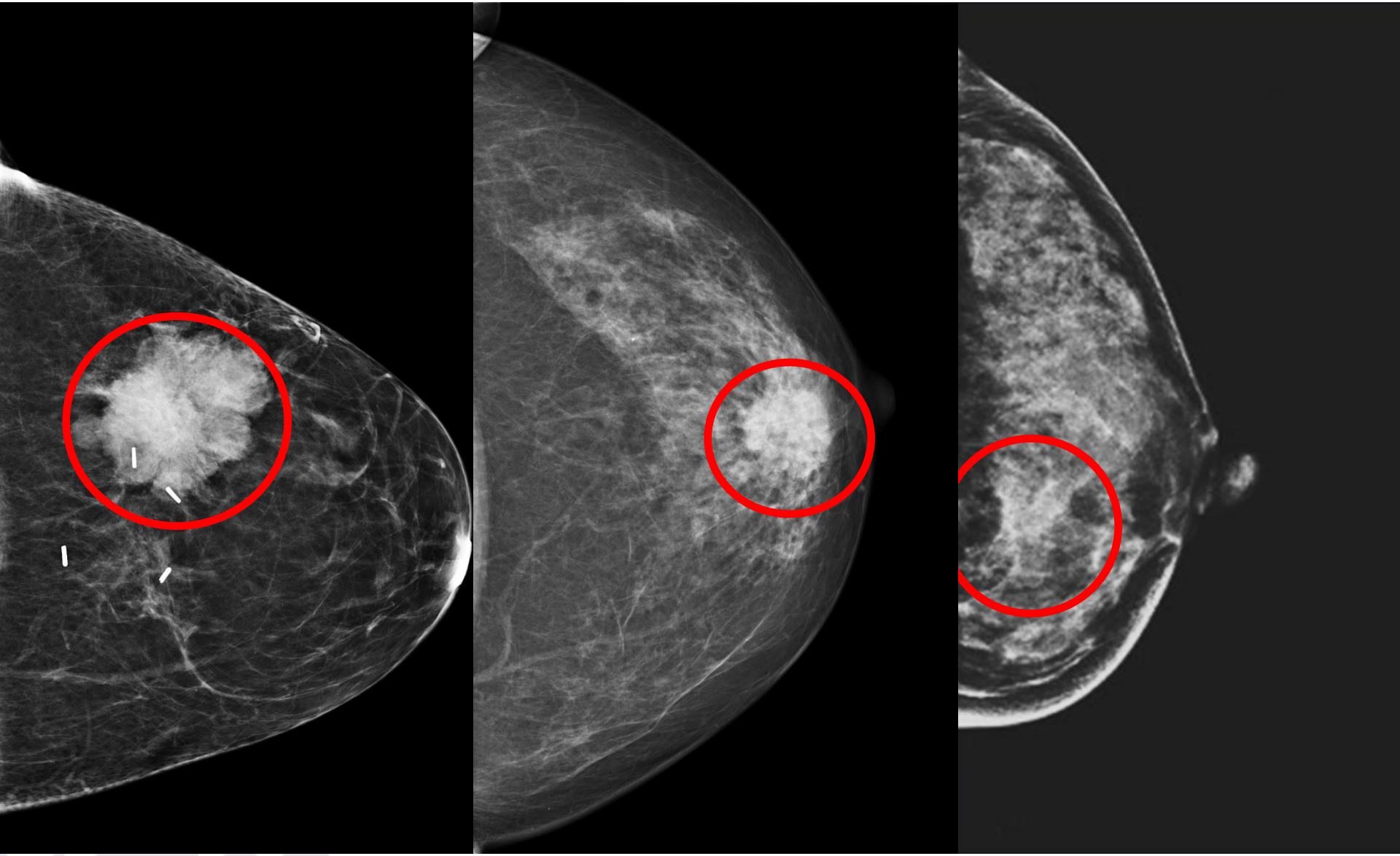


Breast density

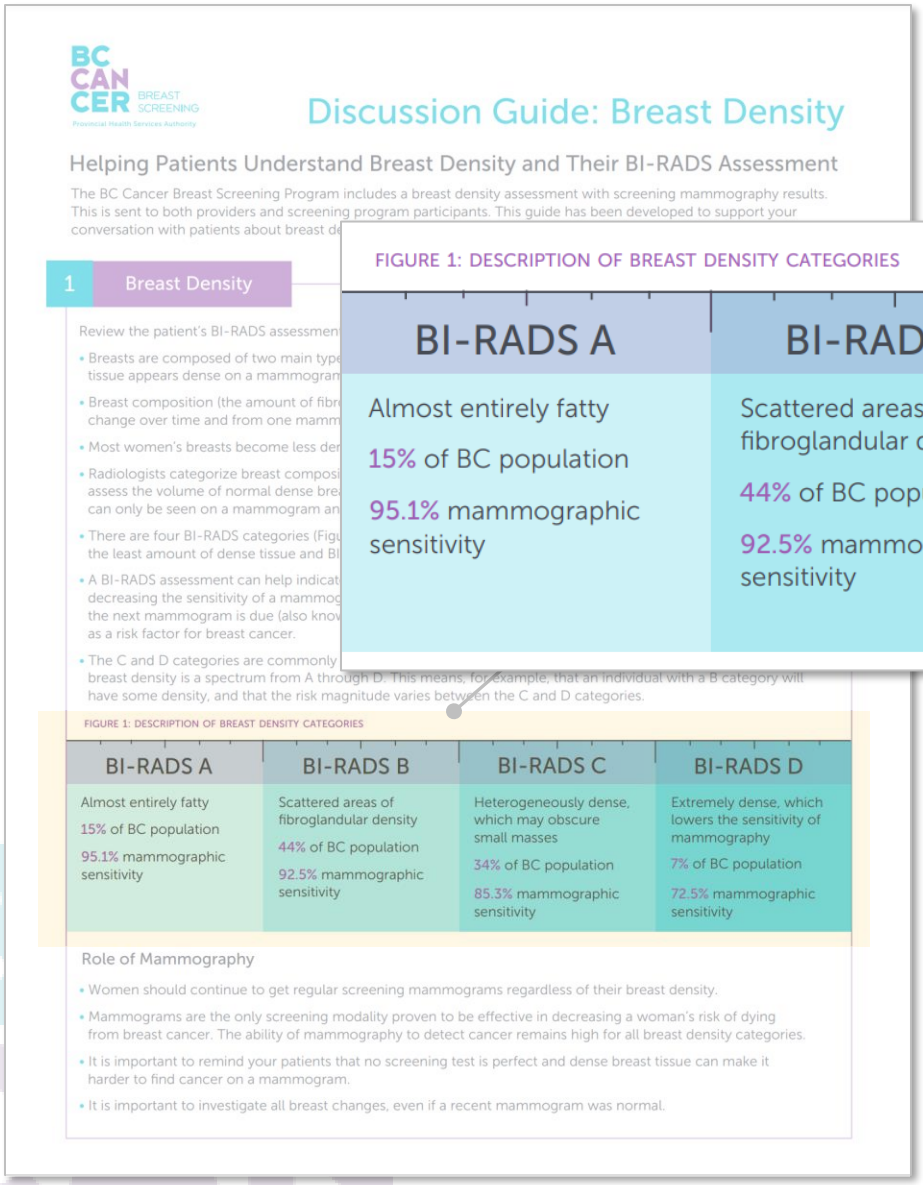
Breast Density Assessment



Breast Density Assessment



Breast Density Discussion Guide for Clinicians



BC CANCER BREAST SCREENING
Provincial Health Services Authority

Discussion Guide: Breast Density

Helping Patients Understand Breast Density and Their BI-RADS Assessment

The BC Cancer Breast Screening Program includes a breast density assessment with screening mammography results. This is sent to both providers and screening program participants. This guide has been developed to support your conversation with patients about breast de

1 Breast Density

Review the patient's BI-RADS assessmen

- Breasts are composed of two main type tissue appears dense on a mammogram
- Breast composition (the amount of fibr change over time and from one mamm
- Most women's breasts become less de
- Radiologists categorize breast composi assess the volume of normal dense bre can only be seen on a mammogram an
- There are four BI-RADS categories (Figu the least amount of dense tissue and BI
- A BI-RADS assessment can help indicat decreasing the sensitivity of a mammog the next mammogram is due (also know as a risk factor for breast cancer.
- The C and D categories are commonly breast density is a spectrum from A through D. This means, for example, that an individual with a B category will have some density, and that the risk magnitude varies between the C and D categories.

