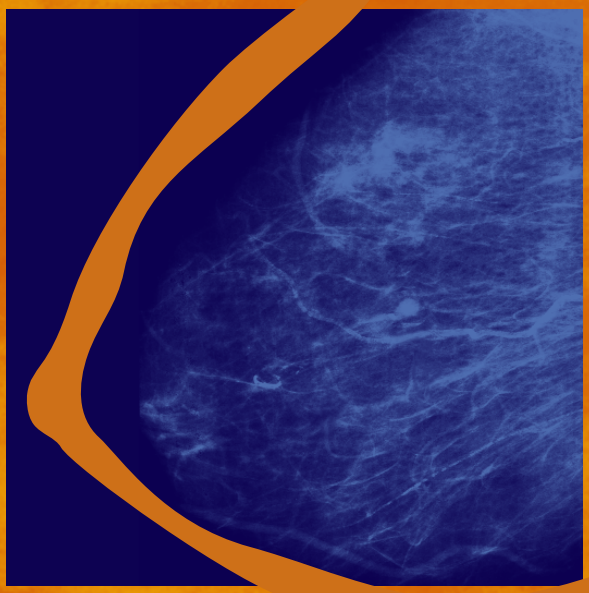

Celebrating 15 years of early detection

OBSP 2005–2006 Annual Report

ontario breast screening program
a cancer care ontario program

programme ontarien de dépistage du cancer du sein
un programme de action cancer ontario

OBSP Mission

As part of the overall spectrum of women's health,
our Mission is to reduce mortality from breast cancer by
delivering high-quality breast screening to Ontario women.

Our Goal

To achieve a 70% participation rate in Ontario women aged 50–69
by the year 2010 and 90% by 2020.

The Ontario Breast Screening Program is operated by the Division of Preventive Oncology of Cancer Care Ontario.

The Division of Preventive Oncology includes:

- Aboriginal Cancer Care Unit
- Cancer Surveillance
- Cancer Prevention with emphasis on reducing tobacco use and promoting healthy eating and active living
- Screening programs for breast and cervical cancers
- Research into cancer prevention and screening

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OBSP 15 Celebrating years of early detection

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Message from the Vice-President of Preventive Oncology

The key aim for the Ontario Breast Screening Program (OBSP) is the early detection of breast cancer. Breast cancer is the most frequently diagnosed cancer in Ontario women, and second only to lung cancer for cancer deaths. It is anticipated that 8,400 Ontario women will be diagnosed with breast cancer in 2006, and that 2,000 will die from this disease. The earlier breast cancer is found and treated, the better the chances for a good outcome. For many women earlier detection of cancer may allow for breast conserving surgery. As well, chemotherapy and/or hormonal therapy may not be necessary

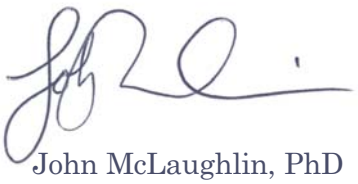
A further reduction in breast cancer mortality is achievable

Although the incidence of breast cancer in Ontario has been fairly stable in the past decade, the death rates from breast cancer for Ontario women aged 50–69 decreased 29% between 1989 and 2002. This significant decrease is attributed to increases in the number of women attending breast screening and improvements in treatment.

The mission of the OBSP is to reduce mortality from breast cancer by delivering high-quality screening. To achieve reduced mortality, the OBSP partners with mammography facilities across the province to provide screening and assessment services. We take an organized approach to the recruitment of women into screening, ensure automatic recall and follow-up of women with abnormal screens, and continuously evaluate and monitor the program using evidence-based performance measures and targets. We have a computerized screening information system that enables us to monitor our performance and compare our program to other provincial screening programs.

CCO is proud of the OBSP's leadership at regional, provincial, national, and international levels. We can celebrate the many accomplishments highlighted in this report as we look forward to further program expansion, improvements in quality and technologies, and contributions to the scientific body of knowledge in breast screening.

Although we have made great strides in reducing the death rate from breast cancer, much work still remains to prevent breast cancer deaths. Despite significant media coverage, public interest in breast cancer, and promotional campaigns, fewer than 60% of Ontario women aged 50–69 attend mammography screening, and, of these, only about half are screened as part of the provincial organized screening program. With our many partners, we are working to recruit more women in this target age group to mammography screening in the OBSP: our goal is 70% by 2010 and 90% by 2020. With organized screening, a larger proportion of women can be screened and a further reduction in breast cancer mortality is an achievable goal.



John McLaughlin, PhD
Vice-President
Preventive Oncology, Cancer Care Ontario

Message from the Director of Screening

It is a pleasure to report to you on the progress and outcomes of the Ontario Breast Screening Program (OBSP) for the fiscal year 2005/06. Our report highlights the key activities and program outcomes that showcase the OBSP's significant role in delivering high-quality breast screening services to women in Ontario.

The 2005/06 fiscal year marked the beginning of the 15th year anniversary celebrations for the OBSP. Since the program began in 1990, it has provided more than 1.8 million screens to 690,000 women, helping detect 10,561 cancers. In 2005 alone, 957 cases of breast cancer — the majority at early stages — were found during OBSP screenings.

The goal of screening mammography is not only to detect breast cancer, but to detect breast cancer early. To achieve this goal, OBSP mammograms must be consistently high-quality. Our rigorous quality assurance requirements help us ensure that Ontario women have access to the highest quality of breast screening services in the province. Our program outcomes for this year clearly show that the OBSP continues to meet most — and in some cases exceed — Canadian standards for organized breast screening programs.

This year was one of significant growth. The OBSP welcomed 13 new breast screening affiliates and four new breast assessment affiliates into the program. I encourage you to read about the exciting regional promotion and recruitment initiatives organized across the province in the regional cancer programs. "The Big Squeeze," "50/FIFTYplus in one day!" and "Thingamaboob" are just a few of the innovative promotional ideas our regional partners have implemented to promote OBSP screening.

This year also saw some legislative changes that affect how the OBSP reports program outcomes. On March 1, 2006, the government passed the Local Health Integration Act, 2006, which changed the way health care services are planned, funded, and coordinated in Ontario. This new structure is designed to enhance regional and local planning and the integration of services. Cancer Care Ontario has aligned its cancer services to the 14 Local Health Integration Networks (LHINs). This report presents the program statistics and data by LHIN.

CCO's research staff are committed to contributing to scientific knowledge on women's health and the reduction in breast cancer mortality. This year, for example, research staff and partners examined risk factors for breast cancer, screening effectiveness, and modalities of screening. These studies, along with other recent scientific studies by other researchers in the field, reaffirm the effectiveness of mammography screening in reducing breast cancer mortality.

I would like to take this opportunity to thank staff and volunteers whose hard work and commitment make such a difference to the lives of Ontario women who participate in the OBSP every year.

Verna Mai, MD, MHSc, FRCPC
Director of Screening, Cancer Care Ontario

Ontario women have access to some of the highest quality breast screening in the world

Executive Summary

This year, the Ontario Breast Screening Program (OBSP) celebrated its 15th year of operations. The activities of the program are guided by Canadian recommendations for organized breast screening programs. The program's mission is to reduce deaths from breast cancer by providing high-quality breast screening to Ontario women.

This report provides a description of activities, progress, and program outcomes for the 2005/06 fiscal year. Highlights include:

Screening

- The OBSP provided breast screening services to 290,959 women, an increase of 13.5% (34,525 screens) over the previous fiscal year.
- 81.9% of clients returned within six months of their recommended screening date, which exceeds the Canadian Standards.
- 13 new screening affiliates joined the OBSP, bringing the total number of screening sites across the province to 111 as of March 31, 2006.
- Provincial and regional promotional initiatives increased women's awareness of breast health and encouraged participation in screening. Initiatives included physician reminder systems, workplace campaigns, strategies targeting women without family doctors, and various educational displays and community projects.
- The OBSP sponsored a provincial education day for its medical radiation technologists. Keynote speaker Louise C. Miller, a mammography-positioning specialist from California, shared positioning tips and breast-mapping techniques for positioning.

Assessment

- The OBSP's referral rate for women referred for further testing as a result of an abnormal finding shows that 12% of women who attended the OBSP for an initial screen, and 7.3% of women who attended for subsequent screening, were referred for follow-up due to abnormal screens.
- The program's positive predictive value indicator shows that after a diagnostic workup for an abnormal breast screen, 4.5% of women initially screened were found to have breast cancer, and 5.6% of women rescreened were found to have breast cancer.
- The diagnostic interval indicator (the duration from an abnormal screen to the resolution of the abnormal screen) shows that approximately 80% of women with an abnormal screen who did not have a core or open tissue biopsy were diagnosed within the recommended interval of five weeks. Approximately 56% of women with an abnormal screen who had a tissue biopsy were diagnosed within the recommended interval of seven weeks.
- Four new breast assessment affiliates joined the OBSP bringing the total number of assessment sites across the province to 21 as of March 31, 2006.
- The OBSP hosted a provincial education day for representatives from its breast assessment affiliates to share successes and develop strategies to overcome challenges.

Cancers

- 957 cancers were detected at screening.
- Invasive cancer was detected in 4.2 per 1,000 initial screens and 3.4 per 1,000 rescreens.
- 32.4% of invasive cancers detected by program screens were ≤10 mm in diameter (invasive cancer tumour size), and 72.8% had not invaded the lymph nodes.

Introduction

Breast cancer is the most frequently diagnosed cancer in Ontario women and is second only to lung cancer for cancer deaths. In Ontario, 1,394,998 million Ontario women between the ages of 50 and 69 are potentially eligible for breast cancer screening.[1] It is anticipated that 8,400 Ontario women will be diagnosed with breast cancer in 2006, and that 2,000 women will die from this disease.[2] Age continues to be the most important predictor of breast cancer risk. In Canada, 80% of breast cancers are found in women over age 50, and 50% of breast cancers occur in women aged 50–69.[2]

The incidence of breast cancer in Ontario rose until the early 1990s, and has stayed much the same since that time.[3] Death rates for Ontario women aged 50–69, however, decreased 29% between 1989 and 2002.[3] This significant decrease is attributed to mammography screening and improvements in treatment.[4] Early detection through organized breast cancer screening combined with effective treatment remains the best tool currently available to reduce breast cancer deaths.[5]

Delivery of screening in Ontario occurs in the fee-for-service sector and in the OBSP. Program elements such as identification and recruitment of the target group, an effective referral system once an abnormality had been detected, and procedures for monitoring and evaluating the program contribute to high-quality, effective screening programs. These elements as such are absent in the fee-for-service sector.

Organized breast screening was introduced by the Ontario Ministry of Health and Long-Term Care (MOHLTC) in 1990 and is operated through Cancer Care Ontario (CCO). The OBSP specifically targets women aged 50–69 to encourage them to participate in regular screening, and also screens women up to age 74. Services are delivered at hospitals and independent health facilities affiliated with the OBSP. A mobile coach provides breast screening services to women in remote communities in the Northwest.

Screening services currently include a two-view mammogram at all affiliate sites with staff and equipment that meet both the OBSP's standards and those of the Canadian Association of Radiologists – Mammography Accreditation Program (CAR–MAP). At some sites, clinical breast examination is provided by a nurse examiner. Both the client and her family physician are informed of screening results. When screening abnormalities are detected, suggestions for further assessment are provided to the primary care or referring physician. The OBSP is committed to the physical and emotional well-being of women participating in breast screening and every effort is made to help clients feel welcome and comfortable.

1 Ontario Ministry of Finance, 2005

2 2006 Canadian Cancer Statistics

3 Cancer Care Ontario (Ontario Cancer Registry)

4 Effect of Screening and Adjuvant Therapy on Mortality from Breast Cancer (2005) NEJM 353:1784–92

5 World Health Organization (2002). IARC Handbook for Cancer Prevention, vol. 7. Breast Cancer Screening. IARC Press. Lyons.

Key Activities & Program Outcomes

This section of the report summarizes the key activities and program outcomes for the OBSP. The key activities include recruitment and promotion, screening and notification of results, diagnostic investigations (assessment), retention of women in the program, quality management and evaluation, and research.

