MANITOBA BREAST SCREENING PROGRAM

Biennial Report 2008-2010

BreastCheck
CancerCare Manitoba

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Executive Summary

The goal of the Manitoba Breast Screening Program* (MBSP) is to reduce breast cancer mortality by detecting cancer as early as possible. In order to achieve this goal, the Program aims to screen 70% of Manitoba women 50 to 69 years of age every two years.

This report provides a description of activities and program outcomes from April 1, 2008 to March 31, 2010.

Highlights include the following:

Recruitment and Promotion

- Program capacity was increased; 11,098 additional screens were performed. Appointments were added to most existing screening sites and five new mobile sites were added in under-screened areas.
- The upper age limit (69 years of age) was removed. As a result, 4,671 women 70 years of age and older were screened.
- Six languages were added to the Reduce Your Risk DVD Resource.
- Flights to the nearest screening site were provided to ten remote northern communities.
- The Program collaborated with the Manitoba Cervical Cancer Screening Program and ColonCheck Manitoba to create "It matters to You" ads for buses, newspapers, and television.

Program Results

- The MBSP provided 82,492 screens (16,895 first screens and 65,597 re-screens).
- Fifty-six percent of women 50 to 69 years of age participated in the Program.
- The abnormal call rate was 8.7% for first screens and 3.9% for re-screens.
- The median waiting time from an abnormal screening result to final diagnosis was 17 days for women who did not have a tissue biopsy and 39.5 days for women who did have a tissue biopsy. The waiting time has decreased from 2006/08.
- During 2008 and 2009, the MBSP detected 348 cases of invasive breast cancer. The cancer detection rate was 4.3 per 1000 women screened (4.7 per 1000 for first screens and 4.2 per 1000 for re-screens).
- The positive predictive value for cancer in women with an abnormal screen in 2008 and 2009 was 5% for first screens and 10% for re-screens.
- The benign to malignant open biopsy ratio during this time period was 3.4:1. The benign to malignant core biopsy ratio was 1.5:1.
- Thirty-three percent of invasive breast cancer cases were less than or equal to 10 mm in size; 61% were less than or equal to 15 mm in size. Seventy-six percent of invasive breast cancer cases were node negative. Sixty-four percent were stage I, 31% were stage II, and 5% were stage III or IV.
- The MBSP meets the majority of the national screening targets.

*As of March 2011, the Manitoba Breast Screening Program's name changed to BreastCheck CancerCare Manitoba

Introduction

The Manitoba Breast Screening Program (MBSP) was introduced in 1995 with the goal of reducing mortality from breast cancer by finding cancer as early as possible. In 2009, the program evaluated the effect of screening participation on breast cancer mortality in Manitoba. The results indicate that the risk of dying from invasive breast cancer was reduced by 23% for screened women 50 to 69 years of age.

In addition to the effect on breast cancer mortality, the Program monitors and works to continually improve all aspects of screening performance. This biennial report details the work of the MBSP team.

Screening services are provided at four fixed sites: Misericordia Health Centre in Winnipeg, Brandon Regional Health Centre, Thompson General Hospital, and Boundary Trails Health Centre in Morden/ Winkler. Two mobile screening vans visit 89 rural, northern, and urban communities year round.

The screening process includes the following steps:

1. Recruitment and recall of the target population
2. Provision of a two-view mammogram
3. Referral of women with an abnormal screening result for further investigation

The MBSP's target population includes all eligible women 50 to 69 years of age. Women are eligible to attend the program if they are asymptomatic, have never been diagnosed with breast cancer, and do not have breast implants. In the fall of 2008, the upper age limit was removed and women over the age of 69 years are now accepted at all screening sites. Screening is provided to women younger than 50 years of age at the mobile sites with a doctor's referral.

Women receive an invitation letter when they turn 50 years of age. Invitation and reminder letters are also sent to non-participants and overdue women. Women are recalled either annually or biennially based on the radiologist's recommendations.

Following screening, each woman and her primary care provider are sent her mammography results. If the results are abnormal and further tests are required, the Program can directly refer women to one of five diagnostic facilities or the WRHA Breast Health Centre. All diagnostic test information and the final diagnosis are obtained by the Program.

This report presents Program activities and outcomes for women 50 to 69 years of age who were screened from April 1, 2008 to March 31, 2010 unless otherwise indicated.

Recruitment and Promotion

The MBSP strives to maximize the number of appointments available and provide access for as many Manitoba women as possible. Most women indicate that the letter of invitation is their primary reason for booking an appointment. A physician referral is the next most common reason. When letters are combined with a community information campaign, the response improves further. Information and poster packages are sent to Regional Health Authority (RHA) partners, primary care providers, pharmacists, and community groups. We also advertise in local newspapers and radio stations that reach immigrant and First Nation, Inuit and Métis audiences. We contact all First Nations communities to offer group trips to the closest mobile site if we do not travel to their community.

A new Public Health Agency of Canada resource called Information on Mammography for Women Age 40 and Older: A Decision Aid for Breast Cancer Screening in Canada can assist women to decide whether or not to be screened.

Growing the program

In 2008, Manitoba Health provided funding to increase program capacity by 25% (10,000 appointments per year).

Appointments were added at the Misericordia Health Centre site, Brandon Regional Health Centre, and several mobile sites improving accessibility and participation. Community meetings provided valuable information about possible mobile locations and ways to reach under-screened women.

Age changes

In August, 2008, the MBSP eliminated the upper age limit allowing women over 69 years of age to attend. Women aged 70 to 74 who have attended the Program in the previous 2 years receive a regular recall letter. Women over 74 years of age are not reminded to return but can do so upon request.

Multi-language work – Building on previous success

Previous multi-cultural outreach work found that immigrant women prefer information in their own language and many are not aware of breast screening services. Reaching under-screened women requires ongoing work to address barriers related to culture, access, transportation, and language.

The Program set the foundation for multi-cultural work in 2008 with the production of the Reduce Your Cancer Risk DVD, tool kit and "Pass it on" project. The project was a partnership between the CancerCare Manitoba Foundation and the breast, cervical and colorectal screening programs. The DVD provides information about risk factors for cancer, how to lower personal risk, and screening guidelines including age and frequency of screening.

The Reduce Your Cancer Risk DVD was expanded by adding German, Low German, Mandarin, Korean, Russian, and Swahili language voiceovers. In the last two years, over 1,000 DVDs have been distributed with the toolkit or in the "pass it on" format.

In collaboration with the University of Manitoba, nursing students used these resources in their own communities. The students provided community presentations, wrote local newspaper articles, encouraged group trips, and were interviewed by CBC radio.

The Reduce Your Risk multi-cultural project was piloted in the rural community of Steinbach and surrounding area. The focus of the project is to build relationships with a language community, train community facilitators to deliver the Reduce Your Risk resource, help women arrange appointments, and support the work of the facilitators with honorariums.

The "Finding Breast Cancer Early" and "After Your Visit" brochures were translated into two additional languages bringing the total number of languages available to 18.

First Nations, Inuit, and Metis Initiatives

Transportation by air to a screening site continues to be provided for women in remote northern communities including Little Grand Rapids, Pauingassi, Shamattawa, Ilford, God's River, God's Lake Narrows, Oxford House, Red Sucker Lake, Pukatawagon, Lac Brochet, Brochet, and Tadoule Lake.

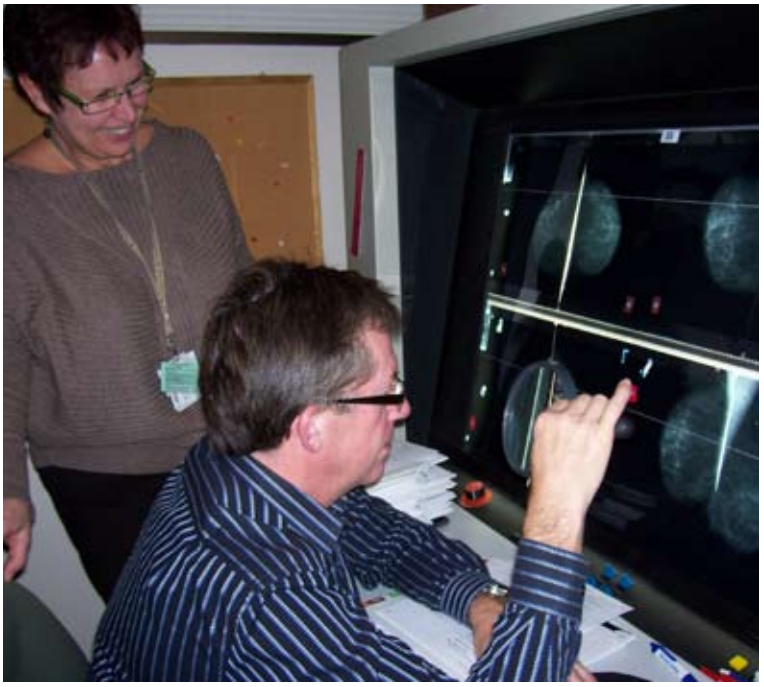
CCMB-Norway House Cancer Services Adaptation Initiative

Norway House and CancerCare Manitoba are partnering to study barriers to cancer services including screening and to improve community-based programs. A new mobile location and additional community staffing increased screening participation from 42% to 51%.

