BreastCheck’s goal is to reduce mortality from breast cancer by detecting it as early as possible. In order to achieve this goal, BreastCheck recommends screening mammography for asymptomatic women 50 to 74 years of age, every 2 years.

BreastCheck’s operations are evidence-based, follow national guidelines, and meet the majority of national targets for organized breast cancer screening programs.

![Percentage of women by location of mammogram](image)

### Twenty years of breast cancer screening in Manitoba

BreastCheck, formerly known as the Manitoba Breast Screening Program, began in 1995 as Manitoba’s organized breast cancer screening program. At that time, only about 35% of the eligible population was screened for breast cancer with mammography, despite the evidence of its benefits. Over the last twenty years the program has significantly increased screening rates across the province with the establishment of 4 permanent screening sites, travelling an accumulated distance of 812,922 kilometers to 80 mobile sites to provide screening in rural and remote communities, and the completion of more than 661,428 mammograms.

### How many women were screened?

![Percentage of women by location of mammogram](image)

- BreastCheck screened 92,816 Manitoba women (94,357 in 2011-2012).
- BreastCheck screened 77,844 women age 50 to 69, which equates to a participation rate of 50.1% (52.8% in 2011-2012) of the target population (Figure 1).
- 12.5% (n=11,122) of all mammograms at BreastCheck were for women over age 69. This number has continued to increase since 2008 when the upper age limit of 69, for screening at BreastCheck, was removed. It contributes to the decreased participation rate in the target group (50 to 69 years of age).
- 49.5% of women 50 to 69 years of age had a mammogram at BreastCheck, 10.7% had a mammogram at a facility other than BreastCheck, and 39.8% had no mammogram at all (Figure 2).
- 79.0% of women aged 50 to 69 returned to BreastCheck for their next mammogram within 30 months.
What were the screening outcomes?

Figure 3 summarizes the outcomes for women screened at BreastCheck from January 1, 2012 to December 31, 2013. 95% had a normal result; 5.0% had an abnormal result and were referred for further diagnostic tests. Of the referred tests, 81.0% were diagnostic mammograms or ultrasounds. For those women who had an abnormal result on their screening mammogram 9.7% were diagnosed with breast cancer.

**Figure 3**

Screening outcome summary
WOMEN 50 TO 69 YEARS OF AGE SCREENED FROM JANUARY 2012 TO DECEMBER 2013

- **Total number of women screened:** 78,049
  - 12,648 first screens
  - 65,401 rescreens

- **Normal:** 74,150
  - 95.0% of total

- **Abnormal:** 3,899
  - 5.0% of total
  - 1,136 first screens
  - 2,763 re-screens

- **Invasive Breast Cancer:** 315
  - 0.4% of total
  - 8.1% of abnormals
  - 54 first screens
  - 261 re-screens

- **In Situ Breast Cancer:** 62
  - 0.1% of total
  - 1.6% of abnormals
  - 4 first screens
  - 58 re-screens

- **Benign:** 3,500
  - 4.5% of total
  - 89.8% of abnormals

- **Unknown Morphology:** 5

- **Lost to follow-up:** 16
  - 0.02% of total

- **Non-Invasive Procedures:** 4,777
  - 2,953 diagnostic mammograms
  - 1,723 ultrasounds
  - 51 surgical consultations
  - 50 MRIs

- **Invasive Procedures:** 1,027
  - 512 ultrasound guided core biopsies
  - 366 stereotactic core biopsies
  - 120 open biopsies
  - 24 fine needle aspirations
What was the time to diagnosis?

BreastCheck is committed to improving the cancer patient journey. By decreasing wait times patients experience less stress. BreastCheck is now exceeding Canadian targets in some areas regarding wait times.

Time to diagnosis targets\(^1\) from screen date to:

- **FIRST FOLLOW UP TEST**: \(\geq90\%\) within 3 weeks
- **FINAL DIAGNOSIS**
  - WITHOUT BIOPSY: \(\geq90\%\) within 5 weeks
  - WITH BIOPSY: \(\geq90\%\) within 7 weeks