I. Recruitment & Promotion

The OBSP continues to work towards increasing awareness among Ontario women of the benefits of early detection in reducing mortality from breast cancer. We promote participation in the breast screening program through a variety of recruitment methods including family physician referrals for screening, media campaigns, partnership initiatives, and region-specific recruitment initiatives. Participation in the program is expected to increase as a result of these initiatives.

Physician recruitment

Family physicians play an important role in recruiting women to the OBSP. The program has a well developed Physician Recruitment Model that provides administrative support to family physicians. This includes inviting eligible women within the physician's roster to be screened and, if desired, automatically arranging any follow-up testing. Building on this already successful recruitment strategy, the OBSP became involved in a demonstration project funded by the MOHLTC called P-PROMPT (Provider and Patient Reminders in Ontario using Multi-Strategy Prevention Tools). This project, led by Janusz Kaczorowski and Rolf Sebaldt, is helping physicians invite eligible patients to screening. Two hundred and forty-nine family physicians participated, and more than 47,000 reminder letters were sent to eligible patients due or overdue for Pap tests and mammograms. We continue to work with these partners to examine ways to sustain this pilot project in the future.

Media campaigns

At the provincial level, activity focused on promoting the OBSP's 15th anniversary and Breast Cancer Awareness month in October. A media toolkit, including key messages, a press release, a poster, and public service announcements, was developed and distributed to the OBSP's regional centres.

Partnership initiatives

One of the year's highlights has been OBSP's participation in a project named Upfront: New Perspectives on Breast Cancer. Upfront is led by the Canadian Breast Cancer Foundation – Ontario Chapter in partnership with Willow Breast Cancer Support and Resource Services, the Canadian Breast Cancer Network, the OBSP, the Princess Margaret Hospital (PMH) Foundation, and PMH Breast Centre Women's Committee. We have come together with these partners to learn about the breast care experience of Ontario women, from perceptions of how to reduce the risk of breast cancer to the daily experience of living with the disease.

A key part of this partnership initiative was a public opinion survey conducted in the fall of 2005 by the Institute for Social Research (ISR) at York University. Findings from this survey have given us some sense of satisfaction in that many women across the province feel informed about breast cancer, engage in a number of risk reduction behaviours, and regularly participate in breast screening. On the other hand, some subsets of the Ontario population were found to be less well informed, not as connected with the disease, and less involved in risk reduction behaviours, such as eating a healthy, balanced diet, exercising, reducing or quitting smoking, and regular participate in some screening practices. The OBSP will continue to work with its partners in developing strategies to ensure more women are well informed about the benefits of regular mammography screening.

The OBSP works in partnership with many stakeholders to coordinate provincial, regional, and local breast health initiatives.

Educational materials to support recruitment

The OBSP develops educational materials after consulting with and receiving input from our regional cancer partners. These educational materials describe the OBSP and address common questions and concerns that women have about mammography. Many of our materials are translated into several languages. To ensure our educational materials meet the needs of our clients and partners, in 2005/06 we conducted a review of all our materials. We updated our website with current, relevant breast cancer information, and revised the translated versions of our Breast Cancer Fact Sheet and Breast Self-Exam pamphlet. We also began the process of revising a number of program materials to support OBSP regional staff and public health staff to promote the OBSP. For example, the OBSP Breast Health presentation that targets the general public, a version of the that presentation targets health professionals, and the handout Information for Family Physicians. Also underway is a presentation package targeted to the general public that provides key messages for promoting screening for breast, cervical, and colorectal cancer.

Regional recruitment: Many paths to a common goal

Many partners, including Ontario's Regional Cancer Centers, public health units, and OBSP sites play a critical role in recruiting women to organized screening. Some of their innovative solutions to promote the OBSP are described below.

The Big Squeeze

The OBSP Hamilton hub site partnered with the Hamilton Women's Health Networking Group to coordinate an educational event called "The Big Squeeze: The What and Why of Breast Screening." This event was aimed at increasing awareness of regular breast screening by the OBSP, both in the general public and for health care workers.

OBSP and Friends

As part of the 15th year OBSP anniversary celebrations, the Kingston hub site organized an "OBSP and Friends" event that celebrated the importance of OBSP community partnerships and highlighted the work women do in the Kingston community. Four female Kingston authors read from their latest works.

Affiliation with existing mammography sites

With 100+ mammography facilities in the Greater Toronto Area, the OBSP's primary recruitment strategy in this area continues to be affiliation with existing mammography facilities to ensure women have access to the benefits of organized screening.

Reaching out to Aboriginal and First Nations women

In Northwestern Ontario, the mobile breast screening coach visited more than 30 regional communities between March and November 2006. With assistance from staff at the First Nations and Inuit Health Branch of Health Canada and regional community health representatives, the coach has added three new communities to its travel schedule this year to increase access for Aboriginal and First Nations women.

Staff Breast Screening Incentive Program

In the Kitchener area, the new Grand River Hospital Breast Screening Incentive Program aimed to increase participation of eligible staff in regular breast screening.

The program has surpassed expectations and is now being modeled in other hospitals and workplaces across Ontario.

50/FIFTYplus in one day!

At the London hub site, news media and local workplaces took the "50/FIFTYplus" OBSP challenge on the road in celebration of the OBSP's 15th year anniversary. Over 15 hours, the OBSP London hub and the local Public Health Unit met their goal to screen an unprecedented 50 women over age 50 in one day. Of these women, 37 were screened for the first time!

"Thingamaboob": Reaching unattached women

In London and Windsor, an ad hoc committee was formed for reaching unattached women (women without a family doctor), with regional representation from public health and media. The Canadian Cancer Society (CCS) provided funding. Using focus group results, the group produced key messages and an innovative visual concept. They approached CCS for permission to incorporate their "Thingamaboob" (key-chain fundraiser) in the project. A poster in two sizes, a cling decal, an e-birthday card, sample print ads, and shadow-box picture were produced to promote breast screening to unattached women living in Southwestern Ontario. In January 2006, the group distributed resource binders to public health across the region with strategies for community, health care facilities, media, and workplace.

Under-screened communities by postal code

The Sudbury OBSP hub site identified under-screened communities across the North East region by cross-referencing 2001 Census data with the OBSP's data. The next step in the project is to work with regional key stakeholders in breast screening to design and deliver customized, targeted recruitment strategies to the identified under-screened districts.

OBSP message on employee computer screen

The Sudbury OBSP hub site used pre-existing external and internal communication pathways to deliver the OBSP message through workplace computers to Sudbury Regional Hospital employees, as well as to French and English speaking teachers across the Sudbury district.

Chinese and Vietnamese community outreach

The Ottawa OBSP hub site, in partnership with a community health centre, ran a multi-strategy awareness campaign for the Chinese and Vietnamese communities. Activities included training volunteers to give workshops, translating OBSP materials to facilitate screens, and organizing group screens with a cultural interpreter. Media activities, such as articles, ads, and an interview, were arranged with local ethnic newspapers and radio stations. Physicians serving these communities were sent letters to raise awareness of this campaign and to encourage OBSP referrals.

II Screening

The OBSP's target age group is women aged 50–69, although screening is also provided to women aged 70–74. Women in the target age group are recruited to participate in the program, and are automatically recalled until the age of 74. After they turn 74, the program encourages clients to consult with their family physicians about continued screening, and will screen older women on request. Women are not eligible for OBSP screening if they have had breast cancer or breast augmentation, or if they currently have symptoms of breast disease requiring diagnostic work-up.

Number of screens

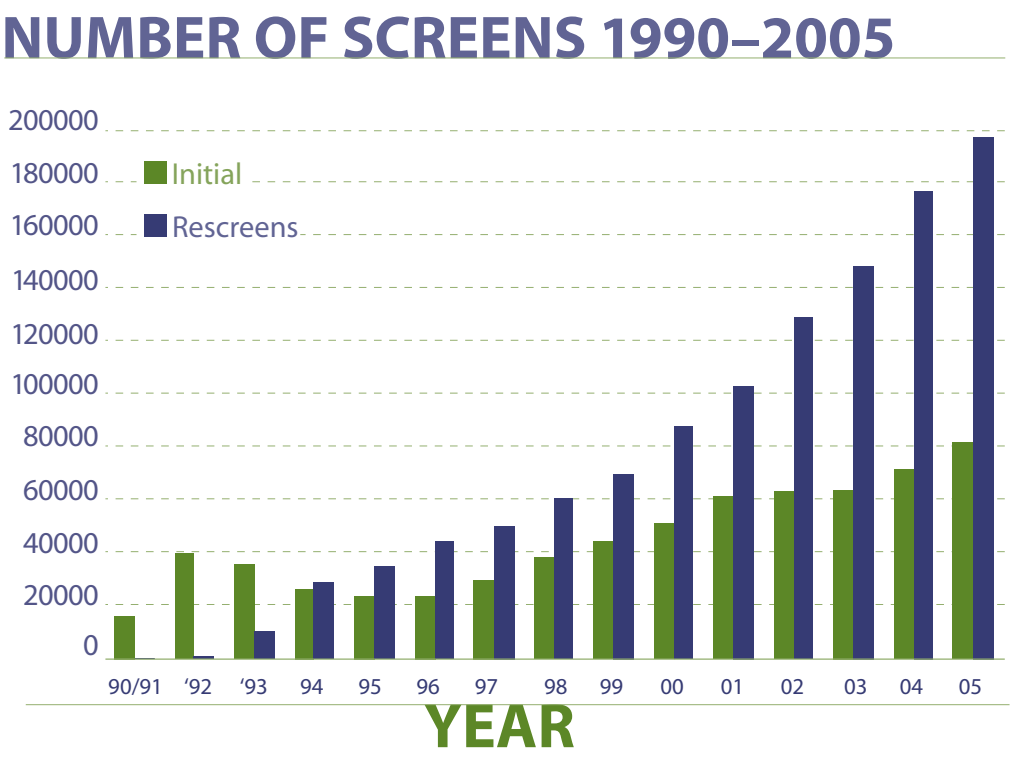
From the program's inception in July 1990 until March 31, 2006, the OBSP has provided 1,879,243 screens to 688,078 Ontario women aged 50 and older.

Figure 1 shows the number of screens by calendar year for women 50 and older screened through the OBSP. In 2005, 82,200 (29%) of all client visits were initial or first time screens in the program. These numbers continue to slowly increase each year as a result of the recruitment and promotion efforts described earlier in this report. In order for screening to have the greatest impact it is important that women return for mammograms at regular intervals. In 2005, 198,009 (71%) of all client visits were women who returned for a rescreen, suggesting the program is successful at retaining women once they are recruited into the program.

New screening affiliates

As of March 31, 2006, 111 mammography facilities in the province were affiliated with the OBSP. Congratulations to the 13 new

Figure 1 Number of screens by calendar year in OBSP, 1990–2005, all ages



Congratulations to the 13 new screening sites that joined in the 2005/06 fiscal year

screening sites that joined in the 2005/06 fiscal year:

- York Central Hospital, Richmond Hill
- West End 3101 Inc., Toronto
- London X-Ray Associates, Bradley, London
- Vaughan Imaging Consultants, Woodbridge
- Hotel-Dieu Hospital, Kingston
- The Ottawa Hospital, Riverside Campus, Ottawa
- Hotel-Dieu Grace Hospital, Windsor
- The Credit Valley Hospital (Peel Regional Cancer Centre), Mississauga
- The Scarborough Hospital, General Campus, Scarborough
- Groves Memorial Hospital, Fergus
- Joseph Brant Memorial Hospital, Burlington
- Thunder Bay Regional Health Sciences Centre, Linda Buchan Centre, Thunder Bay
- North York Diagnostic Imaging, Leslie Street, North York

Reach of the target population

The success of a population-based screening program depends on high participation rates. The goal of the OBSP is to screen 70% of women aged 50–69 every second year by the year 2010 and 90% by 2020.