Quality Assurance

New resources/promotion efforts

- The MBSP collaborated with the Manitoba Cervical Cancer Screening Program and ColonCheck Manitoba to produce It matters to You newspaper, bus, and television ads with funding from the CancerCare Manitoba Foundation.
- Fecal occult blood test kits for colorectal cancer screening were provided at breast screening sites.
- A fact sheet was developed to be included with the recall letter. The fact sheet includes information about breast screening and reasons why regular screening is important. Evaluation showed that participation rates were higher for women who received the fact sheet.
- The Program collaborated with the Dr. C.W. Wiebe Medical Centre in Winkler to use their electronic medical records to flag under-screened women and schedule a screening appointment while the woman was at the clinic. Clinic and community participation rates improved.
- A mammography guidelines resource was developed that summarizes screening recommendations (Appendix 1). This resource is included in health care provider information packages and at educational events.
- Appendix 2 contains a list of the available education resources.



Quality standards at the MBSP are based on guidelines and recommendations provided by the Canadian Association of Radiologists (CAR), the Canadian Association of Medical Radiation Technologists (CAMRT), the Department of Medical Physics at CancerCare Manitoba (CCMB), and the Public Health Agency of Canada.

All MBSP mammography machines are accredited by the CAR and receive preventive maintenance every six months as well as an annual assessment by CCMB physicists.

The MBSP monitors data quality through a variety of mechanisms including the scanning of all questionnaires and reports, linking with the Manitoba Cancer Registry, and the submission of data to the National Breast Cancer Screening Database.

Program Results

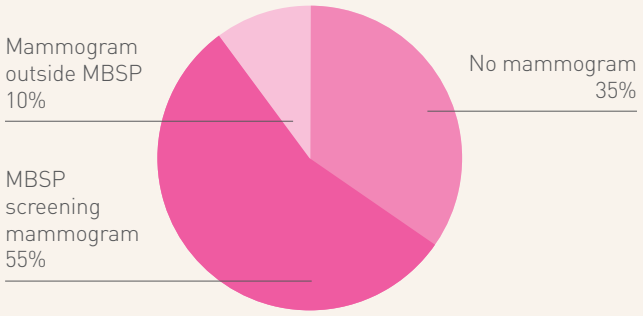
Participation

Screening participation is defined as the number of women age 50 to 69 who had a least one screening mammogram in a set time frame.[1] Both 24-month and 30-month rates are calculated for this report. The 24-month participation rate (April 2008 to March 2010) was 56%. Participation has increased by 12% in the previous 10 years.

The 30-month participation rate (April 2008 to September 2010) was 60%. However, the cohort of women 50 to 69 years of age grew by 6.4% (8,146 women) lessening the impact on participation rates. In addition, as older women began to use the Program, capacity for women 50 to 69 years of age was reduced.

Using medical claims data from Manitoba Health, Figure 1 shows the percentage of women age 50 to 69 who had a mammogram by screening location. A small percentage of women had a mammogram outside of the Program (10%), 35% of women had no mammogram during the time period, and 55% had a MBSP mammogram.

Figure 1.
Percentage of women by location of mammogram (2008 to 2010)

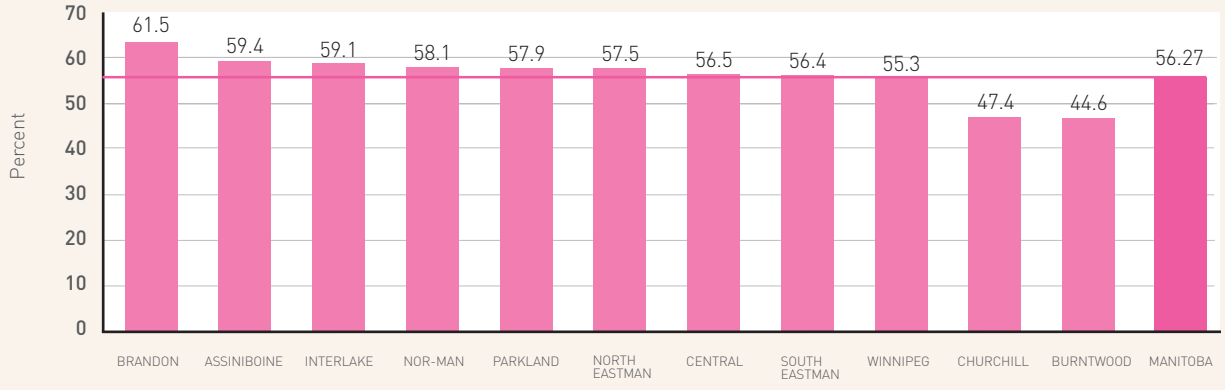


Source: Manitoba Health, 2010.

Figure 2 shows participation by Regional Health Authority (RHA). Participation ranged from 61% in the RHA of Brandon to 45% in the RHA of Burntwood. Winnipeg RHA showed the largest increase from March 2008 (6%) because the majority of new appointments were added to the Misericordia site and five mobile sites within Winnipeg.

Participation Rate Target:
≥ 70% of the eligible population

Figure 2.
Participation rate (24 month) by Regional Health Authority from April 2008 to March 2010



[1] Please see Appendix 3 for glossary of definitions

Table 1.
Number of screens by age group and screening site from April 2008 to March 2010

	BRANDON	WINNIPEG	THOMPSON	MOBILE	BOUNDARY TRAILS	TOTAL
<50	11	98	19	371	6	505
50-59	3659	29876	602	13073	1403	48613
60-69	3046	19686	262	9967	918	33879
70-74	256	1678	21	1818	89	3862
75+	59	133	2	607	11	812
All ages	7031	51471	906	25836	2427	87671

Note: this table counts screens; women who are screened annually will be counted twice.

Table 1 shows the number of screens by screening site. In total, the MBSP provided 87,671 screens (82,492 screens in women 50-69 years of age or 16,895 first screens and 65,597 re-screens). Most screens were provided at the Winnipeg fixed site followed by the mobile sites. The number of screens increased by 20% from March 2008 (14,624 screens).

Table 2 shows how the introduction of a mobile site impacts participation rates. Participation increased by 7% in Minnedosa, 5% in Fort Garry, 2% in the North End, and 8% in St. Boniface.

Table 2.
Participation before and after implementing mobile sites

COMMUNITY	LOCATION	BEFORE	AFTER
Minnedosa	Minnedosa Health Centre	56%	63%
Winnipeg -Fort Garry	Mature Women's Centre and the Kerri Irvin-Ross MLA office	58%	63%
Winnipeg -North End	Norquay Community Centre	39%	41%
Winnipeg-St Boniface	Youville Centre and Accueil Francophone	51%	59%

Retention

Retention (the percentage of women who are re-screened within 30 months of their previous visit) was 82% for women screened between April 1, 2007 and March 31, 2008. The retention rate was 71% for first screens and 85% for re-screens (Figure 3). Retention has increased over time from 77% in 2006/07.

Retention is associated with screening experience and the number of available appointments. In order to improve retention, the Program added additional appointments and telephoned women who were overdue for screening.