FIGURE 1: DESCRIPTION OF BREAST DENSITY CATEGORIES

BI-RADS A	BI-RADS B	BI-RADS C	BI-RADS D
Almost entirely fatty 15% of BC population 95.1% mammographic sensitivity	Scattered areas of fibroglandular density 44% of BC population 92.5% mammographic sensitivity	Heterogeneously dense, which may obscure small masses 34% of BC population 85.3% mammographic sensitivity	Extremely dense, which lowers the sensitivity of mammography 7% of BC population 72.5% mammographic sensitivity

Role of Mammography

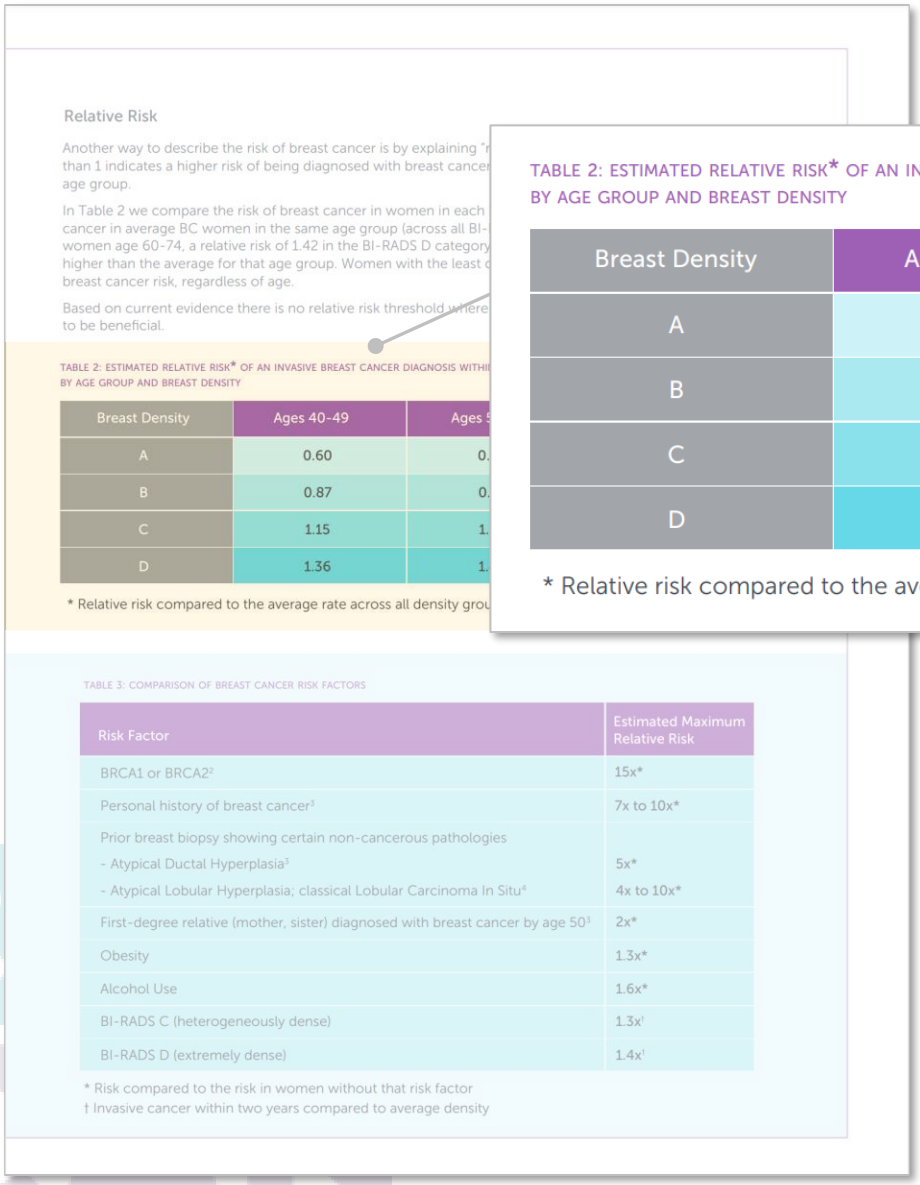
- Women should continue to get regular screening mammograms regardless of their breast density.
- Mammograms are the only screening modality proven to be effective in decreasing a woman's risk of dying from breast cancer. The ability of mammography to detect cancer remains high for all breast density categories.
- It is important to remind your patients that no screening test is perfect and dense breast tissue can make it harder to find cancer on a mammogram.
- It is important to investigate all breast changes, even if a recent mammogram was normal.