Figure 2 shows the OBSP participation rates for women 50–69 years of age by Local Health Integration Network. Between 2004 and 2005, 391,664 women aged 50–69 were screened by the OBSP, a participation rate of 29.6% (up from 26.8% between 2003 and 2004). The increase in participation rates is likely due to increased number of affiliates joining the OBSP and aggressive regional recruitment and promotion efforts.

Currently, no other provincial breast screening program meets the national performance target of at least 70% participation in biennial screening. Participation of women aged 50–69 in organized breast screening programs increased slightly to reach 33.9% nationally in 2001 and 2002.[2] However, several provinces already have close to or greater than half of the eligible population participating in organized screening programs (British Columbia, Manitoba, Saskatchewan, and New Brunswick). Greater participation in organized screening in those programs can be attributed, in part, to lower rates of non-programmatic screening.

In Ontario, like other provinces, women can also be screened outside the organized screening program or fee-for-service sector. According to the CCO Cancer System Quality Index, 56.4% of screen-eligible women across Ontario had a screening mammogram in 2003/04.[1] Nearly equal numbers of women were screened in and outside the OBSP. Although more and more women are being screened through the OBSP, the number of women screened outside the program has not changed.
In 2005, CCO recommended to the Minister of Health and Long-Term Care

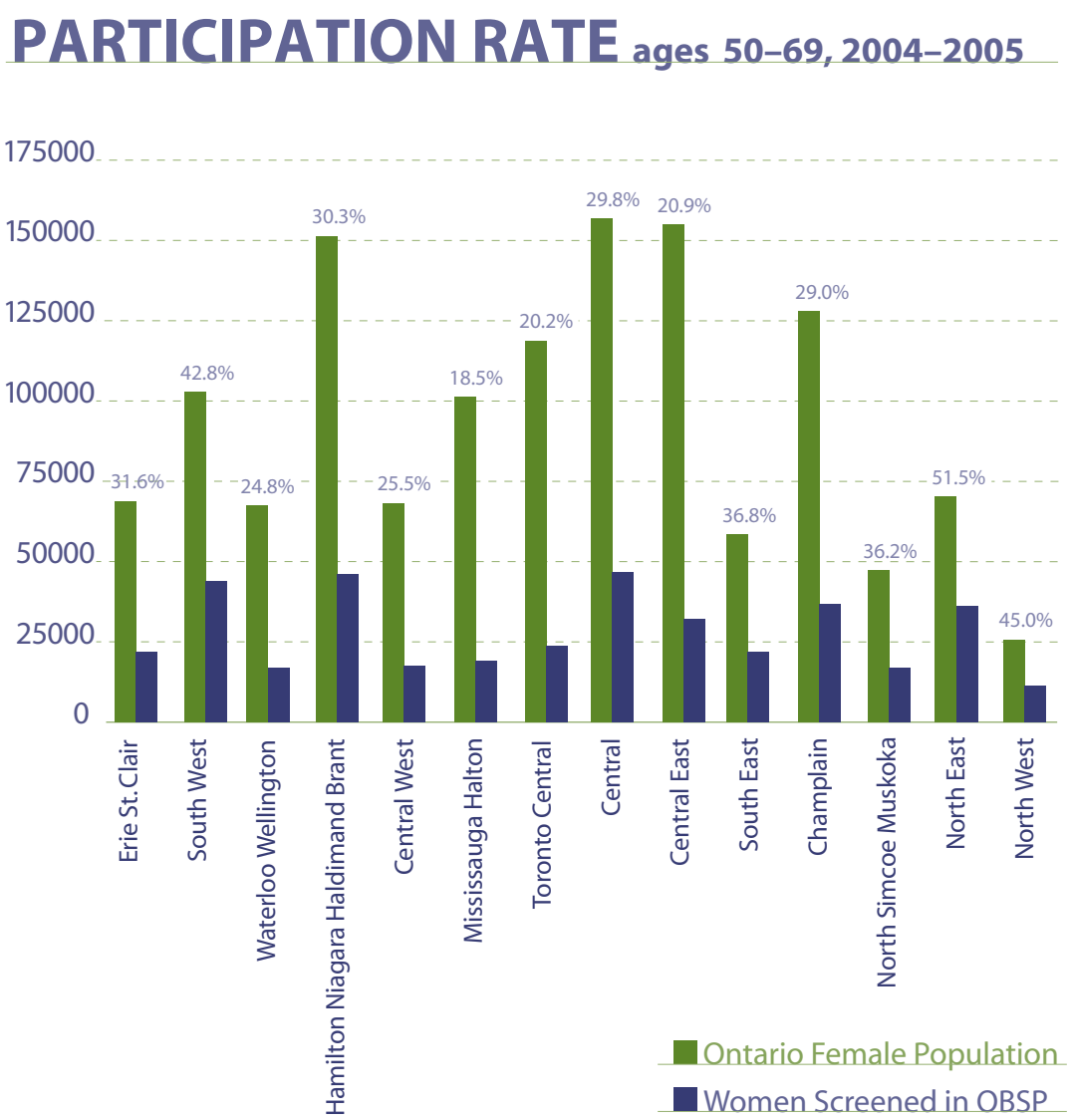
1 For further details see the CCO Cancer Quality Index at: www.cancercare.on.ca/QualityIndex2006/access/breastScreening/index.html.

2 Public Health Agency of Canada. Organized Breast Cancer Screening Programs in Canada. Report on Program Performance in 2001 and 2002.

that all Ontario women aged 50–69 be screened through the organized program offered by the OBSP. It is possible to further reduce deaths from breast cancer in Ontario by increasing the participation rate in screening.

The OBSP's target population grows each year. In 2005, the population of Ontario women potentially eligible for screening mammography grew by more than 50,000, bringing the total to 1,394,998 women in 2006. We will continue to work with our partners and the Ministry of Health and Long-Term Care to ensure the program has the capacity to meet the demand from the growing target population.

Figure 2 OBSP participation rate* in Ontario women aged 50–69, by LHIN, 2004–2005



*Participation rate is the number of women aged 50–69 at screening who participated in the OBSP as a proportion of the target population. Population figures are based on 2001 Census data projections for years 2004 and 2005.

III. Diagnostic Investigations

Diagnostic investigations may include a clinical evaluation, radiologic work-up including diagnostic mammography with additional views (spot compression or magnification views), a comparison with previous mammograms and/or ultra-sonography, fine needle aspirations, core or open biopsies.

The vast majority of women who receive an abnormal screen in the OBSP do not have breast cancer. When a lump or lesion is detected through a clinical breast examination (CBE) by a Registered Nurse or mammography screening, additional assessment is normally required to establish or exclude the presence of cancer. One of the OBSP's key objectives is to ensure that all women with abnormal breast screens are adequately followed up.

In 2004, approximately 91% of women screened in the OBSP had a normal screening examination and 9% were referred for further diagnostic assessment. Of the 9% of women referred for further diagnostic assessment, about 95% of the abnormalities were diagnosed as benign and 5% were diagnosed as breast cancer. In total, 957 cancers were detected (Appendix 1: Figure 3).

957

957 cancers were detected

Most women requiring follow-up tests in the OBSP have non-invasive procedures. This is consistent with the growing trend nationally towards using the less invasive procedures before resorting to open surgical biopsy. The most common procedures were diagnostic imaging, such as ultrasound and/or diagnostic mammograms (93.8%), and a consultation with a physician or surgeon (21.1%). (Appendix 4: Table 3)

In order that a final diagnosis could be obtained, a small number of OBSP clients underwent a fine-needle aspiration, core biopsy and/or surgical biopsy. In 2004, 4.3% of women aged 50–69 were diagnosed with cancer based on a surgical biopsy, a drop from 5% in 2003. (Appendix 4: Table 3). These figures suggest that the use of invasive procedures is decreasing. Of the women aged 50–69 who did require a surgical biopsy in 2004, the benign to malignant open biopsy ratio was 1.9:1 for all referrals, which is within the Canadian target of < 2:1. (Appendix 3: Table 2). Keeping the ratio of benign to malignant biopsies appropriately low is necessary to avoid inducing unnecessary morbidity in healthy women.

It's important to reach a diagnosis as quickly as possible. In 2004, the total duration from abnormal screen to resolution of an abnormal screen (diagnostic interval) was 84%, which is below the national target of > 90% within five weeks if no tissue biopsy is done. (Appendix 7: Table 6). The OBSP is not alone in falling below the national target. No provincial organized screening program met these targets for abnormal to screen diagnosis. More evidence is needed at the regional level to better understand which interventions effectively reduce wait times. We expect these assessment wait times will improve as more assessment affiliates join the OBSP. One example of the many initiatives to improve the time to diagnosis is the pilot project "Clinical Practice Guideline Supporting the Utilization of Image-Guided Core Biopsy to Reduce Waiting Times to Breast Cancer Diagnosis" in Sudbury, led by Dr. Amanda Hey and funded by the CCO Innovation Fund.

congratulations

Congratulations to the new breast assessment sites that joined the OBSP in the 2005/06 fiscal year

Breast Assessment Affiliates

Data from the OBSP shows that outcomes improve when comprehensive, high-quality, multidisciplinary assessment is integrated with screening. The OBSP established the Breast Assessment Initiative to promote improved breast assessment services for women with abnormal breast screens. The initiative's coordinated approach to assessment allows the health care team to reach a diagnosis as quickly as possible, while providing appropriate support for clients throughout the assessment process. In 2005/06, 7,341 breast assessments were completed in OBSP breast assessment affiliates.

The OBSP recruits facilities (both hospitals and independent health facilities) that provide breast assessment services to become breast assessment affiliates. As of March 31, 2006, there were 21 OBSP breast assessment affiliates across the province and one on-site assessment centre, located in Hamilton. Congratulations to the new breast assessment sites that joined the OBSP in the 2005/06 fiscal year:

- Chatham-Kent Health Alliance
- Thunder Bay Regional Health Sciences Centre, Linda Buchan Centre
- Vaughan Imaging Consultants, Dixie X-Ray Ltd.
- Victoria Hospital, London Health Sciences Centre

Cancer detection

The OBSP monitors several performance indicators to ensure we continue to be effective in the early detection of breast cancer.

The cancer detection rate is a meaningful indicator for program evaluation and will generally be higher for first screens (when prevalent cancers would be detected) than for rescreens. In the OBSP, the invasive cancer detection rate for 2004 was 4.0 per 1,000 initial screens (below the national target of >5 per 1,000) and 3.3 per 1,000 rescreens (slightly above the national target of >3 per 1,000). (Appendix 7: Table 6). These rates have generally declined over time for both initial and subsequent screens. One reason for the decline may be that the average age of women initially screened today is lower than it was when the program began. Another possible reason may be that a greater proportion of women screened outside the program — for example, women in their 40s or screened outside the OBSP in the fee-for-service sector — may be receiving breast cancer diagnoses, resulting in fewer cancers diagnosed inside the program.

The positive predictive value (PPV) is the proportion of women who had an abnormal screen and who subsequently received a diagnosis of cancer. In the OBSP, the PPV was 5.0% for initial screens in 2004, meeting the national targets and 6.8% for rescreens, exceeding the national targets. (Appendix 7: Table 6). A high PPV reflects the effectiveness of the screening program at minimizing unnecessary follow-up. The PPV has improved with rescreening likely because the initial screen establishes a normal baseline for comparison purposes.

Women with cancer detected at an early stage have more treatment options, reduced cancer recurrence and improved survival. Invasive tumour size, involvement of lymph nodes, and the stage of the cancer are good indicators of screening effectiveness. In 2004, 957 women aged 50–69 were diagnosed with breast cancer. Of these, 81.7% were invasive and 18.3% were ductal carcinoma *in situ* (DCIS). Of the invasive cancers detected, 32.4% were < 10 mm in diameter, and 72.8% were node negative for all referrals, both meeting the Canadian performance targets. (Appendix 5: Table 4).

Nearly 97.9% of women with stage I breast cancers survive for at least five years.[1] In the OBSP, approximately 68.6% of tumours with known stage were Stage 0 (*in situ*, i.e. disease that has not invaded surrounding tissue) or Stage I (tumour size of < 2 cm with no regional lymph node involvement); 28.4% were Stage II (larger tumour size and/or regional lymph node involvement). Only 3.1% were Stage III or IV (presence of distant metastasis).

