



Increasing the uptake of breast screening

Supporting the PHO Performance Programme



Achieving breast screening targets

Significant improvements are being made in the rate of screening for breast cancer, both in the high needs population and in the total population of New Zealand. However, breast cancer remains the most commonly diagnosed cancer¹ and one of the leading causes of cancer death in New Zealand women.² Māori females have a higher rate of breast cancer than non-Māori females and a mortality rate from breast cancer approximately 50% higher than non-Māori.² Overall the mortality rate from breast cancer is slowly decreasing in New Zealand, but continued efforts to improve the breast screening rate, especially among Māori and Pacific women, are still required.

Breast screening rates in New Zealand are improving

The rate of breast screening in New Zealand has improved incrementally over the past five years but is still below target. In the first six months of 2010 the national average rate for breast screening rose from 57.7% to 59.4% for women in the high needs population and from 65.7% to 66.6% for women in the total population.³ During this reporting period 13 out of 78 PHOs achieved the PHO

Performance Programme goal of at least 70% of high needs women having received a mammogram from a BreastScreen Aotearoa provider in the past two years.³

How can a practice increase the uptake of breast screening?

There is currently no national system in place that identifies and enrolls eligible women for breast screening. Participation in breast screening relies on motivated, well-informed patients and a commitment from general practices to encourage and assist in enrolling all eligible women.


To be eligible to receive a mammogram from a BreastScreen Aotearoa provider once every two years, a woman must:

- Be aged between 45 and 69 years
- Have no symptoms of breast cancer
- Have not had a mammogram within the past 12 months
- Not be pregnant
- Be eligible for public health services in New Zealand

PHO Performance Programme: Breast screening

The PHO Performance Programme goal commencing from 1 January 2011, is for at least 70% of enrolled female patients, aged between 50 and 69 years, who are classified as high needs, to have received a screening mammogram from a BreastScreen Aotearoa provider within the last two years. Patients defined as high needs include Māori and Pacific women and those living in decile 9 or 10 areas. Data will also be collected for all women aged between 45 and 69 years who are eligible for a mammogram,

as an information only indicator. These extended age bands now reflect the BreastScreen Aotearoa guidelines for screening women aged 45–69 years.

 Calculation of breast screening rates is made using data extracted from the PHO enrolment data base and the National Screening Unit breast screening data base. It is important that all demographic information such as accurate ethnicity and gender are collected and entered.

Enrolling with BreastScreen Aotearoa

To enrol women with BreastScreen Aotearoa:

1. Gain consent
2. Telephone BreastScreen Aotearoa on **0800 270 200**
3. Complete the online form at: **www.nsu.govt.nz/Current-NSU-Programmes/1528.asp**
4. Post or fax an enrolment form to the BreastScreen Aotearoa lead provider in your area



Tips for encouraging and assisting enrolment for breast screening

Be able to identify and contact eligible women in your practice:

- Use your practice management system to identify eligible women
- Send invitations/information letters that encourage women to enrol for breast screening
- Have a system to ensure that when female patients reach age 45 years, they are sent an invitation to enrol in breast screening
- Have a system to ensure that new patients enrolling in the practice are included
- When an eligible women attends the practice for any reason, ask about her breast screening status and record it in her notes in a way that is accessible/searchable

Consider barriers that may prevent or discourage women from participating in breast screening such as cultural beliefs, language difficulties, shyness, fears (e.g. pain), costs and childcare arrangements. Strategies to overcome some of these barriers may include:

- Contact BreastScreen Aotearoa on behalf of the patient (with her consent) and make an appointment for a mammogram for her
- Ensure eligible women know that breast screening is free
- Provide women with appropriate information about breast screening. Free patient information in a variety of languages can be ordered online at: **www.healthed.govt.nz**
- Allow enough time to talk through a woman's concerns or arrange for her to speak to the practice nurse
- Support women who are shy, apprehensive or have communication difficulties
- Encourage women to bring a support person if needed
- Ensure all practice staff are aware of transport

options in your area. Your PHO may have a financial assistance programme which could be used to help cover the cost of transport, if this is a barrier.


Become familiar with local breast screening services, including mobile breast screening vehicles:

- Information about mobile breast screening units is available from: www.nsu.govt.nz/health-professionals/1388.asp#

Click on your region on the map, then select “mobile screening unit schedule” to bring up a list of dates and locations of mobile screening. Consider printing this out and ensuring all practice staff are aware when the mobile screening unit is in your community.

- Consider coordinating with other practices to increase uptake of the mobile breast screening unit services in your community.

Once a patient has been enrolled with BreastScreen Aotearoa, place a recall in their clinical record to ensure that they continue to attend for regular mammograms and update the recall each time a result is received. Follow up patients who are overdue to ensure they are enrolled with BreastScreen Aotearoa and encourage them to make an appointment for their mammogram.

 For further information, see BPJ 24 (Nov, 2009) “Breast screening - achieving equity”

Frequently asked questions about breast screening

What does a screening mammogram involve?