FIGURE 1: DESCRIPTION OF BREAST DENSITY CATEGORIES

BI-RADS A	BI-RADS B	BI-RADS C	BI-RADS D
Almost entirely fatty 15% of BC population 95.1% mammographic sensitivity	Scattered areas of fibroglandular density 44% of BC population 92.5% mammographic sensitivity	Heterogeneously dense, which may obscure small masses 34% of BC population 85.3% mammographic sensitivity	Extremely dense, which lowers the sensitivity of mammography 7% of BC population 72.5% mammographic sensitivity

Available at:
http://www.bccancer.bc.ca/screening/Documents/Breast-Density-Discussion-Guide.pdf

Breast Density Discussion Guide for Clinicians: Updates



Relative Risk

Another way to describe the risk of breast cancer is by explaining "r
than 1 indicates a higher risk of being diagnosed with breast cancer
age group.

In Table 2 we compare the risk of breast cancer in women in each
cancer in average BC women in the same age group (across all BI-
women age 60-74, a relative risk of 1.42 in the BI-RADS D category
higher than the average for that age group. Women with the least d
breast cancer risk, regardless of age.

Based on current evidence there is no relative risk threshold where
to be beneficial.

TABLE 2: ESTIMATED RELATIVE RISK* OF AN INVASIVE BREAST CANCER DIAGNOSIS WITHI
BY AGE GROUP AND BREAST DENSITY

Breast Density	Ages 40-49	Ages
A	0.60	0.
B	0.87	0.
C	1.15	1.
D	1.36	1.

* Relative risk compared to the average rate across all density grou

TABLE 3: COMPARISON OF BREAST CANCER RISK FACTORS

Risk Factor	Estimated Maximum Relative Risk
BRCA1 or BRCA2[2]	15x*
Personal history of breast cancer[3]	7x to 10x*
Prior breast biopsy showing certain non-cancerous pathologies	
- Atypical Ductal Hyperplasia[3]	5x*
- Atypical Lobular Hyperplasia; classical Lobular Carcinoma In Situ[4]	4x to 10x*
First-degree relative (mother, sister) diagnosed with breast cancer by age 50[3]	2x*
Obesity	1.3x*
Alcohol Use	1.6x*
BI-RADS C (heterogeneously dense)	1.3x†
BI-RADS D (extremely dense)	1.4x†

* Risk compared to the risk in women without that risk factor
† Invasive cancer within two years compared to average density