Post-screen cancers

Although highly sensitive in detecting even small tumours, mammography screening will not detect all breast cancers present at the time of screening. Some cancers, called "post-screen cancers", may be missed at screening or diagnosis, or may develop in the interval between screens (sometimes called interval cancers). Others may occur in women who do not return for a subsequent screen (sometimes called non-compliant cancers). The OBSP closely monitors the rate at which post-screen cancers are diagnosed in the interval between biennial screens as this is an indicator of the sensitivity of screening and the appropriateness of the screening interval.

According to the Canadian performance targets, fewer than six post-screen detected invasive cancers per 10,000 person-years should be detected within 12 months from screening, and fewer than 12 per 10,000 person-years should be detected within 24 months from screening. The OBSP rates for 1999/2000 were 5.4 per 10,000 within 12 months and 8.4 per 10,000 within 24 months. (Appendix 7: Table 6). The OBSP exceeded both of these Canadian performance targets.

exceeds performance targets

The OBSP exceeds the Canadian performance targets for the detection of small, negative lymph node cancers.

1 Ugnat, A.M., Xie, L., Morriss, J., Semenciw, R., and Mao, Y. (2004). Survival of Women with Breast Cancer in Ottawa, Canada: variation with age, stage, history, grade and treatment, British Journal of Cancer (90): 1138–1143

81.9% returned within 30 months

81.9% of OBSP clients returned for a screen within 30 months, exceeding the Canadian targets.

IV ■ Screening Retention

Once a woman visits the OBSP, she is very likely to return. A computer system facilitates the annual or biennial recall of eligible clients. Letters are sent to women one month before their next screen is due to remind them to book an appointment. A second letter is sent after three weeks to clients who have not responded to the first letter. The OBSP retention rates exceed the Canadian target of ≥75% in 30 months. Overall, 85.3% of women returned within one year of the next recommended screen date (i.e., 36 months after their previous screen date), and 81.9% returned within six months of the next recommended screen date (i.e., 30 months after their previous screen date). (Appendix 6: Table 5).

The OBSP's high retention rate indicates that clients are satisfied with the program and that reminder letters are an effective program retention tool.

V ■ Quality Management & Evaluation

Quality management and evaluation are fundamental to the OBSP. We aim to maintain quality standards and to continually improve all aspects of breast screening in order to ensure that women have access to high-quality breast screening.

The OBSP carefully monitors quality standards. We collect and collate program data on performance and outcomes, and supply comprehensive feedback to each screening site. Technologists undergo annual film reviews, while radiologists receive reports on their recall, positive predictive value, cancer detection, and interval cancer rates. OBSP physics consultants monitor the mammography and film processing equipment. Nurse examiners receive initial training in conducting clinical breast examinations and participate in ongoing education. Province-wide data allow staff and facilities to see how they compare, identify areas for enhancement, and set goals for improvement.

An important quality-control measure is the OBSP's requirement that all affiliates meet the accreditation requirements of the Canadian Association of Radiologists Mammography Accreditation Program (CAR–MAP). This program sets the standards for mammography equipment, image quality, and staff skill level. This accreditation program evaluates equipment and personnel once every three years. The OBSP performs evaluations during the intervening time so that quality is maintained at all times. In 2005, CCO recommended to the Minister of Health and

Long-Term Care that all mammography facilities in Ontario meet minimum quality standards such as those established by the CAR. CCO continues to work with the ministry on this important policy issue.

Quality management achievements within the OBSP

- All OBSP equipment complies with the federal and provincial legislative requirements such as the Federal Radiation Emitting Devices Act and the Provincial Healing Arts Radiation Protection Act. These are minimum standards.
- As a minimum standard all OBSP mammography units are accredited by CAR–MAP.
- As part of the OBSP's quality assurance program, an independent review of all films for post-screen cancers is conducted semi-annually. The program's interval cancer detection rate is in line with the Canadian standard.
- The OBSP radiologists meet and in some cases surpass Canadian standards for various performance indicators.
- The OBSP medical radiation technologists (MRTs) meet and in some cases surpass the high OBSP standards, modeled after the CAR accreditation standards. MRTs are provided with regular opportunities to improve their skills, and participate in follow-up film reviews.
- At sites that provide clinical breast exams, nurse examiners are initially trained in conducting clinical breast examinations and participate in ongoing education.
- Several initiatives to streamline operational procedures between the provincial OBSP office and screening sites were undertaken in 2005/06. For example, the OBSP Coding Manual was updated to reflect revised American Joint Committee on Cancer (AJCC) cancer staging guidelines. The program reviewed the acquisition and management of OBSP site computers and developed a fact sheet for affiliate sites outlining the process to obtain computers. The program also streamlined its affiliate payment process and conducted a privacy impact analysis to ensure the program meets the *Personal Health Information and Protection Act*.

"I believe that one of the reasons the death rate from breast cancer in Ontario is decreasing is that women have access to high quality mammograms, such as [those provided] at the OBSP."

–Dr. Martin Yaffe, Director, OBSP Physics Consulting Group
Professor of Medical Imaging, University of Toronto

A spotlight on physics services

The OBSP strives to produce mammograms with excellent image quality at the lowest reasonable radiation dose. In order to do this we pay careful attention to the equipment and the imaging techniques we use. Only high-quality equipment is used in the program and it must be kept in excellent operating condition. In addition to the OBSP's province-wide image quality assurance program, each screening site has a local quality assurance program. Our Physics Consulting Group, led by Dr. Martin Yaffe, visits each OBSP screening site twice

a year to evaluate and advise on imaging performance, radiation dose, and compliance with standards set by CAR–MAP and by the OBSP. The consulting group also helps to resolve technical problems and evaluates new equipment.

OBSP physics consultants are specially trained in mammographic physics. Several members of the team have international reputations for the quality of their research contributions in breast cancer imaging, radiation safety, and digital mammography.

VI Research

Screening information collected by the OBSP is used to the increase scientific knowledge in the areas related to women's health issues and the reduction in mortality from breast cancer. CCO research scientists participated in a significant number of breast cancer screening projects in 2005/06. Some of the key areas of research included risk factors for breast cancer, screening effectiveness, and modalities of screening. CCO's Surveillance Unit tracks and reports on provincial breast cancer statistics, such as incidence and mortality. A few of the major research initiatives are summarized below. A more comprehensive list of other publications and presentations is included in Appendix 8.

Performance Measures From 10 Years of Breast Screening (2006)

Performance measures for the OBSP by age group, time period and screening modality from 10 years of breast screening were evaluated. After ten years of population-based screening in Ontario, the performance of the OBSP met or exceeded national standards proven to be necessary to reduce cancer mortality rates.

Accuracy of Breast Screening Among Women With and Without a Family History of Breast and/or Ovarian Cancer (2005)

The objective of this study was to compare interval cancer rates, sensitivity, and specificity of breast cancer screening between women with moderate or strong family history and women without a family history. The study concluded that screening was able to detect a large proportion of invasive breast cancers in women with a family history, indicating their potential to benefit from regular biennial breast cancer screening. It also reports that screening annually may be important in an older population of women with a family history of breast cancer.

Effect of Screening Result on Waiting Times to Assessment and Breast Cancer Diagnosis (2005)

This study examined delays to assessment and diagnosis for women with an abnormal mammogram compared to women with an abnormal clinical breast examination (CBE) or abnormal CBE and mammogram. The study found that women with an abnormal CBE and mammogram are assessed more promptly and have shorter diagnostic times.

However, women with only a CBE abnormality had delays to diagnosis as a result of longer waiting times to first assessment procedure. Integration of the OBSP with assessment centres should help improve times to diagnosis irrespective of modality of referral.

Diagnostic Performance of Digital versus Film Mammography for Breast Cancer Screening (2005)

This study assessed whether the use of digital mammography would avoid some of the limitations that come with film mammography in relation to the limited sensitivity for the detection of breast cancer in women with radiographically dense breasts. The study found the overall diagnostic accuracy of digital and film mammography as a means of screening for breast cancer is similar, but digital mammography is more accurate in women under the age of 50 years, women with radiographically dense breasts, and pre-menopausal or perimenopausal women. The OBSP is now examining how this new technology will impact on the screening program.

VII Summary and Future Directions

This report highlights the OBSP's key activities and program outcomes for 2005/06. The program continues to expand and to provide high-quality breast screening services for the women of Ontario. The OBSP meets and exceeds most Canadian performance standards for organized breast screening programs.

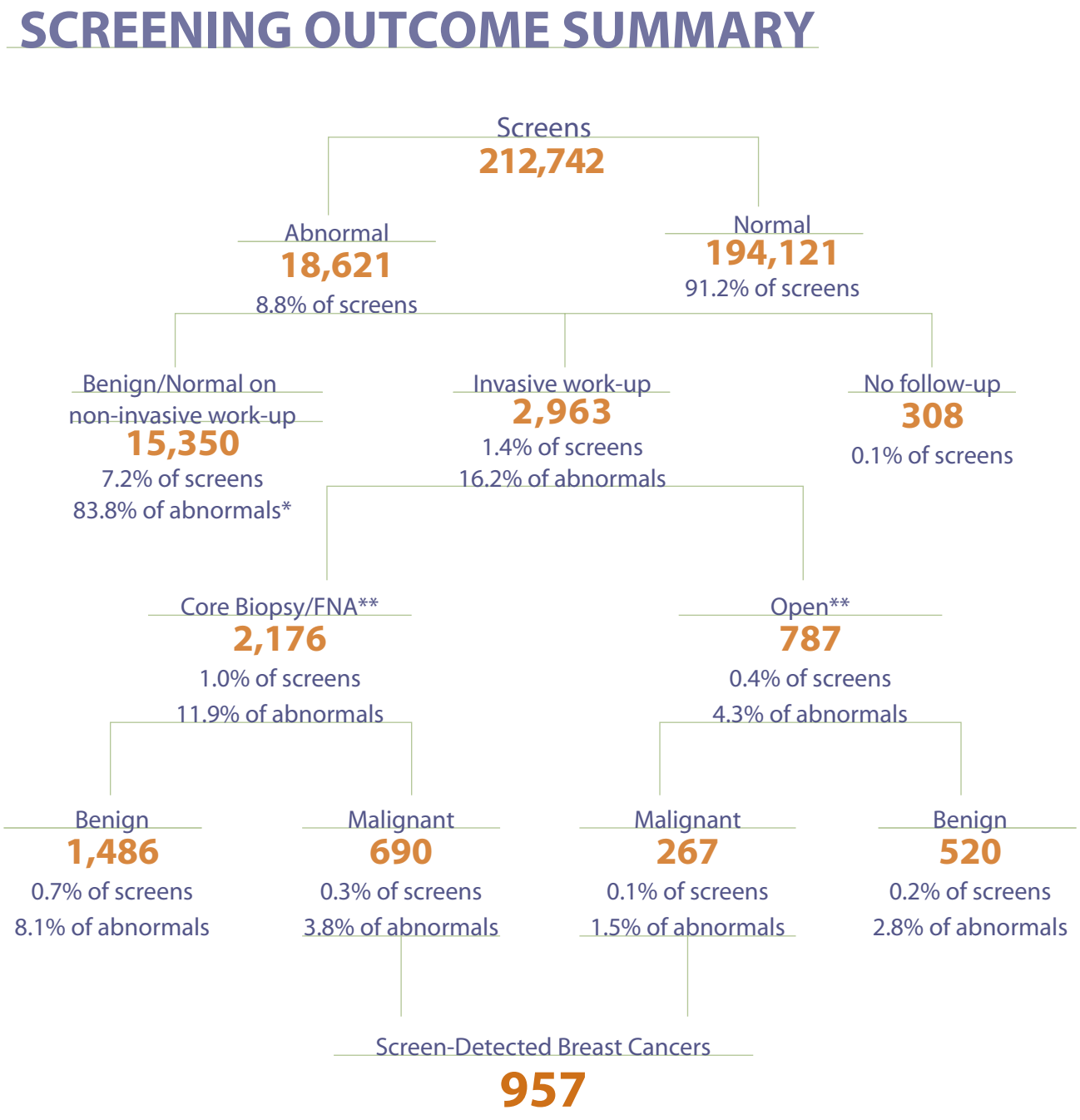
As the program moves into its 16th year of operations, the focus on quality and efficiency continues to be prominent in our program activities, together with developing initiatives to increase the participation of women in regular breast screening. Plans for future expansion include up to 20 new screening affiliates and 12 new breast assessment affiliates joining the OBSP in 2006/07. We will also continue to work with the MOHLTC on strengthening the breast screening policy in Ontario so that more women have access to the benefits of high-quality organized breast screening. And finally, as technology changes, so must the OBSP. We will be examining ways in which the program operates within an electronic health record environment and one where digital mammography becomes more common place.

future plans

Plans for future expansion include up to 20 new screening affiliates and 12 new breast assessment affiliates in 2006/07

NEW 20 screening sites
12 assessment affiliates

Figure 3 ■ Screening outcome summary of OBSP screens, 2004, ages 50–69



*Percentages are based on women referred for assessment, excluding women lost to follow-up.