A standard screening mammogram involves x-ray imaging of two different views of each breast. When there are signs or symptoms of breast cancer (see sidebar), or a screening mammogram has shown a potential abnormality, diagnostic breast imaging is performed which usually includes additional views of the breast and ultrasound as required. Breast biopsy may also be indicated.

Possible signs or symptoms of breast cancer:

- A thickening or a lump in the breast
- Skin dimpling or ulceration
- Nipple discharge or new nipple inversion
- Persistent nipple rash
- Non-cyclical or focal breast pain
- Redness or changes in skin colour of the breast(s)

It is important for patients to understand that mammograms can detect most breast abnormalities, but cannot prevent breast cancer. However, the mortality rate from breast cancer is reduced by approximately one-quarter to one-third in women aged 50 years and over who have mammograms every two years as part of a screening programme.^{4,5} Women aged 45 to 49 years, have a smaller overall risk of death from breast cancer, but regular breast screening reduces this risk by approximately one-fifth.^{4,5}

Mammograms involve a small exposure to radiation and are described as uncomfortable or even painful by some women. Women who are concerned about the pain involved with the mammogram can be advised to take paracetamol or other analgesia prior to the procedure, however, there is limited evidence that it is effective for this indication.

What other imaging options are available?

Mammography is the only screening tool for breast cancer that is known to reduce deaths due to breast cancer through early detection.⁴ Even so, mammograms do not detect all breast cancers. Some breast lesions are not easily visible or are difficult to interpret on mammograms. Cancers can be difficult to detect using mammography in breasts that are dense, with more glandular tissue and less fat. These are some of the reasons that patients and

clinicians may consider seeking possible alternatives to mammography such as the use of ultrasound.

Breast ultrasound

Breast ultrasound is primarily used in New Zealand to help diagnose or give further information on breast abnormalities that have already been detected by screening mammography and clinical breast examination. Breast ultrasound may sometimes detect small breast cancers that are not easily visible with mammography. Conversely, some cancers are not visible on ultrasound such as micro-calcifications which may be the first indications of breast cancer. Breast ultrasound is not used routinely with (or without) mammography for screening purposes and has not been validated in the medical literature as a screening tool.

One study has shown that adding a single screening ultrasound to mammography would allow detection of cancer in an additional 1.1 to 7.2 per 1000 high-risk women. However, it would also substantially increase the number of false positives.⁶ In the study, 3% of women who received a mammogram alone were referred for breast biopsy, compared to 9% of those who received ultrasound in addition to a mammogram. Breast cancer was subsequently diagnosed in 23% of the women identified through mammogram alone and in 9% of the women who had ultrasound.⁶

Some women may elect to use private services to undergo breast screening with ultrasound. Advantages of the ultrasound method are that it is a painless procedure and it does not involve radiation. Women who choose to have ultrasound, should be strongly encouraged to also undergo two yearly mammography screening. The only situations when breast ultrasound might be preferable to mammography as a screening tool (i.e. when there are no signs or symptoms of breast cancer) are for women who:

- Are pregnant (and therefore should not be exposed to x-rays)
- Have silicone breast implants (as x-rays cannot

penetrate silicone)

- Have very dense breasts (as abnormalities are more difficult to detect with mammography)

N.B. Private breast screening is not included in national data collections.

Thermography

Thermography is currently being promoted as an alternative breast screening tool. The National Screening Unit, the Cancer Society of New Zealand and The New Zealand Breast Cancer Foundation do not support the use of thermography as a breast cancer screening or diagnostic tool as there is insufficient evidence that it is effective for either of these purposes.⁷

Thermographic imaging records the heat distribution on the surface of the breast. In theory, a tumour would appear as a temperature abnormality on the breast due to increased metabolism and blood flow in that area. Thermograms are frequently associated with both false positive and false negative results and therefore are not considered a clinically reliable method for breast cancer detection or diagnosis.

Is self-examination of the breast worthwhile?

Although once strongly advocated, breast self-examination has now begun to fall out of favour. There is limited evidence, from either clinical trials or observational studies, that breast self-examination is an accurate method for identifying lesions or that it actually decreases deaths from breast cancer. There is also some concern that self-examination may result in anxiety, or conversely, provide false reassurance and influence subsequent screening behaviour.⁴

Women can be advised that breast self-examination is unnecessary if they are receiving regular mammograms. It is possible that self-examination may provide some benefit in women outside of the recommended screening age-range, i.e. under 45 or over 70, or those who decline mammography.

What is the evidence for breast screening in women aged in their 40s?

The recommended age range for breast screening in New Zealand was extended in 2005 to include women aged between 45 and 49 years and 65 to 69 years (from the previous recommended age range of 50 to 64 years).