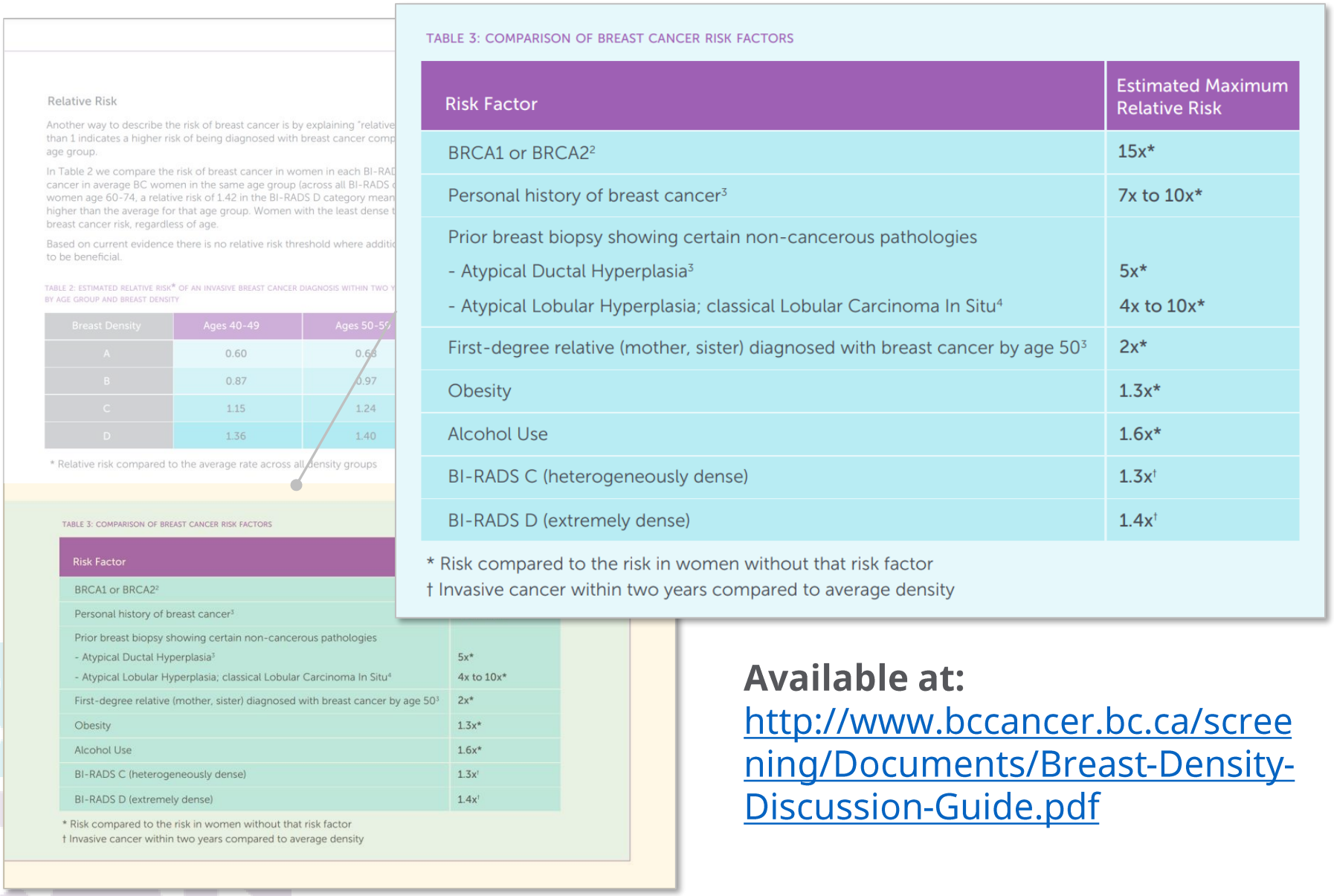
TABLE 2: ESTIMATED RELATIVE RISK* OF AN INVASIVE BREAST CANCER DIAGNOSIS WITHIN TWO YEARS FOR BC WOMEN AGES 40-74 BY AGE GROUP AND BREAST DENSITY

Breast Density	Ages 40-49	Ages 50-59	Ages 60-74
A	0.60	0.68	0.74
B	0.87	0.97	1.05
C	1.15	1.24	1.31
D	1.36	1.40	1.42

* Relative risk compared to the average rate across all density groups

Available at:
http://www.bccancer.bc.ca/screening/Documents/Breast-Density-Discussion-Guide.pdf

Breast Density Discussion Guide for Clinicians: Updates



Relative Risk

Another way to describe the risk of breast cancer is by explaining "relative
than 1 indicates a higher risk of being diagnosed with breast cancer comp
age group.