**Biopsy that resulted in definitive diagnosis

Appendix 2 ■ OBSP Client Profile

During a screening visit to the OBSP, nurse examiners or technologists obtain some risk-factor and clinical information during a personal interview with the client. As well, radiologists record mammographic breast density.

Having a first-degree relative with breast cancer and having high mammographic breast density are important risk factors for developing breast cancer. Being age 30 or older at first full-term pregnancy is associated with modest elevations in risk, as is never having had children (nulliparity). Estrogen replacement therapy slightly increases the risk.

Table 1 summarizes the risk factor information collected for women aged 50–69 between 2002 and 2004.

The prevalence of risk factors has increased slightly over time, with the exception of estrogen replacement therapy use, which has declined.

Table 1 ■ OBSP participant profile by year, 2002–2004, ages 50–69

PARTICIPANT PROFILE (%)			
YEAR	2002	2003	2004
NUMBER OF WOMEN	163,392	181,259	212,742
Family history of breast cancer†			
Yes	15.6	16.1	16.1
No	84.4	83.9	83.9
Mammographic breast density‡			
≥75 %	9.3	9.7	9.8
<75 %	90.7	90.3	90.2
# unknown	27	0	8
Age at first birth (including stillborn)			
≥30	10.5	10.9	11.8
<30	84.4	89.1	88.2
# unknown	397	470	730
Number of children (including stillborn)			
None	11.6	12.3	12.8
≥1	88.4	87.7	87.2
# unknown	193	232	402
Current estrogen use			
Yes	37.4	23.4	16.7
No	62.6	76.6	83.3
# unknown	2,035	1,287	1,936

†Family history of breast cancer includes breast cancer in first-degree relatives (mother, sister, daughter, father, brother, son).

‡ The proportion of connective and epithelial tissue as opposed to fat

Appendix 3 ■ Outcome Indicators

The goal of monitoring and evaluating organized breast cancer screening programs is to promote high-quality screening, leading to reductions in breast cancer mortality and morbidity, while keeping potential harms of screening to a minimum. A standardized method of evaluating for all Canadian organized breast cancer screening programs includes evidence-based performance measures and targets. The outcome indicators monitored by the OBSP are highlighted in Table 2. A review and analysis of the program's outcomes for 2005/06 shows the following:

- Of the 65,217 initial screens performed on women aged 50–69, 7,831 (12.0%) had an abnormal result and 351 breast cancers were diagnosed (5.4 cancers per 1,000 screens and 4.5 cancers per 100 referrals). Of the 147,525 rescreens, 10,790 (7.3%) had an abnormal result and 606 cancers were diagnosed (4.1 cancers per 1,000 screens and 5.6 cancers per 100 referrals).
- The number of women diagnosed with breast cancer following a referral for further diagnostic investigation (PPV) is higher in women aged 60–69 (7.5% and 6.9% for initial and rescreens, respectively), compared with women aged 50–59 (3.6% and 4.5% for initial and rescreens, respectively). This suggests that sensitivity of screening is greater in older women because older women tend to have less dense breasts, a higher incidence of breast cancer, and a greater number of previous screens (for comparison purposes) than younger women.
- Because it is important to avoid the unnecessary removal of benign lesions, the benign-to-malignant ratio for surgical biopsies is often used to monitor the efficacy of diagnostic assessment of breast lesions. This ratio was higher in women aged 50–59 (2.6:1) than in women aged 60–69 (1.3:1). Higher values of benign-to-malignant ratio indicate lower-quality pre-surgical assessment (i.e., less diagnostic imaging, fewer fine needle aspiration (FNA) and core biopsies conducted prior to proceeding to surgical biopsy for a definitive diagnosis).

Appendix 3 ■ Outcome Indicators

Table 2 ■ Outcome indicators by age group, OBSP, 2004, ages 50–69
(Includes CBE and Mammography Referrals)

OUTCOME INDICATORS BY AGE GROUP

OUTCOME INDICATORS		AGE GROUP (N, %)		
		50–59	60–69	50–69
Number of screens n (%)	Initial	48,361 (74.2)	16,856 (25.8)	65,217
	Rescreen	75,200 (51.0)	72,325 (49.0)	147,525
Number of referrals n (%)	Initial	6,112 (78.0)	1,719 (22.0)	7,831
	Rescreen	5,820 (53.9)	4,970 (46.1)	10,790
Number of *in situ* cancers n (%)	Initial	51 (67.1)	25 (32.9)	76
	Rescreen	54 (54.5)	45 (45.5)	99
Number of invasive cancers n (%)	Initial	171 (62.2)	104 (37.8)	275
	Rescreen	209 (41.2)	298 (58.8)	507
Referral rate (%)	Initial	12.6	10.2	12.0
	Rescreen	7.7	6.9	7.3
In situ cancer detection rate (per 1,000)	Initial	1.1	1.5	1.2
	Rescreen	0.7	0.6	0.7
Invasive cancer detection rate (per 1,000)	Initial	3.5	6.2	4.2
	Rescreen	2.8	4.1	3.4
Total cancer detection rate (per 1,000)	Initial	4.6	7.7	5.4
	Rescreen	3.5	4.7	4.1
Positive predictive value (%)	Initial	3.6	7.5	4.5
	Rescreen	4.5	6.9	5.6
Benign-to-malignant diagnostic surgical biopsy ratio	All Screens	2.6:1	1.3:1	1.9:1
Diagnostic interval (%)	Within 5 weeks (without a tissue biopsy)	80.1	79.7	80.0
	Within 7 weeks (with a tissue biopsy)	54.4	59.2	56.3

Appendix 4 ■ Assessment

Overall, diagnostic assessment information was available for 18,313 (98.3%) of OBSP clients aged 50–69 referred for further assessment. Table 3 shows assessment procedures received by women, excluding those procedures done after date of diagnosis by LHIN region. The most common diagnostic procedures were diagnostic imaging (ultrasound and/or diagnostic mammograms) (93.8%), followed by a consultation with a physician or surgeon (21.1%), and core biopsy (10.7%). A further 2.9% of clients underwent fine needle aspiration (FNA) biopsy, and 4.3% underwent a surgical biopsy.

Table 3 ■ Assessment procedures received by OBSP participants with abnormal screens, 2004, ages 50–69, by LHIN region

LHIN REGION	ASSESSMENT PROCEDURES† (%)					
	Number of women assessed	Physician or surgical consult	Diagnostic imaging (mammogram or ultrasound)	FNA biopsy	Core biopsy	Surgical biopsy
Erie St. Clair	1,270	33.0	91.1	2.0	9.1	6.2
South West	2,494	6.9	95.3	6.4	14.0	3.2
Waterloo Wellington	665	20.5	96.4	0.6	5.9	6.8
Hamilton-Niagara-Haldimand-Brant	2,237	24.6	97.0	3.4	11.6	3.0
Central West	962	16.0	94.7	1.9	9.6	2.8
Mississauga Halton	694	7.9	99.4	2.9	9.4	2.0
Toronto Central	1,050	43.6	94.8	5.0	12.8	2.3
Central	1,726	10.3	98.8	0.7	11.7	1.7
Central East	1,378	15.7	95.2	2.0	9.9	3.8
South East	1,181	25.0	88.1	1.9	11.4	3.6
Champlain	1,579	20.8	92.9	2.3	18.7	2.7
North Simcoe Muskoka	905	5.0	98.6	1.3	8.2	2.7
North East	1,689	43.1	82.7	3.5	3.7	13.4
North West	483	26.5	86.1	1.4	1.4	6.8
Ontario total	**18,313**	**21.1**	**93.8**	**2.9**	**10.7**	**4.3**

†Percentages and numbers are based on women with diagnostic assessment information available. Women receiving more than one procedure are included in more than one grouping. Procedures after date of diagnosis have been excluded.

Appendix 5 ■ Prognostic Features of Screen-Detected Breast Cancers

Invasive tumour size, involvement of lymph nodes, and the stage of the cancer are important indicators in assessing program success, as they indicate whether a reduction in mortality is possible. Table 4 summarizes the prognostic features of breast cancers detected in 2004 for women aged 50–69.

For 2004, 957 women aged 50–69 were diagnosed with breast cancer. Of these, 81.7% were invasive and 18.3% were ductal carcinoma *in situ* (DCIS). Of the invasive tumours, the majority (87%) were infiltrating ductal carcinoma. Of the invasive tumours with known size, 32.4% were ≤10 mm, and of the invasive tumours with known nodal status, 72.8% did not have lymph node metastases.

Staging data also indicate that breast cancers are being detected at an early stage. Approximately 68.6% of tumours with known stage were Stage 0 (*in situ*; i.e., disease that has not invaded surrounding tissue) or Stage I (tumour size of ≤2 cm with no regional lymph node involvement); 28.4% were Stage II (larger tumour size and/or regional lymph node involvement). Only 3.1% were Stage III or IV (presence of distant metastasis).

Appendix 5 ■ Prognostic Features of Screen-Detected Breast Cancers

Table 4 ■ Prognostic features of screen-detected breast cancers in OBSP, 2004, ages 50–69
(Includes CBE and Mammography Referrals)

PROGNOSTIC FEATURES			
OUTCOME INDICATOR	**AGE GROUP (%, N)**		**TOTAL (%, N)**
	50–59	60–69	50–69
Type of cancer			
In situ	21.7 (105)	14.8 (70)	18.3 (175)
Invasive	78.3 (380)	85.2 (402)	81.7 (782)
Tumour size (invasive only), mm			
≤5 (including micro-invasive)	9.2 (35)	7.5 (30)	8.3 (65)
6–10	22.7 (86)	25.5 (102)	24.1 (188)
11–15	25.3 (96)	27.7 (111)	26.6 (207)
16–20	16.6 (63)	15.8 (63)	16.2 (126)
>20	26.1 (99)	23.5 (94)	24.8 (193)
# unknown	1	2	3
Nodal status (invasive only)			
Negative	72.8 (268)	72.8 (276)	72.8 (544)
Positive	27.2 (100)	27.2 (103)	27.2 (203)
# unknown	12	23	35
Histologic grouping (invasive only)			
Infiltrating ductal carcinoma	87.1 (331)	86.8 (349)	87.0 (680)
Infiltrating lobular carcinoma	6.3 (24)	7.2 (29)	6.8 (53)
Tubular	4.5 (17)	2.2 (9)	3.3 (26)
Mucinous	0.8 (3)	2.5 (10)	1.7 (13)
Other†	1.3 (5)	1.2 (5)	1.3 (10)
TNM staging ‡			
0 (*in situ*)	22.6 (105)	15.5 (70)	19.1 (175)
I	45.9 (213)	53.1 (240)	49.5 (453)
II	28.2 (131)	28.5 (129)	28.4 (260)
III+	3.2 (15)	2.9 (13)	3.1 (28)
# unknown	21	20	41

†Other includes medullary, metaplastic, sarcoma, papillary, carcinoma, not otherwise specified, and other (e.g., primary lymphoma of the breast, malignant phyllodes tumour).