Retention Rate Target:
≥75% re-screened within 30 month

Characteristics of Participants

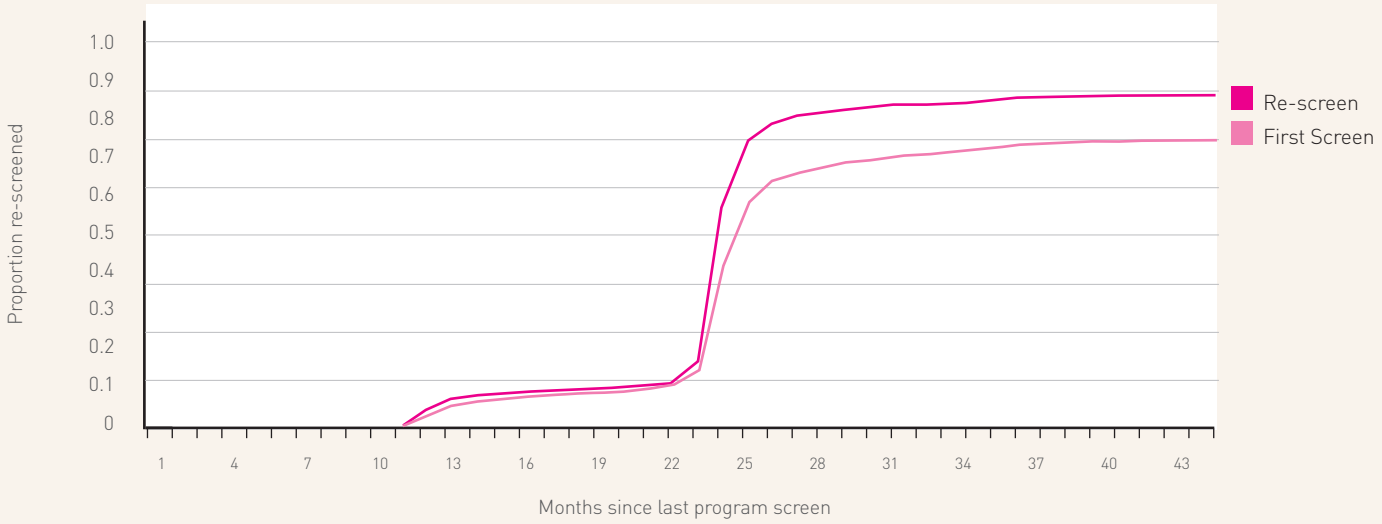
Birth place and education influence screening participation. Therefore, it is important to monitor these factors to ensure that women who are less likely to be screened are reached.

Birth Place

Information on birth place is used to assess whether we are reaching immigrant women. From April 2008 to March 2010, most of the women screened listed Canada as their birth place (84%). Three percent of women were born in Western Europe, 2.8% of women were born in the Philippines, 2.2% of women were born in Asia, and 2.1% of women were born in the United Kingdom. A small percentage of women were born in Eastern Europe (1.6%), Central/Latin/South America (1.3%), or the United States (1.1%).

In addition to birth place, women were also asked about their ethnic heritage. Five percent of women stated that their heritage was First Nations, Inuit, or Métis.

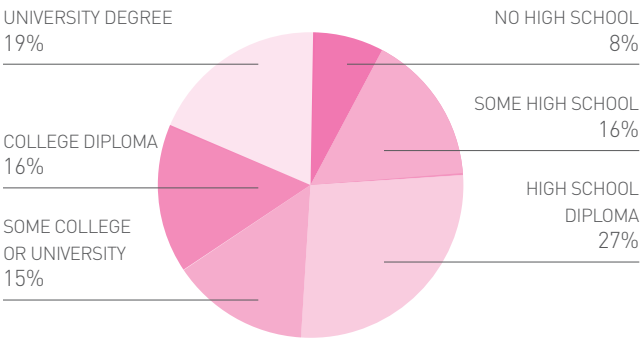
Figure 3.
Retention rate for women screened from April 2007 to March 2008 by screen type



Education

Twenty-four percent of women screened in 2008/10 had not completed high school, 27% had a high school diploma, and 50% had some college or university education (Figure 4).

Figure 4.
Education of women screened from April 2008 to March 2010



Risk Factor Information

Three important risk factors for the development of breast cancer include family history, the use of hormone replacement therapy, and body weight.

Family History of Breast Cancer

Family history of breast cancer and subsequent risk is based on the model developed by Claus et al.[2] and is determined using the number of first and second-degree blood relatives diagnosed with breast and ovarian cancer and the age at which they were diagnosed.

Fifty-nine percent of women participating in the Program were classified as average risk, 36% as low risk, and 5% as high risk. High risk women are invited to be screened yearly. (See Appendix 3 for risk definitions)

Hormone Replacement Therapy

Sixty-eight percent of women report never having taken any form of hormone replacement therapy (HRT) while 32% stated that they had taken HRT. The percentage of women who report ever having taken HRT continues to decrease over time (42% in 2004/2006 and 37% in 2006/2008).

Body Mass Index

Table 3 illustrates the percentage of women in each body mass index category. Thirty-two percent of women were a normal weight, 34% were overweight, and 32% were obese.

Table 3.
Body Mass Index for women screened from April 2008 to March 2010

CLASSIFICATION	BMI	PERCENT
Underweight	< 18.5	2.4
Normal weight	18.5-24.9	32.3
Over weight	25.0 – 29.9	34.5
Obese class I	30.0 – 34.9	19.6
Obese class II	35.0 – 39.9	7.7
Obese class III	≥ 40.0	4.5

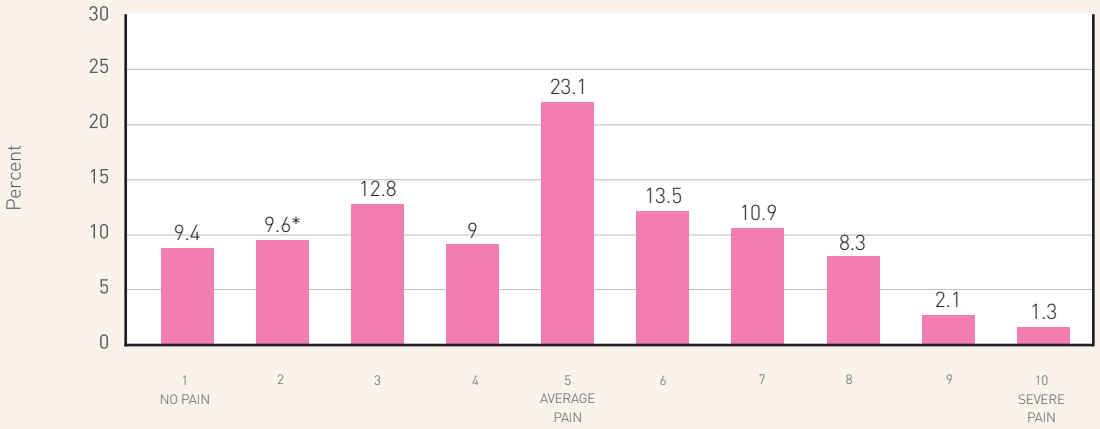
[2]Claus EB, Risch N, Thompson WD. Autosomal dominant inheritance of early-onset breast cancer. Cancer 1994; 73:643-51.

Satisfaction

In order to evaluate the satisfaction of women who are screened by the MBSP, 30 women are randomly chosen each month to receive a satisfaction survey.[3] Overall, satisfaction scores were above 80 indicating high levels of satisfaction with the program.

One important area of satisfaction is the amount of pain caused by the mammogram. Figure 5 illustrates how painful women found the mammogram using a 10-point scale from 1 (no pain) to 5 (average pain – similar to a mild headache) to 10 (severe pain - the worst pain ever felt). Twenty-three percent rated the pain they felt as average. Sixty-four percent rated the pain as a 5 or less.

Figure 5.
Reported mammography pain from 1 (no pain) to 10 (worst pain)



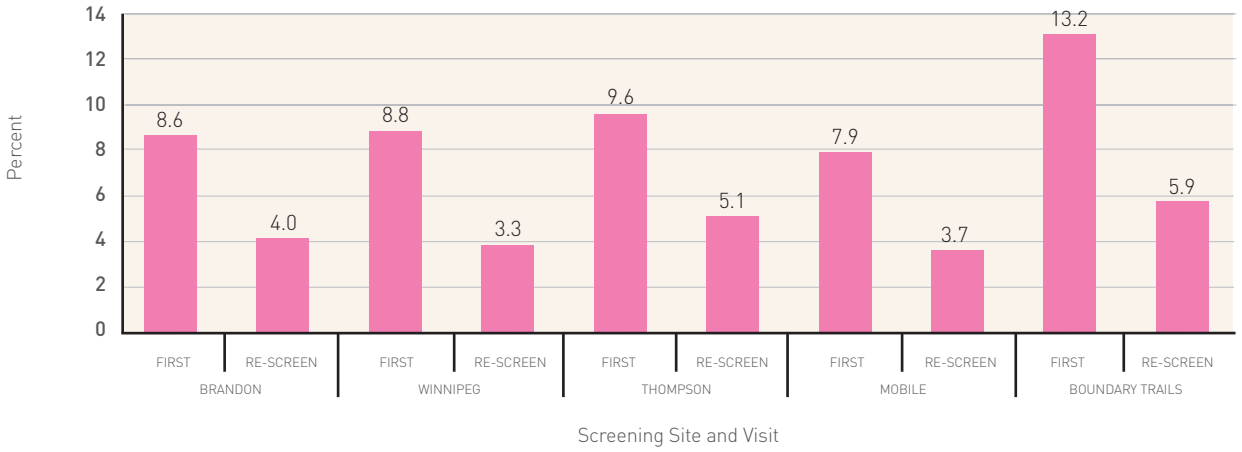
[3]Decker K, Harrison M, and Tate R. Satisfaction of women attending the Manitoba Breast Screening Program. Journal of Preventive Medicine 1999; 29: 22-27.