- 79.5% (68% in 2010-2011) of women who had an abnormal mammogram had their first follow-up test within 3 weeks of their screen date (90% within 41 weeks).
- 94.9% (85% in 2010-2011) of women who had an abnormal mammogram and did not require a biopsy received a final diagnosis within 5 weeks of their screen date; the median wait time from screen date to final diagnosis was 1.9 weeks; 90% had their final diagnosis within 4.0 weeks.
- 66.7% (52% in 2010-2011) of women who had an abnormal mammogram and required a biopsy received a final diagnosis within 7 weeks of their screen date; the median wait time from screen date to final diagnosis was 5.0 weeks; 90% had their final diagnosis within 15.9 weeks.
- For women who had an abnormal mammogram and were diagnosed with cancer, the median wait time from screen date to final diagnosis was 3.7 weeks (4.9 weeks in 2010-2011); 90% had their final diagnosis within 9.6 weeks.
- For women who had an abnormal mammogram and had a benign outcome, the median wait time from screen date to final diagnosis was 2.1 weeks (2.9 weeks in 2010-2011); 90% had their final diagnosis within 8.1 weeks.

**Figure 4**

Median and 90th percentile wait times to final diagnosis

**WOMEN 50 TO 69 YEARS OF AGE SCREENED FROM JANUARY 2012 TO DECEMBER 2013**

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>MEDIAN</th>
<th>90th PERCENTILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITHOUT BIOPSY</td>
<td>1.9</td>
<td>4.0</td>
</tr>
<tr>
<td>WITH BIOPSY</td>
<td>5.0</td>
<td>15.9</td>
</tr>
<tr>
<td>BENIGN</td>
<td>2.1</td>
<td>8.1</td>
</tr>
<tr>
<td>MALIGNANT</td>
<td>3.7</td>
<td>9.6</td>
</tr>
</tbody>
</table>

**TIME TO DIAGNOSIS (IN WEEKS)**
How are we doing?

BreastCheck strives to provide timely communication regarding screening results to both clients and health care providers. From January 1, 2013 to December 31, 2014, 99.6% of women received their screening results from BreastCheck within the recommended target of 14 days (median = 4.0 days).

As part of the ongoing evaluation of BreastCheck, measures of program effectiveness are regularly compared to national targets as shown in Table 1.

### TABLE 1

Comparison of BreastCheck outcomes with Canadian targets

<table>
<thead>
<tr>
<th>PERFORMANCE MEASURE</th>
<th>TARGET</th>
<th>BREASTCHECK OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 month participation rate to December 2014</td>
<td>≥ 70% of the eligible population</td>
<td>55%</td>
</tr>
<tr>
<td>24 month participation rate to December 2014</td>
<td>Surveillance and monitoring purposes only</td>
<td>50%</td>
</tr>
<tr>
<td>Retention rate for women screened in 2011</td>
<td>≥ 75% re-screened within 30 months</td>
<td>79%</td>
</tr>
<tr>
<td>Abnormal call rate</td>
<td>&lt; 10% first screen</td>
<td>9.0%</td>
</tr>
<tr>
<td></td>
<td>&lt; 5% re-screen</td>
<td>4.3%</td>
</tr>
<tr>
<td>Invasive cancer detection rate</td>
<td>&gt; 5 per 1,000 first screen</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>&gt; 3 per 1,000 re-screen</td>
<td>4.0</td>
</tr>
<tr>
<td>In situ cancer detection rate</td>
<td>Per 1,000 screens</td>
<td>0.8</td>
</tr>
<tr>
<td>Diagnostic interval</td>
<td>≥ 90% within 5 weeks – no tissue biopsy</td>
<td>94.9%</td>
</tr>
<tr>
<td></td>
<td>≥ 90% within 7 weeks – tissue biopsy</td>
<td>66.7%</td>
</tr>
<tr>
<td>Positive predictive value</td>
<td>≥ 5% first screen</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>≥ 6% re-screen</td>
<td>9%</td>
</tr>
<tr>
<td>Benign to malignant open biopsy ratio</td>
<td>≤ 2:1 first and re-screens</td>
<td>3.6:1</td>
</tr>
<tr>
<td>Benign to malignant core biopsy ratio</td>
<td>Surveillance and monitoring purposes only</td>
<td>1.2:1</td>
</tr>
<tr>
<td>Invasive tumour size</td>
<td>&gt; 25% ≤ 10 mm</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>&gt; 50% ≤ 15 mm</td>
<td>62%</td>
</tr>
<tr>
<td>Negative lymph nodes in cases of invasive cancer</td>
<td>&gt; 70% node negative</td>
<td>79%</td>
</tr>
<tr>
<td>Post-screen detected invasive cancer rate (2011 - 2012)</td>
<td>&lt; 6 per 10,000 person years (0-12 months)</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>&lt; 12 per 10,000 person years (0-24 months)</td>
<td>7.6</td>
</tr>
</tbody>
</table>