‡TNM staging for invasive tumours ≤2 cm was determined by assuming nodal status negative (N0) whenever nodes were not examined and there was no distant metastasis (M0).

Appendix 6 ■ Retention

The majority of LHINs met or exceeded the Canadian target of ≥75% of women rescreened within 30 months.

Table 5 ■ Retention at OBSP, by LHIN, 2001–2002, ages 50–69

RETENTION

LHIN	CUMULATIVE PERCENT RESCREENED† (%)		
	24 months	30 months	36 months
Erie St. Clair	62.9	81.9	84.7
South West	60.5	85.5	88.5
Waterloo Wellington	33.6	80.6	84.7
Hamilton-Niagara-Haldimand-Brant	57.0	85.3	87.6
Central West	26.2	72.4	76.2
Mississauga Halton	42.0	73.5	77.8
Toronto Central	31.6	70.6	75.5
Central	43.3	75.7	80.6
Central East	40.3	78.4	82.1
South East	65.8	85.6	88.0
Champlain	55.4	83.8	86.9
North Simcoe Muskoka	50.0	83.8	86.8
North East	42.8	83.2	87.4
North West	73.1	86.9	90.0
Ontario total	**51.2**	**81.9**	**85.3**

†Women excluded are those who have breast cancer or those who received a one-year or annual recall

Appendix 7 ■ Comparison of OBSP Outcomes with Canadian Standards

Canadian standards are established for asymptomatic women screened by mammography between the ages of 50–69 with no prior diagnosis of breast cancer. Table 6 depicts the OBSP screening outcomes for women referred by mammography compared with the Canadian standards.

Overall, the OBSP met or surpassed the Canadian targets for the majority of outcome indicators examined, demonstrating the program's progress toward achieving its goals. Participation is expected to increase with the opening of new screening affiliates and with promotional initiatives. Time to diagnosis is also expected to improve as the program affiliates with more breast assessment facilities.

Table 6 ■ Outcome indicators in OBSP compared with Canadian standards, mammography referrals only, ages 50–69, 2002–2004

OBSP COMPARED WITH CANADIAN STANDARDS mammography

OUTCOME INDICATOR	OBSP TOTAL MAMMOGRAPHY Ages 50–69			CANADIAN STANDARD Ages 50–69
Participation rate (%)	2002/03	2003/04	2004/05	
Percentage of women who have a screening mammogram (calculated biennially) as a proportion of the eligible population	24.4	26.8	29.6	≥ 70% of the eligible population
Retention rate (%)	1999/00	2000/01	2001/02	
The estimated percentage of women who are rescreened within 30 months of their previous screen	81.5	81.4	81.9	≥ 75% of women given a two-year recall recommendation
Referral rate (%)	2002	2003	2004	
Percentage of women screened who are referred for further testing because of abnormalities found with a program screen	10.5	10.0	10.4	<10% (initial screen)
	6.3	6.2	5.9	<5% (rescreens)
Invasive cancer detection rate (per 1,000)	2002	2003	2004	
Number of women detected with invasive cancer during a screening episode, per 1,000 women screened	4.5	5.0	4.0	>5 per 1,000 (initial screen)
	3.8	3.8	3.3	>3 per 1,000 (rescreens)
Positive predictive value (%)	2002	2003	2004	
Proportion of abnormal cases with completed follow-up found to have breast cancer (invasive and *in situ*) after diagnostic workup	5.1	5.9	5.0	≥5% (initial screen)
	7.4	7.4	6.8	≥6% (rescreens)

*includes mammography and CBE referrals

Table 6 *continued* ■ Outcome indicators in OBSP compared with Canadian standards, mammography referrals only, ages 50–69, 2002–2004

OBSP COMPARED WITH CANADIAN STANDARDS mammography				
OUTCOME INDICATOR	**OBSP TOTAL MAMMOGRAPHY**			**CANADIAN STANDARD**
	Ages 50–69			Ages 50–69
Diagnostic interval (%)	2002	2003	2004	
Total duration from abnormal screen to resolution of abnormal screen	83.0	85.0	84.0	≥90% (within 5 weeks if no tissue biopsy)
	58.3	57.1	58.0	≥90% (within 7 weeks if tissue biopsy)
Benign-to-malignant surgical biopsy ratio	2002	2003	2004	
Among surgical biopsies, the ratio of number of benign cases to the number of malignant breast cancer (invasive and *in situ*) cases	1.6:1	1.7:1	1.7:1	≤2:1 (initial and rescreens combined)
Invasive cancer tumour size (%)	2002	2003	2004	
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	37.4	38.1	32.6	>25%
Negative lymph nodes (%)	2002	2003	2004	
Proportion of invasive cancers in which the cancer has not invaded the lymph nodes	78.2	77.7	73.0	>70%
Post-screen detected invasive cancer rate (per 10,000 person years)*	1997/98	1998/99	1999/00	
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 screen date	5.2	4.9	5.4	<6 per 10,000 (within 12 months)
	9.0	8.2	8.4	<12 per 10,000 (within 24 months)

*includes mammography and CBE referrals

Appendix 8 ■ 2005/2006 OBSP Research

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Physician and patient characteristics associated with cancer screening practices. Howlett RI, Chiarelli AM, Cotterchio M, Abdel-Malek N, Mai V, Stewart DE, Ritvo P. 96th Annual Conference of the Canadian Public Health Association; Ottawa, Canada; September 2005.

Physician and patient characteristics influencing breast and cervical cancer screening practices. Abdel-Malek N, Chiarelli AM, Howlett R, Stewart D, Mai V. Poster session at joint meeting of the SER and the CSEB; Toronto, Canada; June, 2005.

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A population based case-cohort study of the outcomes of screening mammography among Ontario women 40 to 49 years of age. Paszat LF, Bondy SJ, Mai V, Chiarelli AM, Benk V, Jong R, Holloway C, Ringash J, Mamdani M. International Breast Cancer Screening Network biennial meeting; Ottawa, Canada; May 2006.

Association of calcium and vitamin D intakes with mammographic density in twins. Martin LJ, Stone J, Gunasekara A, Minkin S, Chiarelli A, Yaffe M, Boyd NF. Poster session at Canadian Breast Cancer Research Alliance Reasons for Hope 4th Scientific conference; Montreal, Canada; May 2006.

Appendix 8 ■ 2005/2006 OBSP Research

Body size, mammographic density and breast cancer risk. Martin LJ, Boyd NF, Li Q, Sun L, Guo H, Chiarelli AM, Hislop G, Yaffe M, Minkin S. Poster session at Canadian Breast Cancer Research Alliance Reasons for Hope 4th Scientific Conference; Montreal, Canada; May 2006.

Contribution of clinical breast examination on prognostic measures of effectiveness in a breast screening program. Chiarelli AM, Majpruz V, Shumak R, O'Malley FP, Mai V. Poster session at International Breast Cancer Screening Network biennial meeting, Ottawa, and at Canadian Breast Cancer Research Alliance Reasons for Hope 4th Scientific Conference; Montreal, Canada; May 2006.

Effectiveness of screening mammography on breast cancer incidence and mortality among women 50 to 69. Chiarelli AM, Chong N, Sloan M, Abdel-Malek N, Paszat LF, Holowaty E, Mai V. Poster session at International Breast Cancer Screening Network biennial meeting, Ottawa, and at Canadian Breast Cancer Research Alliance Reasons for Hope 4th Scientific Conference; Montreal, Canada; May 2006.

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Screening behaviours and outcomes among relatives of women with breast cancer. Chiarelli AM, Abdel-Malek N, Glendon G, Ritvo P, Knight JA, Kirsh V, O'Malley FP, Andrulis IL. Poster session at Canadian Breast Cancer Research Alliance Reasons for Hope 4th Scientific Conference; Montreal, Canada; May 2006.

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Appendix 9 ■ Regional Contact Information

As of March 31, 2006

OBSP regional centres are responsible for planning and integrating service in the 14 Local Health Integration Networks across the province. These centres of excellence provide regional administration, coordination, education, training, knowledge exchange, and leadership. Regional data are now provided by LHIN.

OBSP CENTRE

REGIONAL OBSP CENTRES	LHINS	COUNTIES
GTA OBSP Centre 305 Milner Avenue, Suite 904 Scarborough, Ontario M1B 3V4 Tel 416 298-2626 Fax 416 298-7470 Regional Administrator Susan Fekete Radiology Coordinators Dr. Eve Fishell, Dr. Rene Shumak	Central West Mississauga Halton Toronto Central Central Central East† North Simcoe Muskoka†	Dufferin, Peel Regional Municipality* Halton Regional Municipality*, Peel Regional Municipality*, Toronto* Toronto* Simcoe*, York Regional Municipality*, Toronto* Haliburton, Northumberland*, Durham Region Municipality, Peterborough, Kawartha Lakes, Toronto* Muskoka District Municipality, Simcoe*, Grey*
Hamilton OBSP Centre Sir William Osler Health Institute 565 Sanatorium Road, Suite 207 Ontario L9C 7N4 Tel 905 389-0300 Fax 905 389-5278 Regional Administrator Teresa McPhail Radiology Coordinator Dr. Slobodan Franic	Hamilton Niagara Haldimand Brant	Niagara Regional Municipality, Hamilton, Brant, Halton Regional Municipality*, Haldimand and Norfolk*
Kingston OBSP Centre 786 Blackburn Mews Kingston, Ontario K7P 2N7 Tel 613 384-4284 Fax 613 384-8645 Regional Administrator Brenda Bass Medical Coordinator Dr. Hugh Langley Radiology Coordinator Dr. Doris Jabs	Central East† South East	Haliburton, Northumberland*, Durham Region Municipality, Peterborough, Kawartha Lakes, Toronto* Frontenac, Lennox and Addington, Hastings, Prince Edward, Lanark*, Leeds and Grenville, Northumberland*

† LHINs with shared OBSP administration

* Counties split over more than one LHIN

OBSP CENTRE

REGIONAL OBSP CENTRES	LHINS	COUNTIES
London OBSP Centre 339 Talbot Street London, Ontario N6A 2R5 Tel 519 432-6016 Fax 519 432-0271 Regional Administrator Lynn Chappell Medical Coordinator Dr. Paul Ferner Radiology Coordinator Dr. Keith Sparrow	South West	Elgin, Perth, Middlesex, Oxford, Huron, Bruce, Grey*, Norfolk*
	Waterloo Wellington	Grey*, Wellington, Waterloo Regional Municipality
Ottawa OBSP Centre Hampton Park Plaza 1419 Carling Avenue, Suite 214 (2nd Floor) Ottawa, Ontario K1Z 7L6 Tel 613 728-6508 Fax 613 728-6333 Regional Administrator Suzie Joanisse Medical Coordinator Dr. Vincent Young Radiology Coordinators Dr. Gérard Collin	Champlain	Lanark*, Ottawa, Prescott and Russell, Renfrew, Stormont, Dundas, and Glengarry
Sudbury OBSP Centre 4 Walford Road Sudbury, Ontario P3E 2H4 Tel 705 523-7100 Fax 705 675-2637 Regional Administrator Carolyn Jackson Medical Coordinator Dr. Amanda Hey Radiology Coordinator Dr. Rick Sloan	North East	Sudbury District, Sudbury Region, Parry Sound District, Cochcrane District, Nipissing District, Algoma District, Manitoulin District, Temiskaming District, Kenora District*
	North Simcoe Muskoka†	Muskoka District Municipality, Simcoe*, Grey*
Thunder Bay OBSP Centre 984 Oliver Road, Suite 401 (4th Floor) Thunder Bay, Ontario P7B 7C7 Tel 807 684-7777 Fax 807 345-6602 Regional Administrator Alison McMullen Radiology Coordinator Dr. Donald Henderson	North West	Rainy River District, Kenora District*, Thunder Bay District
Windsor OBSP Centre 1275 Walker Road, Unit 10 Windsor, Ontario N8Y 4X9 Tel 519 253-1179 Fax 519 253-0734 Regional Administrator Lynn Chappell Medical Coordinator Dr. John Shaw Radiology Coordinator Dr. Winston Ramsewak	Erie St. Clair	Essex, Lambton, Chatham-Kent