Abnormal Call Rate and Diagnostic Investigations

From April 2008 to March 2010, 8.7% of women who had a first screen (n=1,475) and 3.9% of women who had a return screen (n=2,577) were referred for further diagnostic tests. Figure 6 shows the abnormal call rate for first and re-screens by screening site.

Most of the tests performed as part of further investigations were diagnostic mammograms (54%) followed by ultrasound (24%), core biopsy (16%), open biopsy (2.4%), surgical consultation (2.1%), fine needle aspiration (1%), and MRI (0.3%) (Figure 7).

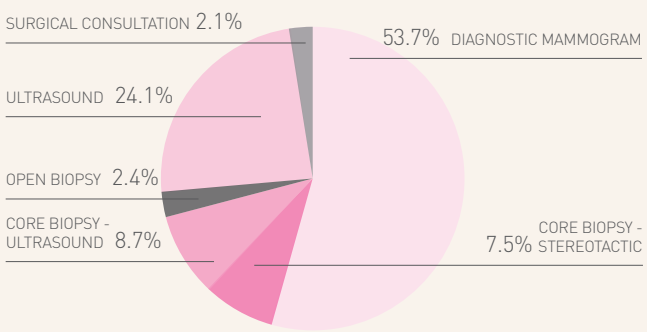
Figure 6.
Abnormal call rate for mammography by screen site and screen type for women screened from April 2008 to March 2010



Abnormal Call Rate Target:

<10% for first screens, <5% for re-screens

Figure 7.
Proportion of diagnostic tests following an abnormal screening result from April 2008 to March 2010 *



**Excluding fine needle aspiration. MRI and other.*

Time to Diagnosis

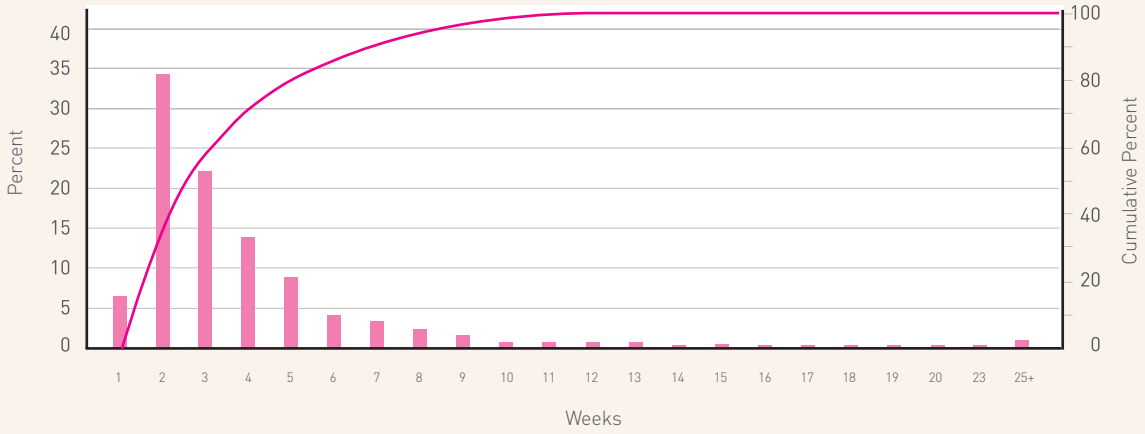
An abnormal screening result can cause anxiety and morbidity even if the final outcome is negative. Therefore, it is essential to minimize the amount of time from screening to the first diagnostic procedure and from screening to the final diagnosis.

From March 2008 to April 2010:

- 64% of women screened who required further tests had their first test within 3 weeks of their screening date (median time = 17 days) (Figure 8).
- 83% of women who did not have a tissue biopsy* had a final diagnosis within 5 weeks of their screening date (median time = 17 days) (Figure 9).
- 66% of women who had a tissue biopsy had a final diagnosis within 7 weeks of their screening date (median time = 39.5 days) (Figure 10).

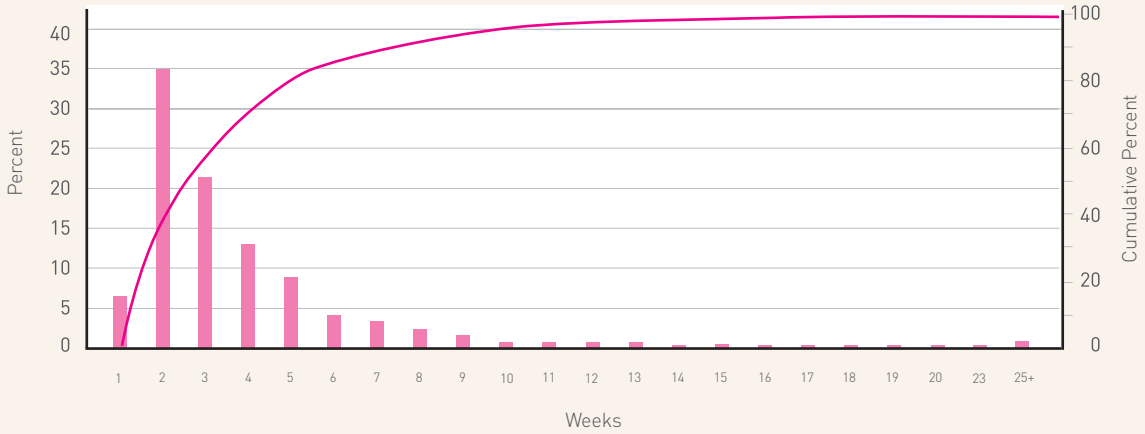
*A tissue biopsy includes an open or a core biopsy.

Figure 8.
Time from abnormal screen date to first procedure from April 2006 to March 2008



Diagnostic Interval Target:
≥ 90% should have a first test within 3 weeks

Figure 9.
Time from abnormal screen date to final diagnosis, (no tissue biopsy)

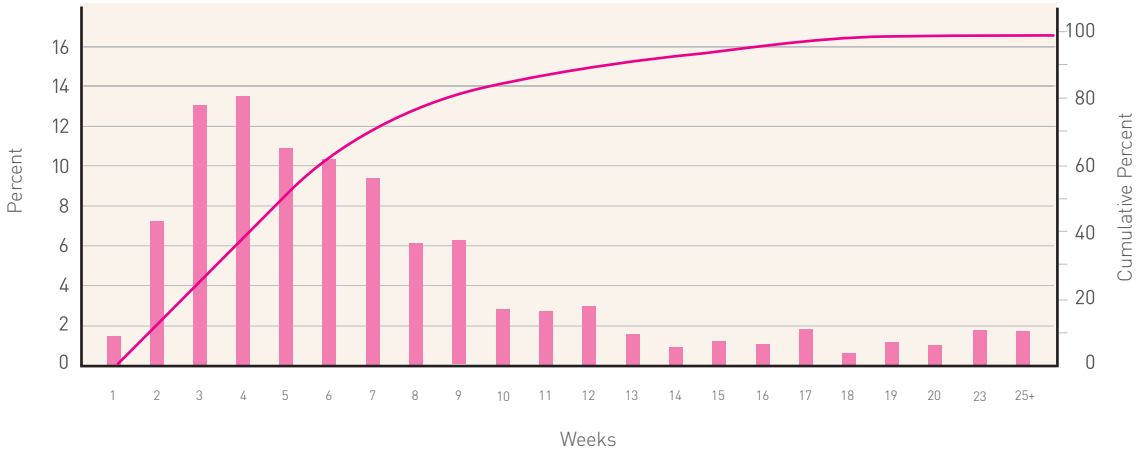


Diagnostic Interval Target:
≥ 90% should have a final diagnosis within 5 weeks (no tissue biopsy)

Diagnostic Interval Target:

≥ 90% should have a final diagnosis within 7 weeks (tissue biopsy)

Figure 10.
Time from abnormal screen date to final diagnosis, tissue biopsy



The time from screening to the first procedure and from screening to final diagnosis has improved over time (Table 4).