The value of screening women aged in their 40s for breast cancer is controversial because there is no definitive estimate of its benefit. In the UK, the age limit for the national breast screening programme is about to be lowered to 47 years. However, in the U.S. the Preventative Services Task Force has recently changed its recommendation to commencing breast screening at age 50 years, rather than at age 40 years. This decision was based on the opinion of the Task Force that the borderline statistical significance of effectiveness of breast screening in women aged 40 to 49 years is insufficient to advise screening in this age group.⁸

Accumulated research shows that a screening mammogram every one to two years in women aged 40 to 49 years results in a 15% decrease in breast cancer mortality rate after 14 years of follow-up.⁹ This is compared to a 22% reduction in mortality for women who began screening at age 50 years. Researchers note that the 15% decrease could also be partly due to the effect of screening after age 50 years. In addition, the confidence interval associated with this estimate means that the reduction could be as much as 27% or as little as 1%.¹⁰ The UK Age Trial included over 50 000 women undergoing breast screening from age 40 years. Early estimates are that screening from age 40 years has resulted in a 17% reduction in mortality from breast cancer. However this reduction is not statistically significant.¹¹

A New Zealand analysis published in 2005 concluded that there is sufficient evidence that mammography reduces breast cancer mortality among women aged 40 to 74 years, but the benefit is greatest and harms the lowest for women aged over 50 years.¹²

The benefit of screening must outweigh any possible harm. Benefit is difficult to achieve when screening asymptomatic people as it is hard to improve their situation and easy to cause harm. False-positive tests can cause anxiety, unnecessary investigations and associated adverse effects of these investigations. Conversely, false-negative tests can result in women delaying seeking medical attention if symptoms later develop. Encouragingly, data from the UK Age Trial study, showed that in women who began breast screening aged in their 40s, experiencing a false-positive result did not compromise re-attendance for screening.¹³

Given the potential for benefit, although not statistically conclusive, it seems reasonable to begin screening women at age 45 years, however screening women below this age would require much more evidence on the benefits and harms.

Is there a risk of radiation-induced breast cancer from mammograms?

There is concern among some women that radiation exposure during a mammogram may result in radiation-induced breast cancer. However, this has never been conclusively proven.

A research model was recently developed to estimate the theoretical absolute risk of breast cancer from mammogram exposure. This estimate was calculated at a total of 86 cancers and 11 deaths per 100 000 women who received annual screening from age 40 to 55 years and screening every two years thereafter until age 74 years. It was concluded that the lifetime risk of radiation-induced breast cancer is small compared with the expected reduction in mortality from breast cancer that is achieved through screening.¹⁴ Earlier estimate models give slightly differing results but similar conclusions. The International Agency for Research on cancer has estimated that the lifetime risk of radiation-induced death from breast cancer among women who began regular screening at age 50 years is 10–50 per million. This risk increases to 100–200 per million among women who began regular screening at age 40 years.¹⁵

The breast cancer gene

It is thought that in approximately 5% of cases of breast cancer, an abnormal gene is present – predominantly BRCA1 or BRCA2. Women who have an abnormality in either BRCA1 or BRCA2 have a much higher than average risk of developing breast cancer and/or ovarian cancer, but not all women with this gene mutation will develop cancer.

If a woman has a strong history of breast or ovarian cancer in her family, especially if family members developed the cancer before the age of 50 years, it is reasonable to consider referral for genetic counselling to determine her risk. Routine testing for BRCA mutations is not recommended.

Women who test positive for a breast cancer gene mutation can reduce their risk of developing breast cancer, with options including more frequent screening (and starting at a younger age), hormonal therapy (tamoxifen) or prophylactic mastectomy or oophorectomy (removal of the ovaries, which reduces both the risk of breast and ovarian cancer, but only with BRCA2 mutation).

Referral for genetic counselling within DHBs is funded, however, testing for the breast cancer gene is not and currently costs \$2000 – \$3000. It can take up to six months before results are available.



For further information visit:

- BreastCancer.org: www.breastcancer.org/symptoms/testing/genetic/
- National Breast Cancer Centre, Australia: www.nbcc.org.au/resources/resource.php?code=BOG



For referral to a Genetic Counselling service contact:

- Northern Region 0800 476 123
- Central Region 0508 364 436
- Southern Region 0508 364 436

Women can be reassured that the risk associated with radiation exposure during a mammogram is much less than the benefit derived from screening.

Which women are at higher risk of breast cancer and how often should they be screened?

The risk of breast cancer increases with age. Approximately 70% of breast cancers occur in women aged over 50 years.² A previous breast biopsy or a close family history (i.e. affecting a mother or sister) of breast cancer further increases risk. Other factors that increase the risk of breast cancer include older age at the time of a first birth and younger age at menarche.¹⁰

There is no evidence to support specific screening intervals for women at increased risk of breast cancer.¹⁰ Early results from the UK-based FHO1 study suggest that yearly mammograms in women aged under 50 years, with a close family history of breast cancer are effective in preventing deaths from breast cancer.¹⁶

In New Zealand, The National Screening Unit (NSU) recommends that women of any age who are at high risk of getting breast cancer, get their breasts checked regularly, e.g. with a yearly mammogram.

The NSU define “high risk” as those women with:

- A mother or sister who developed breast cancer before menopause or who developed cancer in both breasts
- A previous breast cancer
- A previous biopsy of breast tissue showing an at-risk lesion
- A breast lump or change which needs checking

N.B. Women aged under 45 years and women undergoing diagnostic rather than screening mammography, will need to be referred directly by their GP to a DHB breast screening service or private radiologist.

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