† LHINs with shared OBSP administration

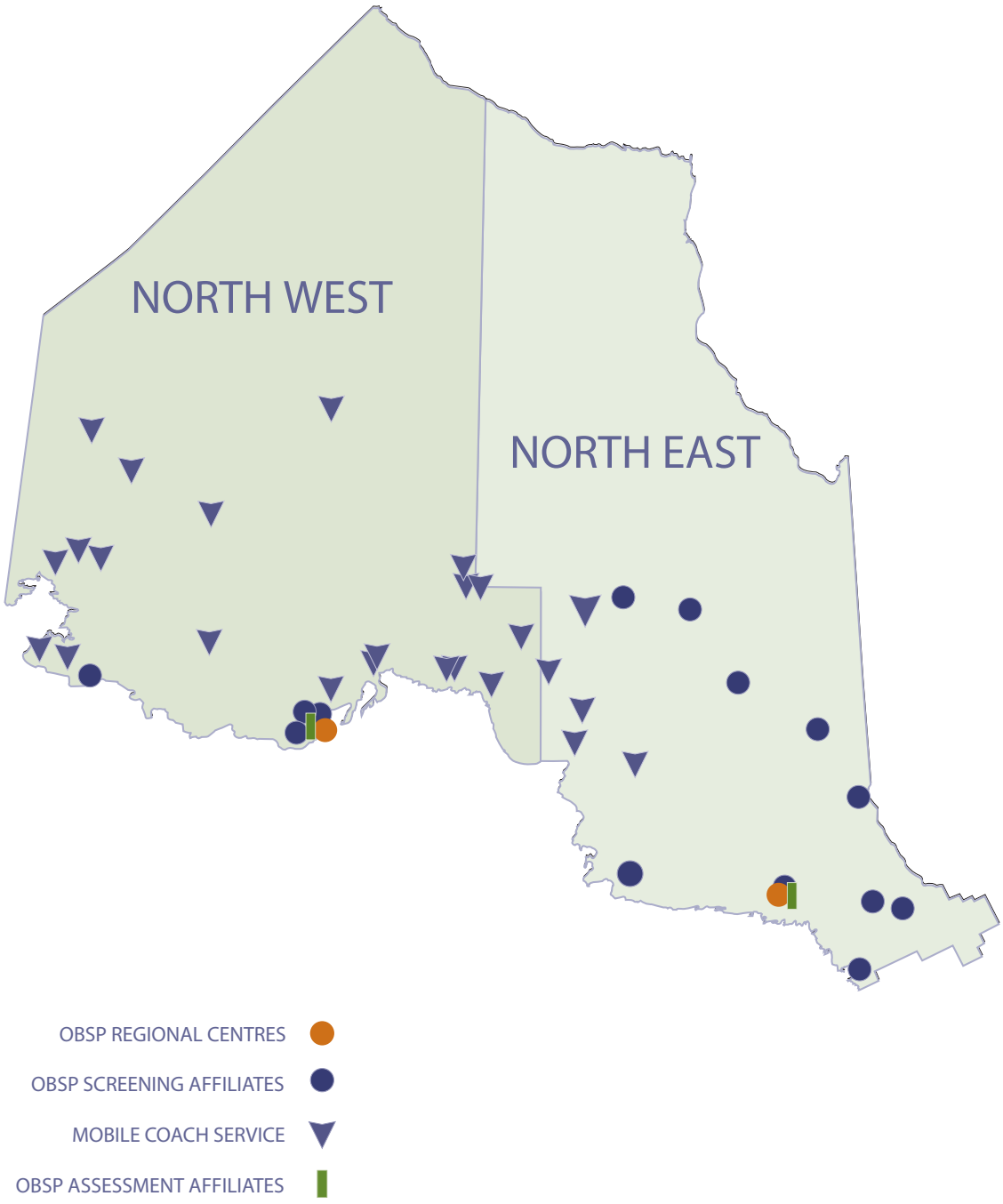
* Counties split over more than one LHIN

Appendix 10 ■ Regional Statistics: OBSP Centres & Affiliates by LHIN

Map of OBSP screening and assessment sites and areas served by the OBSP Mobile Coach

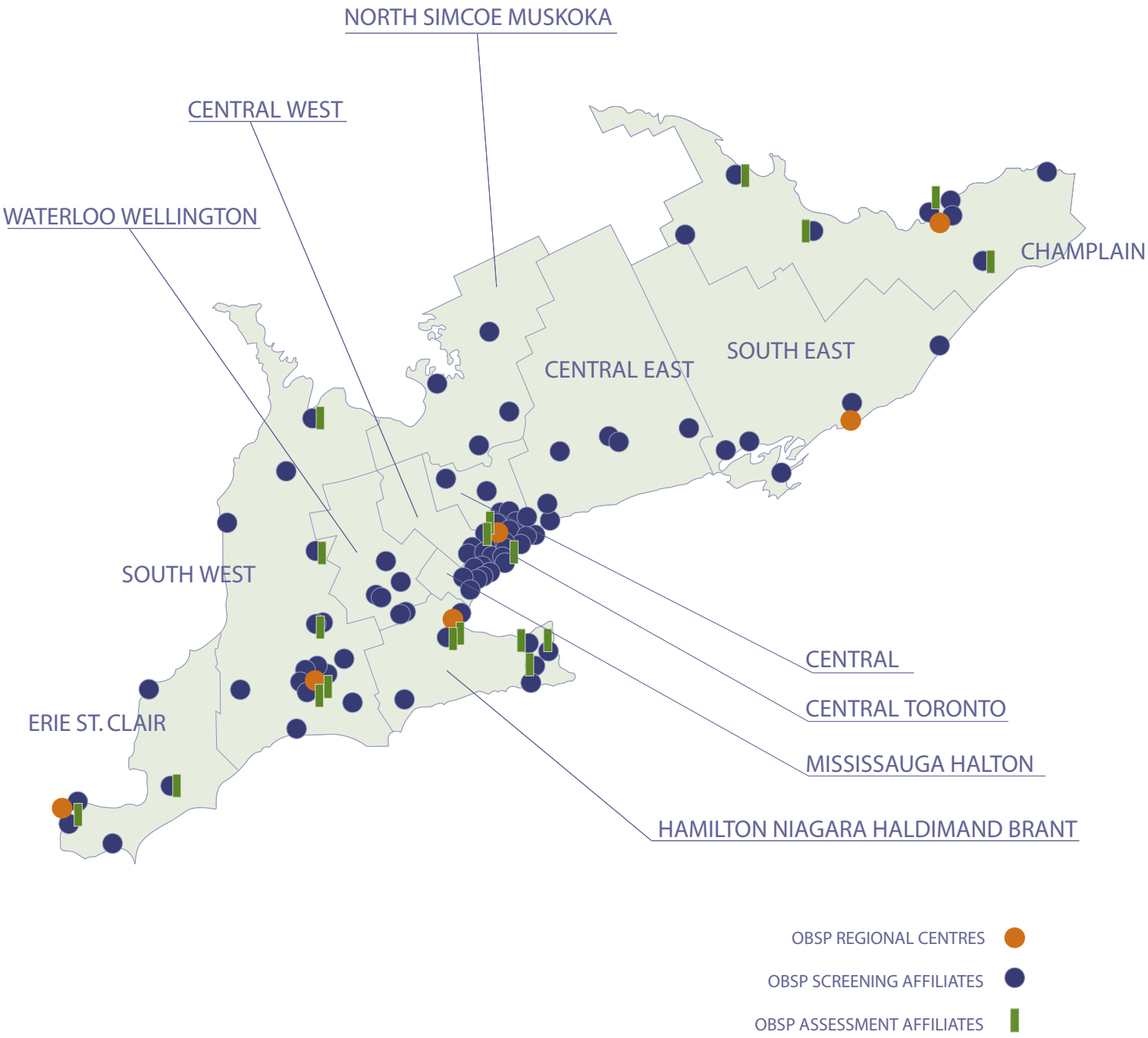
April 1, 2005 to March 31, 2006

NORTHERN ONTARIO



Appendix 10 ■ Regional Statistics: OBSP Centres & Affiliates by LHIN

SOUTHERN ONTARIO



Appendix 10 ■ Regional Statistics: OBSP Centres & Affiliates by LHIN

April 1, 2005 to March 31, 2006

TOTAL SCREENS FOR THE PROVINCE OF ONTARIO	**290,959**
OTHER PROCEDURES†	**2,021**

CENTRAL

OBSP CENTRE		NUMBER OF SCREENS
North York	— North York OBSP Centre	6,416

AFFILIATES

Alliston	— Stevenson Memorial Hospital	1,963
Markham	— Markham Mammography Clinic Inc.	4,304
Newmarket	— Southlake Regional Health Centre	3,541
North York	— Dixie X-Ray Associates Ltd., North York West Centre*	6,020
	— North York Diagnostic Imaging, Leslie Street	7
	— North York General Hospital, Branson Division	3,392
Richmond Hill	— Ontario Medical Imaging, Chalmer's Gate X-ray and Ultrasound	1,762
	— York Central Hospital	2,730
Toronto	— CML HealthCare, Fairview	2,649
	— Humber River Regional Hospital, Church Street	3,628
Unionville	— CML HealthCare, Unionville	1,177
Woodbridge	— Vaughan Imaging Consultants*	806

TOTAL	**38,395**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

† Includes assessments and follow-up in the OBSP mobile coach and at the on-site assessment centre in Hamilton

CENTRAL EAST

OBSP CENTRE		NUMBER OF SCREENS
Scarborough	— Scarborough OBSP Centre^	2,941
AFFILIATES		
Campbellford	— Campbellford Memorial Hospital	832
Lindsay	— Victoria County, Ross Memorial Hospital	1,881
Oshawa	— Oshawa Clinic Imaging Centre	2,693
Peterborough	— Peterborough Regional Health Centre, Rogers Street Site	2,960
	— The Medical Centre	1,379
Port Perry	— Port Perry Imaging*	2,353
Scarborough	— Quantum Medical Imaging Services Inc.	3,783
	— The Scarborough Hospital, General Campus	1,136
	— Victoria Park Mammography Centre	5,008
TOTAL		**24,966**

CENTRAL WEST

AFFILIATES		NUMBER OF SCREENS
Brampton	— Wm. Osler Health Centre, Peel Memorial Hospital	6,180
	— CML HealthCare, Brampton	663
	— Wm. Osler Health Centre, Etobicoke General Hospital	2,955
TOTAL		**9,798**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

^ Screening activity stopped as of October 2005

CHAMPLAIN

OBSP CENTRE		NUMBER OF SCREENS
Ottawa	— Ottawa OBSP Centre	14,656
AFFILIATES		
Barry's Bay	— St. Francis Memorial Hospital	795
Hawkesbury	— Hawkesbury and District General Hospital	1,529
Ottawa	— Merivale Medical Imaging	4,078
	— Montfort Hospital	1,960
	— The Ottawa Hospital, Riverside Campus	654
Pembroke	— Pembroke Regional Hospital*	2,386
Renfrew	— Renfrew Victoria Hospital*	1,645
Winchester	— Winchester District Memorial Hospital*	895
TOTAL		**28,598**
Ottawa	Ottawa Regional Women's Breast Health Centre+	

ERIE ST. CLAIR

OBSP CENTRE		NUMBER OF SCREENS
Windsor	— Windsor OBSP Centre	6,143
AFFILIATES		
Chatham	— Chatham-Kent Health Alliance*	4,394
Leamington	— Leamington District Memorial Hospital	606
Sarnia	— Bluewater Health, Mitton Site	3,873
Windsor	— Hotel-Dieu Grace Hospital	240
	— Windsor Regional Hospital,* Metropolitan Campus	2,039
TOTAL		**17,295**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