In Table 2 we compare the risk of breast cancer in women in each BI-RAD
cancer in average BC women in the same age group (across all BI-RADS
women age 60-74, a relative risk of 1.42 in the BI-RADS D category mean
higher than the average for that age group. Women with the least dense
breast cancer risk, regardless of age.

Based on current evidence there is no relative risk threshold where additi
to be beneficial.

TABLE 2: ESTIMATED RELATIVE RISK* OF AN INVASIVE BREAST CANCER DIAGNOSIS WITHIN TWO Y
BY AGE GROUP AND BREAST DENSITY

Breast Density	Ages 40-49	Ages 50-5
A	0.60	0.68
B	0.87	0.97
C	1.15	1.24
D	1.36	1.40

* Relative risk compared to the average rate across all density groups

TABLE 3: COMPARISON OF BREAST CANCER RISK FACTORS

Risk Factor	Estimated Maximum Relative Risk
BRCA1 or BRCA2[2]	15x*
Personal history of breast cancer[3]	7x to 10x*
Prior breast biopsy showing certain non-cancerous pathologies	
- Atypical Ductal Hyperplasia[3]	5x*
- Atypical Lobular Hyperplasia; classical Lobular Carcinoma In Situ[4]	4x to 10x*
First-degree relative (mother, sister) diagnosed with breast cancer by age 50[3]	2x*
Obesity	1.3x*
Alcohol Use	1.6x*
BI-RADS C (heterogeneously dense)	1.3x†
BI-RADS D (extremely dense)	1.4x†

* Risk compared to the risk in women without that risk factor
† Invasive cancer within two years compared to average density

Available at:
http://www.bccancer.bc.ca/screening/Documents/Breast-Density-Discussion-Guide.pdf

Quick Notes about Breast Density

There are many risk factors for breast cancer –
breast density is just **one** of them.

- Breast density is subjective and can change over time
  - There is inter- and intra-observer variability: AI programs can potentially help assess density, but use is not widespread

True or False?

Breast density is routinely reported in BC as part of the screening mammogram report. The Breast Screening Program does not recommend supplemental testing for dense breasts.

True.

- Dense breasts are only one of many risk factors for breast cancer.
- Screening mammography continues to be the most effective method for breast cancer screening and for detecting many cancers in women with dense breasts. It is the only screening test proven to reduce breast cancer mortality, even when other tests are utilized.

All supplemental testing (e.g., MRI, ultrasound, contrast-enhanced mammography) is conducted through Diagnostic Imaging – these are **not** in the Breast Screening Program's scope.

Summary

- **Screening mammography is the most effective method for breast cancer screening**, including for women with dense breasts
- **Most women, and many Two-Spirit, transgender, and non-binary people, aged 40 and older** can have a screening mammogram in BC
- People with a **family history of breast cancer** may be recommended to start screening earlier
- Discuss the **benefits and limitations of screening with patients** to help them make an informed decision
- There are **8 risk factors for breast cancer**, with one being breast density

Questions? Looking for Additional Resources?

Email cyonghing@bccancer.bc.ca

Visit www.screeningbc.ca

Get the Latest Cancer Screening News and Resources

Sign up for BC Cancer Screening's **quarterly e-newsletter** for health care providers!

- Go to **bit.ly/ScreeningNewsletter**
- Scan the QR code:

BC CANCER SCREENING

HEALTH CARE PROVIDER NEWSLETTER

In this issue:

- Register for the Lung Cancer Screening in BC webinar
- Updated Resources and Forms:
  - Breast Screening Program Fact Sheet (March 2025)
  - Lung Screening Eligibility Assessment Request Form (April 2025)
- In case you missed it: More BC Cancer Screening letters have been added to Health Gateway
- Your Top Question Answered