For women who had a benign outcome, the median time from screening to final diagnosis was 20 days or 2.8 weeks. The median time in 2006/08 was 25 days or 3.6 weeks.

For women who had a malignant outcome, the median time from screening to final diagnosis was 30 days or 4.2 weeks. The median time in 2006/08 was 41 days or 5.8 weeks.

In order to decrease the time from screening to diagnosis, the MBSP directly refers women for diagnostic tests with the primary care provider's permission. From April 2008 to March 2010, the MBSP directly referred 89% of women who required further tests, an increase from 78% in 2006/08.

- 47% of women who were not directly referred had a first procedure within three weeks of their screening date compared to 66% of women who were directly referred.
- 71% of women who did not have a tissue biopsy and were not directly referred by the program had a final diagnosis within five weeks compared to 85% of women who were directly referred.
- 55% of women who had a tissue biopsy and were not directly referred by the program had a final diagnosis within five weeks compared to 67% of women who were directly referred.

Table 4.
Time to diagnosis by screening year

		Year		
Interval	TARGET	2004/06	2006/08	2008/10
Percentage who had a first test within 3 weeks of screening	≥ 90%	45%	50%	64%
Percentage who had a final diagnosis within 5 weeks of screening – no tissue biopsy	≥ 90%	64%	76%	83%
Percentage who had a final diagnosis within 7 weeks of screening – tissue biopsy	≥ 90%	42%	41%	66%

Cancer Detection

Figure 11 illustrates the screening process that occurred for women who were screened in 2008 and 2009 resulting in the diagnosis of 348 cases of invasive breast cancer. An additional 80 women were diagnosed with in situ breast cancer and 8 women were diagnosed with breast cancer that had an incomplete morphology. Two cases of invasive breast cancer were diagnosed in women less than 50 years of age and 24 cases of invasive breast cancer were diagnosed in women over the age of 70 years.

Figure 11.
Screening outcome summary for women screened from Jan 2008 to Dec 2009

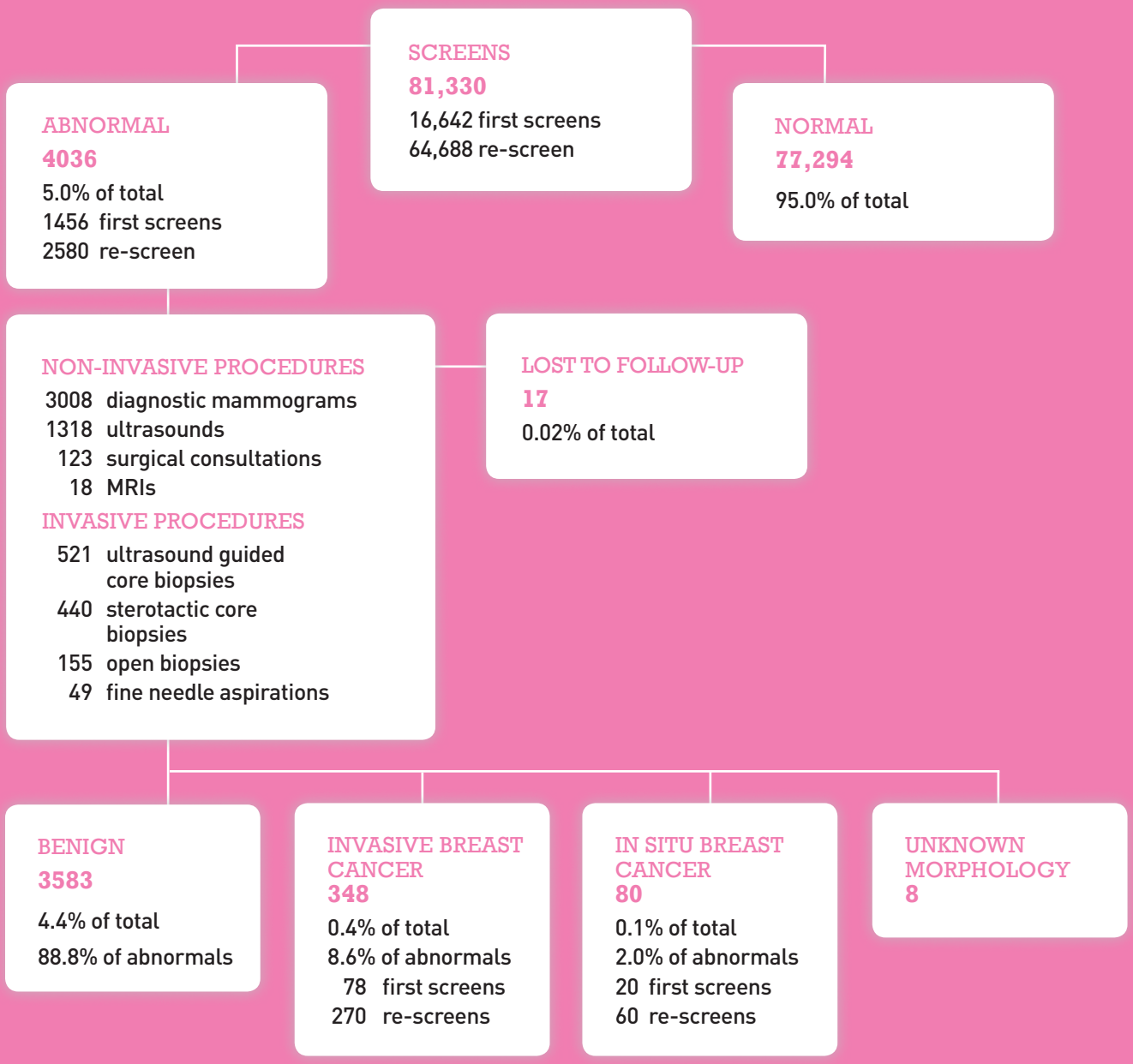
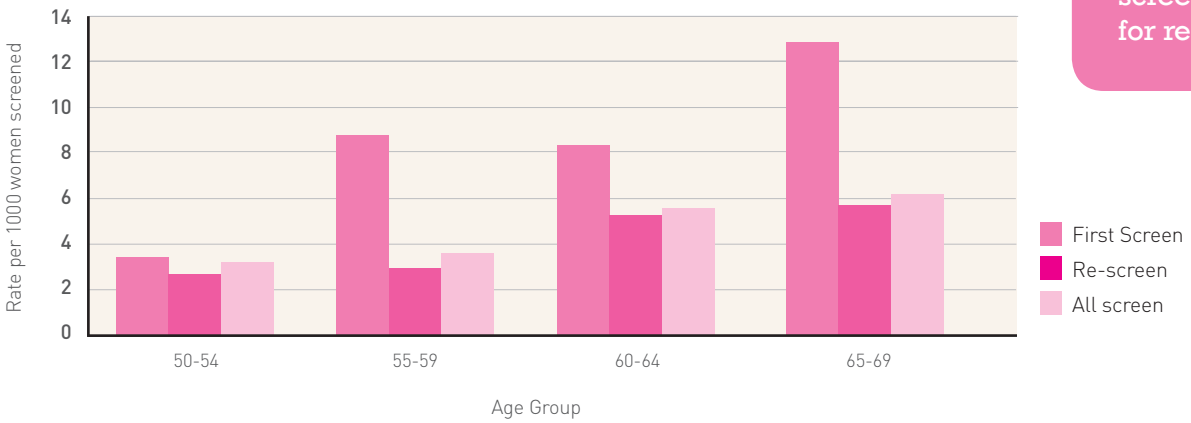


Figure 12.
Cancer detection rates per 1000 women screened by age group and screen type (2008 and 2009)



Invasive Cancer Detection Rate Target:
>5 per 1000 for first screens; >3 per 1000 for re-screens

The invasive cancer detection rate was 4.3 per 1000 women screened (4.7 per 1000 for first screens and 4.2 per 1000 for re-screens). The cancer detection rate was highest for first screens and increased with age (Figure 12).

The positive predictive value for cancer of an abnormal screen in women screened in 2008 and 2009 was 5% for first screens and 10% for re-screens.

Positive Predictive Value Target:
≥ 5% first screens;
≥ 6% re-screens

The benign to malignant open biopsy ratio during this time period was 3.4:1. The benign open surgical biopsy rate was 1.2 per 1000 women screened. Over time, the number of open biopsies performed has decreased while the number of core biopsies has increased significantly. To reflect this change in practice, a benign to malignant core biopsy ratio and core biopsy rate is also calculated. The benign to malignant core biopsy ratio was 1.5:1 and the benign core biopsy rate was 5.5 per 1000 women screened.