HAMILTON NIAGARA HALDIMAND BRANT

OBSP CENTRE		NUMBER OF SCREENS
Hamilton	— Hamilton OBSP Centre *	12,546
AFFILIATES		
Burlington	— Burlington Ultrasound and Radiology	4,316
	— Joseph Brant Memorial Hospital	24
Hamilton	— St. Joseph's Healthcare Hamilton, Centre for Ambulatory Health Services*	2,888
Niagara Falls	— NHS–Greater Niagara General Hospital*	4,385
Port Colborne	— NHS–Port Colborne General Hospital	526
St. Catharines	— NHS–St. Catharines General Hospital*	4,117
Simcoe	— Norfolk General Hospital	648
Welland	— NHS–Welland County General Hospital*	2,905
TOTAL		**32,355**
Hamilton Centre	— Assessments	1158
	— Follow-ups	453

MISSISSAUGA HALTON

AFFILIATES		NUMBER OF SCREENS
Etobicoke	— Trillium Health Centre, The Queensway Hospital, Betty Wallace Women's Health Centre	2,304
Georgetown	— Halton Healthcare Services (HHS), Georgetown Hospital	1,477
Mississauga	— CML HealthCare, King X-Ray and Ultrasound	1,330
	Credit Valley Diagnostic Centre	2,722
	Credit Valley Imaging Associates	1,874
	Dixie X-Ray Breast Imaging Centre	2,091
	The Credit Valley Hospital, Peel Regional Cancer Centre	720
Oakville	— Oakville Diagnostic Imaging	3,006
TOTAL		**15,524**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

NORTH EAST

OBSP CENTRE		NUMBER OF SCREENS
Sudbury	— Sudbury OBSP Centre	9,039

AFFILIATES

Hearst	— Notre Dame Hospital	263
Kapuskasing	— Sensenbrenner Hospital	611
Kirkland Lake	— Kirkland and District Hospital	601
New Liskeard	— Temiskaming Hospital	1,006
North Bay	— North Bay General Hospital, McLaren Site	3,575
Parry Sound	— West Parry Sound Health Centre	1,340
Sault Ste. Marie	— Group Health Centre, Algoma Site	5,265
Sturgeon Falls	— West Nipissing General Hospital	709
Sudbury	— CML HealthCare, Sudbury	517
Timmins	— Timmins and District Hospital	1,894

TOTAL	24,820

Sudbury — The Sudbury Regional Breast Health Program+

NORTH SIMCOE MUSKOKA

AFFILIATES		NUMBER OF SCREENS
Barrie	— The Royal Victoria Hospital	7,155
Bracebridge	— South Muskoka Memorial Hospital	572
Midland	— Ontario Medical Imaging, Huronia Medical Centre	1,038
Orillia	— Ontario Medical Imaging, Colborne Street X-Ray and Ultrasound	1,801

TOTAL	10,566

* Screening and breast assessment affiliate

+ Breast assessment affiliate

NORTH WEST

OBSP CENTRE			NUMBER OF SCREENS
Thunder Bay	—	Mobile coach serves Northwest Region.	6,548
AFFILIATES			
Fort Frances	—	Riverside Breast Screening and Education Clinic	465
Thunder Bay	—	CML HealthCare, Port Arthur Clinic	516
	—	Thunder Bay Medical Centre Diagnostics	1,320
	—	Thunder Bay Regional Health Sciences Centre, Linda Buchan Centre*	
TOTAL			**8,849**
	—	Mobile Coach diagnostic procedures	410
	—	Number of communities served by Mobile Coach	30

SOUTH EAST

OBSP CENTRE			NUMBER OF SCREENS
Kingston	—	Kingston OBSP Centre	8,542
AFFILIATES			
Belleville	—	Quinte Healthcare Corporation, Belleville General Hospital	1,867
Brockville	—	Brockville General Hospital	1,997
Kingston	—	Hotel-Dieu Hospital	730
Picton	—	Quinte Healthcare Corporation, Prince Edward County Memorial Hospital	324
Trenton	—	Quinte Healthcare Corporation, Trenton Memorial Hospital	1,501
TOTAL			**14,961**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

SOUTH WEST

OBSP CENTRE			NUMBER OF SCREENS
London	—	London OBSP Centre	8,561
AFFILIATES			
Goderich	—	Alexandra Marine and General Hospital	1,673
Listowel	—	Listowel Memorial Hospital *	1,589
London	—	CML HealthCare, London	1,150
	—	London X-Ray Associates, Bradley	376
	—	London X-Ray Associates, Central	2,674
	—	St. Joseph's Health Care*	1,379
	—	Victoria Hospital, London Health Sciences Centre*	1,071
Owen Sound	—	Grey-Bruce Health Services*	4,502
St. Thomas	—	St. Thomas-Elgin General Hospital	1,718
Stratford	—	Jenny Trout Centre, Ultrasound and Mammography Associates of Stratford	1,724
	—	Stratford General Hospital*	1,508
Strathroy	—	Strathroy Middlesex General Hospital	1,204
Tillsonburg	—	Tillsonburg District Memorial Hospital	1,510
Walkerton	—	South Bruce Grey Health Centre	961
Woodstock	—	Woodstock General Hospital	1,751
TOTAL			**33,351**

TORONTO CENTRAL

AFFILIATES			NUMBER OF SCREENS
East York	—	Danforth/Main Medical Diagnostics Ltd.	1,754
North York	—	CML HealthCare, Lawrence	1,482
Toronto	—	Edward Street Radiology Associates, Main	2,271
	—	Edward Street Radiology Associates, Yonge	2,148
	—	Quality Medical Imaging, Spadina	1,908
	—	St. Michael's Hospital, CIBC Breast Centre *	4,665
	—	West End 3101 Inc.	963
	—	Women's College Hospital	4,254
TOTAL			**19,445**

WATERLOO WELLINGTON

AFFILIATES		NUMBER OF SCREENS
Cambridge	— Cambridge Memorial Hospital	2,837
	— Diagnostic Radiology Services Ltd.	1,060
Fergus	— Groves Memorial Hospital	115
Guelph	— Guelph Imaging Centre	1,882
Kitchener	— Grand River Hospital	4,009
	— True North Imaging Kitchener Centre	2,133
TOTAL		**12,036**

* Screening and breast assessment affiliate

+ Breast assessment affiliate

Appendix 11 ■ OBSP Provincial Staff Directory

As of March 31, 2006

Provincial Office/Cancer Care Ontario
620 University Avenue
Toronto, ON M5G 2L7
breastscreen@cancercare.on.ca
Tel 416 971-9800
Fax 416 971-6888

Director, Screening
Dr. Verna Mai

Provincial Program Director
Bill Campbell

Radiologist-in-Chief
Dr. Rene Shumak

Provincial Health Promotion Coordinator
Lorna Dobi

Provincial MRT Coordinator
Erin Jones

Scientist
Dr. Anna Chiarelli

Research Associate
Vicky Majpruz

Junior Research Associate
Lishen Zhou

Senior Secretary
Glynis Baldwin

Administrative Secretary
Jillian Caesar

Information System Support
Laurie Gordon, Robert Lin,
Raymond Chung

Consultants
Physics: Dr. Martin Yaffe
Pathology: Dr. Francis O'Malley

Appendix 12 ■ OBSP Committees

OBSP Advisory Committee

As of March 31, 2006

Ontario Breast Screening Program
Bill Campbell (Chair), Provincial Director
Dr. Rene Shumak, Radiologist-in-Chief
Brenda Bass, Regional Administrator

Cancer Care Ontario
Dr. Verna Mai, Director of Screening
Dr. Anna Chiarelli, Scientist, Screening

Canadian Breast Cancer Foundation, Ontario Chapter
Sharon Wood, Executive Director

Canadian Cancer Society, Ontario Division

Patricia Payne, Manager, Program Development

Ontario Association of Radiologists
Dr. Giuseppe Tarulli, President

OBSP Mammographic Physics Consulting Group
Dr. Martin Yaffe, Physics Consultant

In 2005/06, the OBSP undertook a review of its committee structure, streamlined existing committees, and created a new OBSP Advisory Committee. The purpose of the OBSP Advisory Committee is to provide guidance and advice to the OBSP provincial office from a stakeholder perspective on issues and initiatives as requested by the OBSP. This advice may relate to policies, procedures, program promotion strategies, and/or communication/information dissemination to consumers, the public, and stakeholders.

OBSP Provincial Program Committee

Provincial program staff

Bill Campbell (Chair), Provincial Director
Dr. Rene Shumak, Radiologist-in-Chief
Lorna Dobi, Provincial Health Promotion Coordinator
Erin Jones, Provincial MRT Coordinator
Vicky Majpruz, Research Associate
Lishen Zhou, Junior Research Associate
Glynis Baldwin, Senior Secretary
Jillian Caesar, Administrative Secretary

Cancer Care Ontario

Dr. Verna Mai, Director of Screening
Dr. Anna Chiarelli, Scientist, Screening
IS Support: Laurie Gordon, Robert Lin

Regional administrators

Brenda Bass
Lynn Chappell
Susan Fekete
Carolyn Jackson
Suzie Joanisse
Alison McMullen
Teresa McPhail

Radiology coordinators

Dr. Gérard Collin
Dr. Eve Fishell
Dr. Slobodan Franic
Dr. Donald Henderson
Dr. Doris Jabs
Dr. Winston Ramsewak
Dr. Rick Sloan
Dr. Keith Sparrow

Medical coordinators

Dr. Paul Ferner
Dr. Amanda Hey
Dr. Hugh Langley
Dr. John Shaw
Dr. Vincent Young

Program consultant

Dr. Martin Yaffe, Physics Consulting Group

The OBSP Provincial Program Committee is operational in nature and meets twice per year. The committee brings together senior regional staff and provincial staff for communication and knowledge exchange and to act as a forum for discussion and input on a variety of key breast screening and breast assessment operational issues.

Appendix 13 ■ Glossary

Cancer Includes malignant and ductal carcinoma in situ (DCIS) of the breast.

Clinical breast examination (CBE) A physical examination of the breast performed by a trained health professional.

Diagnosis The first pathologic or cytologic diagnosis of cancer, last known biopsy for benign cases, or last intervention before a recommendation to return to screening or return for early recall.

Ductal carcinoma in situ (DCIS) A non-invasive tumour of the breast, arising from cells that involve only the lining of a breast duct. The cells have not spread outside the duct to other tissues in the breast.

Fine-needle aspiration (FNA) biopsy A technique used to differentiate cystic from solid lesions in the breast. A needle is inserted into the lesion and material drawn out using a syringe. If the material is solid, it can be strained and the cells examined in a laboratory to determine whether or not they are benign or malignant.

In situ In the natural or original position or place; refers specifically to ductal carcinoma in situ (refer to DCIS definition above).

Initial screen The first Canadian screening program screen provided to a woman.

Interval cancer Any invasive breast cancer diagnosed in the interval after a "normal" screening result and before the next scheduled screening examination.

Invasive cancer Cancer cells invading beyond the basement membrane of the milk duct or lobule. A ductal carcinoma in situ component may also be present in cases of invasive cancer.

Negative screening episode A screening episode that concludes with normal findings, including program-initiated work-up that did not reveal any cancer.

Open biopsy Surgical removal of a breast mass under local anesthesia for subsequent microscopic examination by a pathologist.

Post-screen cancer A cancer detected outside the program within 24 months of a negative screening episode.

Rescreening Subsequent screening, according to policy, after initial screening under the program. This includes women who miss a scheduled round of screening.

Screen-detected cancer Cancer detected as a result of a positive test with histologic confirmation attributed to the screening findings of the program

Celebrating 15 years of early detection

OBSP 2005–2006 Annual Report

The Ontario Breast Screening Program – Provincial Office
620 University Avenue, Toronto, Ontario M5G 2L7

For more information, call 416 971 9800 ext 1104
For appointments, call 1 800 668 9304
breastscreen@cancercare.on.ca
www.cancercare.on.ca

ontario breast screening program
a cancer care ontario program

programme ontarien de dépistage du cancer du sein
un programme de action cancer ontario