RESEARCH PAPER

A Review and Comparative Analysis of Information Targeted to the General Public on the Websites of Breast Screening Programs in Canada

Revue et analyse comparative de l'information à l'intention du grand public sur les sites Web des programmes de dépistage du cancer du sein au Canada

ANNE J. KEARNEY, JULIE POLISENA AND ANDRA MORRISON

Appendix 1. Summary of information provided on websites of organized breast screening programs in Canada

	YK[1]	NWT*[2]	BC[3]	AB[4]	SK[5]	MB[6]	ON[7]	QC[8]	NB[9]	PEI[10]	NS[11]	NL[12]
Age of eligibility without referral or recommended	Women 40+	Women aged 50–74 years	Women aged 40–74 years	Women aged 50–74 years	Women aged 50–69 years	Women over 50 years of age	Women aged 50–74 who are at average risk	Women aged 50–69 years; women <50 and >69 should talk to their doctors	Women aged 50–74 years	Women aged 40–75 years	Women at least 40 years of age	Women aged 50–74 years
Screening interval	Annual for women aged 40–49 years if they decide to have screening mammograms 50–74 years: every 2–3 years 75+: advised to talk to healthcare provider about how often to return	Every 2–3 years	Biannual for women aged 40–74 at normal risk	Biannual for women aged 50–74 or as decided by the patient and the healthcare provider	Biannual for women aged 50–69 at normal risk	Biannual for women aged 50–74 Women >74 years of age should talk to a healthcare provider	Biannual	Biannual			40–49: Annual 50–69: Biannual Women 70+ in good health [no interval given]	Every 1–2 years, as recommended

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Relative risk reduction – Breast cancer mortality reduction – All-cause mortality reduction		[Mammography] has been widely tested and proven to help reduce deaths from breast cancer by 25%–35% in women who start screening by mammography from the age of 40.	25% mortality reduction. These trials have found a relative risk reduction of breast cancer deaths of between 15% and 25% for women aged 50–69.			Regular screening mammograms have been proven to reduce deaths from breast cancer by 20–30%. Manitoba breast cancer deaths were reduced by 23% in women who attended Breast Check. Detecting it early gives you a better chance for simpler treatment and cure.	Studies show that regular mammograms for women aged 50–74 years reduce the risk of dying from breast cancer. While screening tests are not perfect, regular mammograms are the best way for women aged 50–74 to reduce the risk of dying from breast cancer.	Of 1,000 women who have a mammogram every 2 years for 20 years, 7 deaths are prevented. A mammogram is the only screening exam that can reduce the number of deaths from breast cancer. The PQDCS's objective is to reduce breast cancer deaths in women between the ages of 50 and 69 by 25%.	Regular breast cancer screening can detect tumours at an earlier stage and reduce breast cancer mortality.	Regular screening can detect breast cancer at an early stage, which can increase your chances of long-term survival.	Very early detection of breast cancer improves the chance of a cure.	Mammograms can identify approximately 85%–90% of breast cancers. Many studies show that regular mammograms reduce the risk of dying of breast cancer.
Claims less aggressive treatment	Screening mammograms are the best way to detect breast cancers at an earlier stage when treatment is more effective.	When breast cancer is detected at an early stage there are more treatment options with less invasive treatment and a better chance of surviving the disease.	Early detection allows for more treatment options and a better ability to recover.	Having routine mammograms is the best way to find breast cancer early, before symptoms develop and when treatment may work better.			Early detection can reduce deaths from breast cancer because there is a better chance of treating the cancer successfully, it is less likely to spread, there may be more treatment options.	Screening often allows for the detection of cancers at an early stage of development. Treatment is then possible without chemotherapy.				
False positive rate/ Recall rate	Reduces the need for "call back" appointments.	About 10% recall rate. 95% of time, additional tests rule out cancer.	7% recall and 95% of these do not have cancer. 10% of screens will have abnormal results and about 9/10 women who are recalled do not have breast cancer.	7% recall. 9/10 recalled women have normal follow-up.	9/10 women who require follow-up tests do not have cancer.	5% recall; only 20% of these have cancer. Of these, 10% will have cancer.		Almost half the women who participate in the screening program for 20 years (453 in 1,000) have at least one additional examination. About 10% of women in the PQDCS have an abnormal mammogram result. In 95% of cases, additional examinations results are normal.				5–10/100 women will need additional tests. After these follow-up tests, most women will have a normal result.
False negative rate		Overall, screening mammograms miss between 1 and 2 in 10 (or 10%–20%) of breast cancers.	About 25% of cancers in women ages 40–49 are not detectable by a screening mammogram, compared with about 10% in women older than 50.	Mammograms can miss up to 10% of breast cancer.	A small number of breast cancers are not seen on a mammogram.	20% of breast cancers are missed on a mammogram.	Screening may miss some breast cancers and some cancers develop in the time between screens.	21/77 cancers detected among 1,000 women in the breast screening program over 20 years will have had a normal mammogram. Cancer can also develop after your mammogram.				Not stated directly but 5%–10% missed based on sensitivity stated in mammogram pamphlet.

