

## Opinion: Shoddy Canadian research is putting women's lives at risk

Regular mammography screenings detect cancer, despite what flawed study reported. Shoddy Canadian research is putting women's lives at risk

BY PAULA GORDON, SPECIAL TO THE VANCOUVER SUN FEBRUARY 13, 2014

A Canadian study published Wednesday, Feb. 12, 2014 in the British journal BMJ has revived a debate about the value of mammograms. The study suggests screening X-rays do not lower the risk of dying of breast cancer while finding many tumors that do not need treatment. Critics say the researchers used outdated equipment and methods that made mammograms look unfairly ineffective

Regular screening mammograms find cancers earlier and save lives. For many women, this is conventional wisdom, as well it should be; every credible scientific study supports screening.

All, that is, except one, a poorly designed, poorly executed Canadian study that was completed decades ago using outdated mammography machines and corrupted methodology that cannot be justified.

Yet, [despite being widely discredited](#), the Canadian National Breast Screening Study haunts us still. Every few years, and again this week, the study's authors republish their findings and announce screening does not save lives. Too many newspapers spread that misinformation without criticism, even though almost no one who reads mammograms or treats women with breast cancer has ever taken the Canadian study seriously.

Women should do what the World Health Organization did more than two decades ago, and ignore its conclusions.

The Canadian study's flaws have been well documented since it began. Most egregiously, *the study was not blindly randomized*. Women who volunteered to participate were examined by an experienced doctor or nurse before they were assigned to either the control group (which did not receive mammograms) or the group that was screened. If you were one of those doctors or nurses, and you felt a lump in a woman's breast that might be cancer, and lumps in her armpit that might be lymph nodes to which the cancer had already spread, would you let her be assigned to the group that wouldn't be screened?

The study's authors deny that this took place, but one study co-ordinator was fired for doing just that. The study showed no difference in mortality between the two groups, since more women who already had breast cancer were assigned to the mammogram group in the first place.

The study's integrity only deteriorated from there. A significant percentage of women in the control group — the one that was not supposed to have mammograms — had themselves screened anyway, outside the study, contaminating the results.

The quality of the mammography in the trial was poor. As a breast radiologist in Vancouver, I know the mammography equipment used at the study's Vancouver site was not state-of-the-art; even in the 1980s, when the study was conducted, it was already 10 years old. Many of the technologists who performed the mammograms across Canada were not properly trained on how to position the woman to include as much breast tissue as possible, so some cancers that should have been detected on the mammogram were missed.

The study's authors are now asking women to make decisions on whether to have a mammogram based on a flawed study that not only relied on poor research methods, but that also used obsolete technology that was designed before many women in their 40s today were born.

Including data from the Canadian study in their analyses, task forces in both Canada and the United States have now recommended against screening for younger women. They weighed what they considered the harms and benefits of

screening. The harms include the anxiety of being recalled for more tests, even when cancer is ultimately not diagnosed, and over-diagnosis, the identification and treatment of cancers that may never have proved to be fatal.

In the majority of cases, the anxiety is short-lived. The questions that mammograms raise are nearly always answered by a few more pictures, or ultrasound. A small number of women will need a needle biopsy, a procedure that, as one of my patients told me, “is less uncomfortable than some of her shoes.” A woman’s choice is between the possibility of a minimally invasive procedure to rule out cancer and not being screened.

Over-diagnosis is an unavoidable component of any screening test. But until doctors are better at knowing which cancers should have less aggressive treatment, it is reasonable to over-treat some with more therapy, rather than risk many more dying from late detection.

Women also need to remember that mammography is not perfect, and does not find all cancers.

So, on behalf of my fellow Canadians — and at the risk of perpetuating one of our country’s most stubborn stereotypes — allow me to apologize: Sloppy Canadian pseudo-science should never put women’s lives at risk, but our National Breast Screening Study has done just that for decades. For Canada’s radiologists, it is our national embarrassment.

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