Benign to Malignant Open Biopsy Ratio Target: ≤ 2:1

Since the purpose of screening is to detect cancers before symptoms are present when the cancer is smaller and more localized, tumour size, lymph node involvement, and stage are also examined.

Tumour size was available for 338 cases of invasive breast cancer during 2008 and 2009 (97%). Thirty-three percent were less than or equal to 10 mm in size; 61% were less than or equal to 15 mm in size (Figure 13).

Lymph node information was available for 318 cases of invasive breast cancer (91%). Seventy-six percent were node negative. The percentage of cases that were negative differed by age group: 71% for 50-54 years of age, 80% for 55-59 years of age, 70% for 60-64 years of age, and 85% for 65 to 69 years of age.

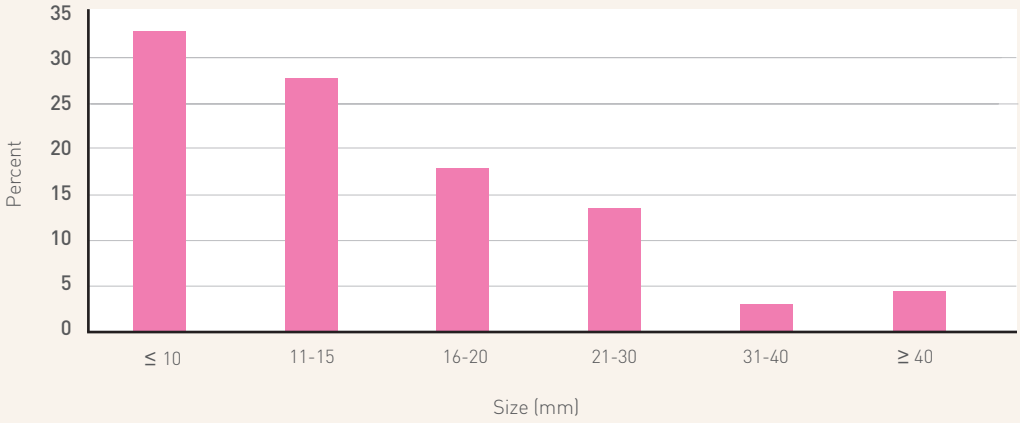
Stage was available for 329 cases of invasive breast cancer (95%). Sixty-four percent were stage I, 31% were stage II, and 5% were stage III or IV. A higher proportion of re-screens were diagnosed at stage I compared to first screens (Figure 14).

Negative Lymph Nodes Target:
>70% node negative.

The post-screen detected invasive cancer rate for women screened in 2006 and 2007 was 4.8 per 10,000 person years (0-12 months) and 8.6 per 10,000 person years (0-24 months).

Post-screen Detected Invasive Cancer Rate Target:
<6 per 10,000 person years (0-12 months)
<12 per 10,000 person years (0-24 months)

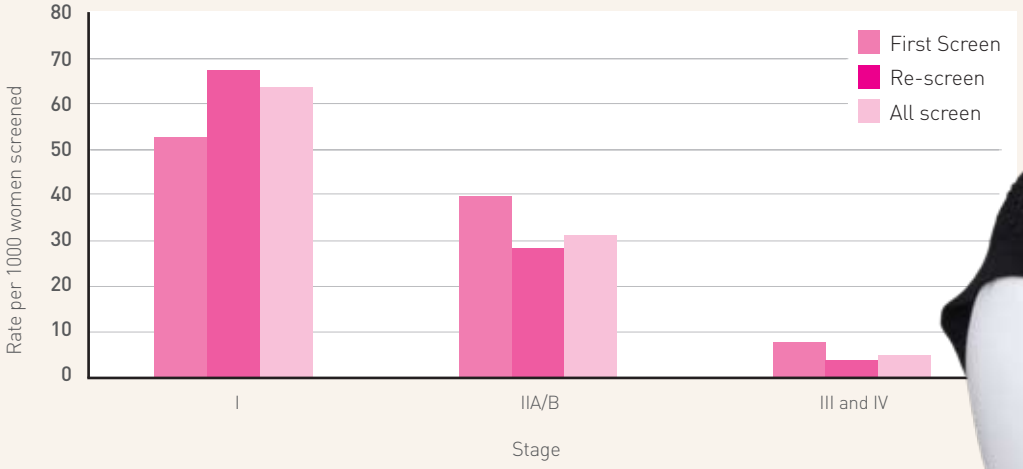
Figure 13.
Invasive tumour size (2008 and 2009, n=338)

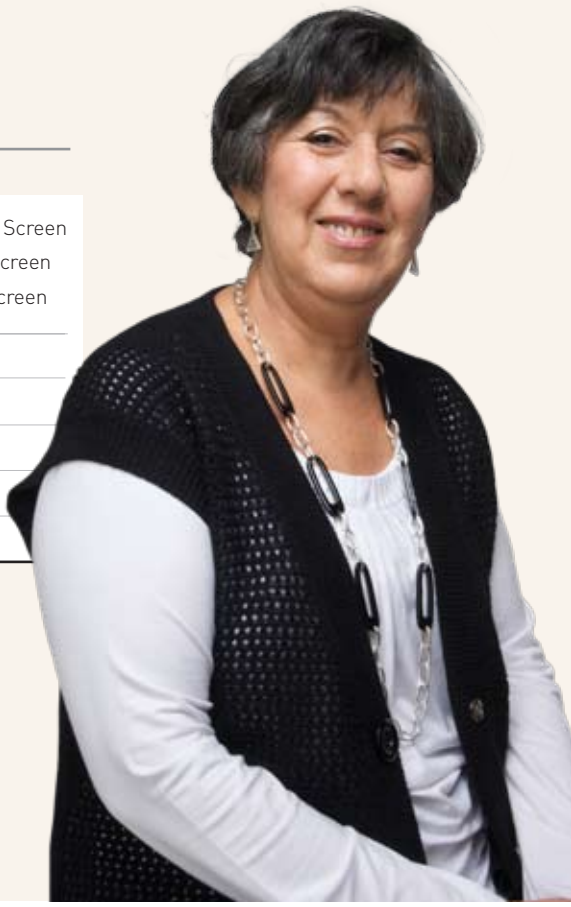


Invasive Tumor Size Target:

> 25% ≤ 10mm
> 50% ≤ 15mm

Figure 14.
Stage of invasive breast cancer (2008 and 2009, n=329)





Comparison to Canadian Targets

As part of the on-going evaluation of the MBSP, several interim measures of program effectiveness are regularly compared to national targets.[4] Table 5 shows the performance measure, target, and the MBSP outcome. Appendix 4 contains detailed outcomes in supplementary tables.

Table 5.
Comparison of MBSP outcomes with Canadian standards

PERFORMANCE MEASURE	TARGET	MBSP OUTCOME
Participation rate (April 2008 to Sept 2010 – 30 months)	≥ 70% of the eligible population	60%
Participation rate (April 2008 to March 2010 – 24 months)	Surveillance and monitoring purposes only	56%
Retention rate (2008/09)	≥ 75% re-screened within 30 months	82%
Abnormal call rate (2008 to 2010	< 10% first screen < 5% re-screen	8.7% 3.9%
Invasive cancer detection rate (2008 and 2009)	> 5 per 1000 first screen > 3 per 1000 re-screen	4.7 4.2
In situ cancer detection rate (2008 and 2009)	Surveillance and monitoring purposes only	1.0
Diagnostic interval (2008 to 2010)	≥ 90% within 5 weeks – no tissue biopsy ≥ 90% within 7 weeks – tissue biopsy	83% 66%
Positive predictive value (2008 and 2009)	≥ 5% first screen ≥ 6% re-screen	5% 10%
Benign to malignant open biopsy ratio (2008 and 2009)	≤ 2:1 first and re-screens	3.4:1
Benign to malignant core biopsy ratio (2008 and 2009)	Surveillance and monitoring purposes only	1.5:1
Invasive tumour size (2008 and 2009)	> 25% ≤ 10 mm > 50% ≤ 15 mm	33% 61%
Negative lymph nodes in cases of invasive cancer (2008 and 2009)	> 70% node negative	76%
Post-screen detected invasive cancer rate (2006 and 2007)	< 6 per 10,000 person years (0-12 months) < 12 per 10,000 person years (0-24 months)	4.8 8.6

[4]Organized Breast Screening in Canada: Report on Program Performance in 2005 and 2006. PHAC; Ottawa, 2010

Acknowledgments

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Appendix 1.
Mammography Guidelines

(Please refer to attached pages at the back of the report)

Appendix 2.
Education Resources

Resource List

Most resources are available on line: http://www.cancercare.mb.ca/breasthealthresources.