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Overdiagnosis *– DCIS* *– Unnecessary treatment*		Some amount of overtreatment occurs.	Some breast cancers detected by screening may never cause any harm.	Even though a mammogram found breast cancer, the quality of life or the number of years you live may not change. Some breast cancers found by screening would otherwise cause no problems because women would die of something else first. These breast cancers could be slow-growing cancers. So, if the woman had not been screened, she might never have known she had cancer and would not have had treatment.		Screening can result in overdiagnosis and overtreatment of cancers which may not otherwise have become apparent during a woman's life. Mammograms are not guaranteed to save your life. Not all breast cancers found at screening can be cured. Some women will die of breast cancer even though it was found by a screening mammogram. Some will die of something else before they would die of breast cancer. For these women, their quality and length of life may not be increased by finding the breast cancer.	Some breast cancers that appear on a mammogram may never progress to the point where a woman has symptoms. Therefore, some women may have surgery or treatment for a breast cancer that would never have been life-threatening. Not all cancers found through screening can be cured.	Of 77 breast cancer diagnoses, 10 would be cases of overdiagnosis. It can happen that a woman receives a diagnosis for cancer that would never have had an effect on her health or consequences on her life – like a cancer that develops very slowly or a benign cancer. Women in the screening program could receive treatment that would not be necessary, suffer the side effects of these treatments, have to live with the experience of having been diagnosed with cancer, have frequent medical appointments to ensure that the cancer does not return. [Not] all participants with breast cancer will survive. Of 1,000 women who have a mammogram every 2 years for 20 years [in the breast screening program and 77 breast cancers detected], it is estimated that 13 will die of breast cancer.			Monitoring and evaluation of organized breast screening programs is essential to minimize the unwanted effects of screening.	

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Radiation risk *– Mammography screen* *– Treatment*	Low dose.	Low dose X-rays.	Low dose. The benefits of regular mammograms outweigh the risks posed by the small amount of radiation you are exposed to. Mammograms require very small doses of radiation – the equivalent to 6 months of background radiation exposure from daily living. Furthermore, there has never been a case of breast cancer proven to be caused from radiation exposure during a mammogram.		Low dose.	Very low doses.	Low dose. Mammograms use a low dose of radiation. The benefits of screening and finding cancer early are more important than any potential harm from the X-ray.	Like all X-ray examinations, radiations are emitted. According to several studies, the risk of breast cancer because of radiation emitted during a mammogram is very low in women aged 50–69 who participate in screening.				Very low doses of radiation.
Psychological distress		For everyone, having such a test [after a false positive] is bound to be really worrying.	There is a Fast Track system for recalled women because "we know waiting can be stressful".	You may have a false alarm which can be stressful. This may take 4–6 weeks to sort out and can cause worry. Sometimes the worry lasts long after the test results are known.		Going for further tests may cause anxiety and worry. Some women may worry while they wait for the results of their mammogram. This is normal.		Breast cancer screening every 2 years for 20 years can lead to periods of waiting and anxiety when additional examinations are required. An abnormal result can be stressful and worrisome.				
Directed to PHAC decision aid	Yes	No	No, but link to BC Cancer Agency's Breast Cancer Screening Decision Aid	No	Yes	Yes	No	No	No	Yes	Yes	No

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Choice emphasized	Yes, for women aged 40–49	Yes	Mixed For women in this age group [50–74], the benefits of screening mammograms clearly outweigh the limitations. For women aged 40–49 and 75+ at average risk – talk to a healthcare provider.	No	Yes	No Be proud of yourself for choosing to take care of your body by having a screening mammogram.	Mixed The best way to protect your health is by getting a mammogram every two years. Talk with a healthcare provider about the benefits and risks of screening, or visit [website]. If you do not want to receive OBSP letters from Cancer Care Ontario … You can change your mind at any time. Women can opt out of the auto-enrolment.	Yes All women eligible for this program should learn about the advantages, disadvantages and limitations of mammography. Each can then make an informed decision about whether to participate in the PQDCS or not.	No	No	No	Mixed Become informed about the benefits and harms of screening – talk to your doctor. If you decide to participate in breast screening, have regular screening mammograms.

DCIS = ductal carcinoma *in situ*; PQDCS = Programme québécois de dépistage du cancer du sein (Québec Breast Cancer Screening Program); PHAC = Public Health Agency of Canada.

*The website for the NWT breast screening program directs women to evidence provided on Canadian Breast Cancer Foundation (CBCF) information sheets.

[1]https://yukonhospitals.ca/whitehorse-general-hospital/mammographie.

[2]http://breasthealthnwt.ca/.

[3]http://www.bccancer.bc.ca/screening/breast.

[4]http://screeningforlife.ca/breast-cancer-at-a-glance/.

[5]http://www.saskcancer.ca/Default.aspx?DN=3f3b564f-a7d1-4bee-bb80-0ec8f2b6b5d4.

[6]http://www.getcheckedmanitoba.ca/breastcheck.html.

[7]https://www.cancercare.on.ca/pcs/screening/breastscreening/OBSP.

[8]http://sante.gouv.qc.ca/en/programmes-et-mesures-daide/programme-quebecois-de-depistage-du-cancer-du-sein-pqdcs/.

[9]http://www2.gnb.ca/content/gnb/en/departments/health/NewBrunswickCancerNetwork/content/NewBrunswickBreastCancerScreeningProgram.html.

[10]http://www.healthpei.ca/breastscreening.

[11]https://breastscreening.nshealth.ca/.

[12]http://www.easternhealth.ca/WebInWeb.aspx?d=3&id=1091&p=1078.