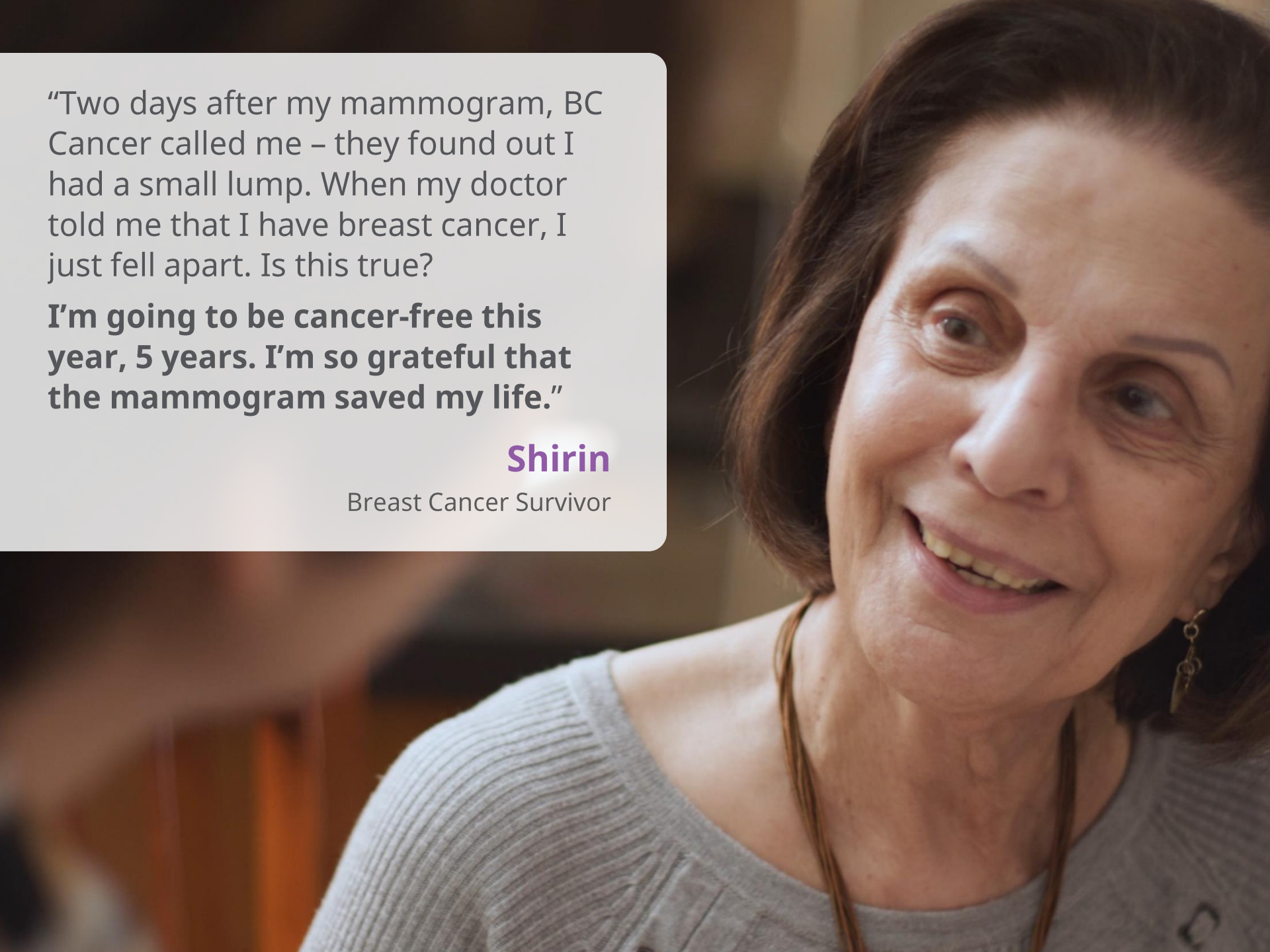
Upcoming Webinar

Webinar

Lung Cancer Screening in BC: Eligibility, Diagnosis, and Follow-Up Care

Hosted by the BC Cancer Lung Screening Program and UBC CPD

May 7, 2025 (6:30 to 8:00 pm PST)



“Two days after my mammogram, BC Cancer called me – they found out I had a small lump. When my doctor told me that I have breast cancer, I just fell apart. Is this true?

I’m going to be cancer-free this year, 5 years. I’m so grateful that the mammogram saved my life.”

Shirin

Breast Cancer Survivor

Thank you!