Posters

- Community Education Poster/handout series of 3:
  - Early detection is your best protection with mammogram facts
  - Breast screening facts and mobile location map
  - Breast Health – There is so much you can do.
- What You Should Know About Breast Cancer Screening

Fact Sheets and resources for health workers

- A Trip for Health
- Breast Health Services
- Early detection is your best protection Recall Information Sheet
- Manitoba Breast Screening Program Mammography Guidelines
- Decision Aid for Women Aged 40 and Over (PHAC)
- RX pad for breast screening
- Planning for a community mobile
- Wallet sized appointment card
- Teaching breast models/lump display – for loan only

Pamphlets

- Finding Breast Cancer Early Could Save Your Life (English, French, Amharic, Arabic, Chinese, Farsi/Persian, Filipino, German, Hindi, Italian, Korean, Polish, Portuguese, Punjabi, Russian, Spanish, Swahili, Urdu, and Vietnamese)
- After Your Visit (languages available - same list as above)
- A Free Breast Health Program for Women 50 years of age and over – A 1 page fact sheet - low literacy - line drawings of steps in screening. English only.
- Shower Card - Breast Health 4 Easy Steps
- Your Breasts: Questions & Answers
- Reduce Your Risk newspaper insert - 4 sections: General cancer, breast cancer, cervical cancer and colorectal cancer.

Videos

Reduce Your Cancer Risk series:

- DVD with 4 sections: General cancer, breast cancer, cervical cancer and colorectal cancer with voice overs in Cantonese, Cree, French, German (Low and High), Korean, Mandarin, Ojibwe, Portuguese, Punjabi, Russian, Spanish, Swahili, Tagalog, Urdu, and Vietnamese.
- Pass it On- Reduce Your Risk DVD
- Kit: Reduce Your Cancer Risk Facilitator Guide and DVD - The kit includes an outline, the DVD, discussion activities and sample resources of all 3 screening programs.

Displays

- Tri-Screening (breast, cervical, colorectal) Display Board – Provides the who, what, when, where, and why of the three screening programs/tests.

Appendix 3.
Glossary and Definitions

Participation rate: The percentage of women who have a screening mammogram within the previous 24 or 30 months as a proportion of the eligible population.

Retention rate: The estimated percentage of women who are re-screened within 30 months of their previous visit.

Family history of breast cancer: A high risk of breast cancer is defined as a 25% or greater lifetime risk (for example, one first or second degree relative diagnosed with both breast and ovarian cancer at any age).*

Low risk is defined as a lifetime risk of between 12% and 25% (at least one first or second degree relative on either side of the family with a history of breast or ovarian cancer that does not fall into any of the high risk categories).

No risk (average risk) is defined as an 11% risk or the risk of the general population (no first or second degree relative on either side of the family with a history of breast or ovarian cancer).

Abnormal call rate: The percentage of women screened who are referred for further testing because of abnormalities found by mammography.

Invasive cancer detection rate: The number of women detected with invasive cancer during a screening episode per 1000 women screened.

In situ cancer detection rate: Number of ductal carcinoma in situ cancers (rather than invasive cancer) during a screening episode per 1,000 women screened.

Diagnostic interval: The total duration from abnormal screen to resolution of abnormal screen.

Positive predictive value: The proportion of abnormal cases with completed follow-up found to have breast cancer (invasive or in situ) after diagnostic work-up.

Benign to malignant open biopsy ratio: Among open biopsies, the ratio of the number of benign cases to the number of malignant cancer cases.

Invasive tumour size: The percentage of invasive cancers with tumour size of ≤10 mm in greatest diameter as determined by the best available evidence:

1) pathological, 2) radiological, 3) clinical.

Negative lymph nodes in cases of invasive cancer: The proportion of invasive cancers in which the cancer has not invaded the lymph nodes.

Stage of invasive cancer: Breast cancers are staged using the TNM7 classification system . Approximate stage definitions of breast cancer are as follows:

Stage I – tumour less than 2 cm, no cancer in lymph nodes, Stage II – tumour 2 to 5 cm, not involving the chest wall, if lymph nodes are involved they are movable, Stage III – advanced local tumour, fixed to skin or chest wall, or presence of lymph nodes attached to structures in the axilla, and Stage IV – cancer spread beyond breast and axilla to lymph nodes above the collarbone or to distant organs.

Post-screen detected interval cancer rate: The number of women with a diagnosis of invasive breast cancer after a negative screening episode per 10,000 person-years at risk within 12 and 24 months of the screening date.

* Detail Available on request.

Appendix 4.
Supplementary Tables

Table 6.
Number of women screened by age group and RHA (April 2008 to March 2010)

	WINNIPEG	BRANDON	NORTH EASTMAN	SOUTH EASTMAN	INTERLAKE	CENTRAL	ASSINIBOINE	PARKLAND	NOR-MAN	BURNTWOOD	CHURCHILL	TOTAL
<50	96	<5	44	36	68	46	67	43	34	39	<5	478
50-54	15121	1087	841	1154	1795	1965	1519	834	530	461	19	25326
55-59	12147	909	880	934	1559	1549	1342	794	409	381	13	20917
60-64	10339	818	786	845	1578	1418	1295	754	293	271	9	18406
65-69	7275	620	572	650	1074	1186	1058	603	200	176	<5	13418
70-74	1582	122	213	233	453	369	314	267	69	37	<5	3661
75+	189	21	62	52	122	99	94	130	32	8	<5	811
Total	46749	3579	3398	3904	6649	6632	5689	3425	1567	1373	52	83017
50-69+	44882	3434	3079	3583	6006	6118	5214	2985	1432	1289	45	78067

Notes: Does not include 323 women who cannot be attributed to an RHA (N= 78,390).

Table 7.
Participation in the last 24 months by Regional Health Authority (50 to 69 years of age, April 2008 to March 2010)

	WINNIPEG	BRANDON	NORTH EASTMAN	SOUTH EASTMAN	INTERLAKE	CENTRAL	ASSINIBOINE	PARKLAND	NOR-MAN	BURNTWOOD	CHURCHILL	TOTAL
Screened	44882	3434	3079	3583	6006	6118	5214	2985	1432	1289	45	78067
Population	81176	5584	5355	6358	10165	10823	8784	5152	2464	2892	95	138851
%	55.3%	61.5%	57.5%	56.4%	59.1%	56.5%	59.4%	57.9%	58.1%	44.6%	47.4%	56.2%

Notes: Does not include 323 women who cannot be attributed to an RHA. Population is from Manitoba Health, June 1, 2009.

Table 8.
Number of program detected cases of invasive breast cancer by Regional Health Authority (2008 and 2009)

	WINNIPEG	BRANDON	NORTH EASTMAN	SOUTH EASTMAN	INTERLAKE	CENTRAL	ASSINIBOINE	PARKLAND	NOR-MAN/ BURNTWOOD/ CHURCHILL	UNKNOWN	TOTAL
50-69	191	14	18	15	26	33	18	19	11	<5	348

Table 9.

Number of program detected cases and cancer detection rate of invasive breast cancer by age group and screen type (2008 and 2009)

	WOMEN SCREENED			INVASIIVE BREAST CANCER			CANCER DETECTION RATE PER 1000 WOMEN SCREENED		
	FIRST	RE-SCREEN	TOTAL	FIRST	RE-SCREEN	TOTAL	FIRST	RE-SCREEN	TOTAL
<50	310	187	497	<5	<5	<5	6.5	0.0	4.0
50-54	12832	13405	26237	44	34	78	3.4	2.5	3.0
55-59	2219	19608	21827	19	61	80	8.6	3.1	3.7
60-64	969	18163	19132	8	97	105	8.3	5.3	5.5
65-69	549	13511	14060	7	78	85	12.8	5.8	6.0
70+	157	3765	3922	<5	23	24	6.4	6.1	6.1
50-69	16726	68452	85178	78	270	348	4.7	3.9	4.1

Notes: 8 cases of breast cancer with incomplete morphology

Table 10.

Number of women diagnosed with program detected in situ breast cancer by age group and screen type (2008 and 2009)

	FIRST	RE-SCREEN	TOTAL
50-54	14	8	22
55-59	<5	18	18
60-64	<5	23	27
65-69	<5	11	13
70+			
50-69	20	60	80

Notes: Excludes 8 cases of insitu cancer detected in women 70 years of age and older.

