Explanation of Risk Factors

Prior breast cancer:

The invasive breast cancer risk calculator is not applicable for individuals with any previous diagnosis of breast cancer, DCIS (ductal carcinoma in situ), or prior mastectomy.

Age:

The risk of developing breast cancer increases with age. The majority of breast cancer cases occur in individuals older than age 60. Most cancers develop slowly over time. For this reason, breast cancer is more common among older individuals.

The BCSC Invasive Breast Cancer Risk Calculator is NOT applicable to individuals younger than 35 or older than age 79.

Race and ethnicity:

The invasive breast cancer risk calculator is calibrated to US SEER data for Asian, Black, Hispanic, Native American/Alaska Native, Native Hawaiian/Pacific Islander, White, and Other or Multiracial individuals.

Family history of breast cancer:

Having one or more first-degree relatives (mother, sisters, daughters) or second-degree relatives (aunts, grandmothers) who have had breast cancer increases an individual's chances of developing breast cancer.

Breast biopsy:

Individuals who have had breast biopsies have an increased risk of breast cancer, especially if their biopsy specimens showed atypical ductal hyperplasia or lobular carcinoma in situ. Individuals who have a history of breast biopsies are at increased risk because of breast changes that can be observed on mammograms and prompt the biopsies. Breast biopsies themselves do not cause cancer.

BI-RADS® breast density:

Individuals who have high breast density have an increased risk of breast cancer. Breast density is determined by the relative amounts of fat, epithelial, and connective tissues that appear differently on a mammogram due to differences in X-ray attenuation. Fat appears radiolucent or dark, while epithelial and connective tissues are radiographically dense and appear light or white. A dense breast has less fat than glandular and connective tissue and has more breast cells. Mammograms of breasts with high density are harder to read and interpret than those of less dense breasts and individuals with dense breasts are more likely to develop breast cancer. Radiologists classify breast density as part of routine clinical practice using the four BI-RADS breast density categories: a = almost entirely fatty, b = scattered fibroglandular densities, c = heterogeneously dense, and d = extremely dense.

Menopausal status:

Menopause is defined as the permanent cessation of ovulation, marked by the end of menstruation for a year.

Based on prior BCSC research, individuals aged 60 or older are assumed to be Postmenopausal in the BCSC risk calculators regardless of the menopausal status selected by the user.

Body Mass Index (BMI):

Body mass index (BMI) is a measure of body fat based on height and weight and is calculated as follows: BMI = Weight (kg)/Height $(m)^2$. The NIH guidelines as of September 1998 give the following BMI categorization for individuals: Underweight (<18.5), Normal (18.5 - 24.9), Overweight (25.0 - 29.9) Obesity I (30.0 - 34.9), Obesity II (35.0 - 39.9), and Obesity III (>=40.0). BMI values between 15-90 are considered valid.

Age at first live birth:

Age at first live birth is defined as the age at which an individual first gives birth. Nulliparous women and women with age at first live birth greater than 30 years have an increased risk of breast cancer compared to women with age at first live birth 30 years or less.