Table 11.

Number of open and core biopsies over time (50 to 69 years of age)

	2005	2006	2007	2008	2009
Open	71	86	75	87	62
benign	46	64	60	59	40
malignant	25	21	21	16	13
benign to malignant ratio	1.8	3	2.9	3.7	3.1
Core	305	408	394	482	458
benign	143	190	186	220	228
malignant	162	156	153	156	147
benign to malignant ratio	0.9	1.2	1.2	1.4	1.6
total	376	494	479	569	520

Table 12.

Stage of program detected invasive breast cancer by screen type (50-69 years of age, 2008 and 2009)

STAGE	FIRST	RE-SCREEN	TOTAL	FIRST	RE-SCREEN	ALL SCREENS
I	39	172	211	52%	68%	64%
IIA/B	30	71	101	40%	28%	31%
III and IV	6	11	17	8%	4%	5%
Total	75	254	329			

BreastCheck Mammography Guidelines

BreastCheck
CancerCare Manitoba

What is BreastCheck?

BreastCheck is a population-based screening program operated by CancerCare Manitoba. The goal is to reduce breast cancer deaths by finding breast cancer at an early stage. Research shows that screening can reduce mortality from breast cancer by up to 25% in women 50 to 69 years of age. The Program provides mammograms every 2 years for all eligible Manitoba women.

What happens at the Program?

Women complete a short questionnaire about breast health, risk factors and sign a consent form authorizing sharing of results between health providers. They receive a mammogram, the opportunity to watch a DVD on reducing cancer risk and information on breast awareness including sign and symptoms. The visit takes about 30 minutes. We encourage women to get a regular clinical breast exam from their health care provider.

Who is eligible?

Women 50 years of age and older with no signs or symptoms of breast cancer such as lumps or nipple discharge, no breast implants, no previous diagnosis of breast cancer, and no mammogram in the last 12 months

Where do women go to be screened?

BreastCheck has 4 locations as well as a mobile service:

- Winnipeg: 5-25 Sherbrook St. - 788-8000
- Brandon: 620 Frederick St. - 578-2040
- Thompson: Thompson General Hospital 1-800-903-9290
- Winkler/Morden: Boundary Trails Health Centre, Junction of Hwy. 3 & 14, 1-800-903-9290
- Mobile – 90 locations. Call 1-800-903-9290 or look them up at www.breastcheckmb.ca

Patient age	BreastCheck Mammography recommendations and letters
Women age 50 to 74:	**BreastCheck Screening mammograms are generally recommended every 2 years.** **The Program:** • sends letters of invitation to women when they turn 50 years of age. • sends result letters to women and their primary care providers within 2 weeks. • sends recall letters to program participants every 2 years up to age 74. Women can also self refer. Some women are recalled **yearly** based on: • significant family related risk that considers number of diagnoses, age of diagnosis, male breast cancer. • pathological diagnosis of Lobular Carcinoma In-situ (LCIS) or Atypical Ductal Hyperplasia (ADH). • radiologist recommendation.
Women over age 74:	**Women over age 74 should discuss risks and benefits with their primary care provider.** • Women will not be recalled by letter but can self refer. • Women and their primary care provider will receive a result letter. • Stopping screening should be considered when there are: - Co-morbidities and an expected lifespan of less than 5-10 years. - Physical limitation for mammography that prevents proper positioning.

Further Testing

About 5 to 6% of women will require further testing. This is part of routine screening and in most cases will confirm that cancer is not present. BreastCheck refers women directly to a diagnostic centre* or further testing can be coordinated by the primary care provider. Direct referral by the Program can reduce the time to diagnosis. One or more of the following may be recommended: diagnostic mammogram, ultrasound, stereotatic core biopsy, surgical consultation.

Every effort is made to minimize a woman's anxiety about further testing. Information is provided in pamphlets, letters and by phone. Primary care providers are notified of abnormal results before the woman so they are ready to answer questions. BreastCheck staff encourage primary care providers and women to call the Program if they have any questions.

Most women (91%) whose mammogram shows that further tests are needed will not have cancer. These women can return to routine screening at BreastCheck.

BreastCheck obtains the results of all follow- up testing by contacting the diagnostic facility or the primary care provider. This is to ensure that all women receive the appropriate recommended tests and that screening outcomes such as cancer detection rates can be measured. **In Manitoba, breast cancer mortality has been reduced by 23% in women who attended the Program.**

What are the limitations of screening?

Possible limitations of screening include anxiety about further testing, pain, radiation exposure, over diagnosis and missed cancers.

Women can find mammograms painful. BreastCheck asks women to rate the discomfort of a mammogram on a scale of 0 to 10 with 10 being the worst and 0 being no pain. About two thirds of women rate the discomfort a 5 or less.

Mammography involves exposure to radiation. The amount of radiation received from a screening mammogram is almost the same as that received over 3 months from usual surroundings. Studies show that the hypothetical risk of a new cancer starting due to radiation to the breast from breast screening mammography is extremely low. The benefits of early diagnosis and treatment of breast cancer outweigh the small radiation risk for women over the age of 50.

Screening can result in over diagnoses and over treatment of cancers which may not otherwise have become apparent during a woman's life time. Additionally, not all breast cancers found through screening can be cured.

Up to 20% of breast cancers in women age 50 to 69 years of age may be missed by mammography. This is why regular screening and awareness of breast cancer signs and symptoms are important. A recent negative mammogram should not be used to reassure a woman if symptoms subsequently appear.

The role of primary care providers:

Primary care providers have an important role to play in the early detection of breast cancer. They can provide information to women about the benefits and limitations of screening mammography so an informed choice can be made. Your recommendation can make a difference in encouraging women to attend. Please provide a regular clinical breast examination and encourage breast awareness.

What are the Mammography recommendations for individuals not seen at BreastCheck?

Women age 40 or under	• Screening mammograms not routinely recommended.
Women 40 to 49 years of age	• Screening mammograms not routinely recommended but risks and benefits of screening should be discussed and referral made to a diagnostic centre* if appropriate. • Women with significant family history can be referred to a diagnostic centre* and are also accepted at BreastCheck rural and northern mobile sites with referral. • BreastCheck does not send letters to and does not accept women under age 50 at fixed screening sites or Winnipeg mobile sites.
Symptomatic - any age	• Refer to a diagnostic centre* for mammogram, ultrasound and/or surgical consultation. If a mammogram is negative in the presence of a palpable abnormality send for further assessment.
Women with implants	• Age 49 and younger: discuss risks and benefits of screening younger women, their need for mammograms and refer to a diagnostic centre* if appropriate. • Age 50 and over: refer to a diagnostic centre* for a mammogram.
Confirmed BRCA gene mutation	• Consult with the WRHA Breast Health Centre or breast specialist as monitoring will vary depending on age, gender and personal history of breast cancer
Women who have had a breast cancer diagnosis	• Refer to a diagnostic centre* for mammogram or other follow up as recommended.

** There are 7 diagnostic centres in Manitoba that provide diagnostic mammograms. Physician referral is required.*

Additional resources:

The WRHA Breast Health Centre:
PHONE: 235-3906 TOLL FREE 1-888-501-5219
www.wrha.mb.ca/community/bhc/index.php
An assessment centre for women and men of all ages who have signs and symptoms of breast cancer.

CancerCare Manitoba:
PHONE: 787-2197
www.cancercare.mb.ca/home/health_care_professionals/
Manitoba information on cancer treatment and primary care provider resources.

The CCMB Breast Cancer Centre of Hope
PHONE: 788-8080 TOLL FREE 1-888-660-4866
www.cancercare.mb.ca/hope
An information and support centre for all women and men with, or concerned about, breast cancer and the people who care for them.

Canadian Cancer Society's Cancer Information Service
TOLL FREE 1-888-939-3333, 9am – 6pm, Monday – Friday
www.cancer.ca
Anyone can call for information about cancer.

Public Health Agency of Canada:
www.publichealth.gc.ca/decisonaids
Information on mammography for women aged 40 and older: A Decision Aid for Breast Screening in Canada

FOR ADDITIONAL RESOURCES OR INFORMATION CONTACT:

BreastCheck CancerCare Manitoba
25 Sherbrook Street Unit 5
Winnipeg Manitoba R3C 2B1
PHONE: 788-8633 or 1-800-903-9290
FAX: 788-1594
www.breastcheckmb.ca

MANITOBA BREAST SCREENING PROGRAM

Biennial Report 2008-2010

BreastCheck
CancerCare Manitoba

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