



Mammograms not saving lives

What good does mammogram screening for breast cancer actually do? According to one major new study, not a lot. Mammograms are seeing cancers that are unlikely to develop—yet the discovery nonetheless triggers courses of chemotherapy and radiotherapy—and missing the life-threatening ones.

The researchers also question the received wisdom that catching these cancers early makes all the difference. The team at Aarhus University in Denmark say they are seeing the same number of aggressive, late-stage, breast cancers as before, suggesting that mammography isn't saving lives.

Their findings—which go against the current public-health policy—are based on data from 1.8 million Norwegian women, aged 20 and older, whose cases of breast cancer were diagnosed between 1987 and 2010. Since mass screening was introduced in Norway, the rate of discovery of early-stage cancers in women aged 50 to 69 has almost doubled. But the cancers were localized and non-invasive, and the women would have died with the cancer, not from it.

However, there was no change in the number of advanced and life-threatening cancers, which suggests that mammograms were not picking them up.

Lead researcher Henrik Størring doubts whether mammography is saving lives. "If that was the case, there should be an increase [in the discovery] of the early stages, and an almost equally sized decline in the later stages as well, but this we did not find."

For more on mammograms, see page 16.
Eur J Public Health, March 2014, doi:10.1093/eurpub/cku015

Marriage is good for the heart

Married women may have all sorts of problems with their husbands—but they are 28 percent less likely than unmarried women to die from heart disease.

Being in a long-term relationship seems to make heart disease a less deadly condition for women, say Oxford University researchers.

Although women who are married or in a long-term relationship are just as likely as single women to develop heart disease, they were 28 percent less likely to die because of it—and this was regardless of lifestyle and socioeconomic or other factors.

Over a 30-year period, three in 100 women who are married or in a long-term relationship will die from heart disease compared with four in 100 women living alone, say the researchers, who explored the lifestyles and health of nearly 735,000 women with an average age of 60.

BMC Med, 2014; 12: 42

Compound in figs attacks HER2 breast cancer cells

A compound in figs and celery can attack aggressive breast tumors caused by the HER2 (also known as ErbB2) protein, responsible for around a quarter of all breast cancer cases.

The compound, psoralen, blocks the protein receptors that fuel the growth of tumors in breast as well as ovarian and stomach cancers and solid tumors.

It's already known that psoralen can fight lymphoma and skin problems like psoriasis, especially when activated by ultraviolet (UV) light, but this latest discovery opens up new ways to treat HER2-positive breast cancer.

Researchers at Duke University said the discovery came as a complete surprise during laboratory tests on cancer cells. The compound blocked the activation and signaling of the HER2 proteins. And it might even be more effective than the chemotherapy agents like lapatinib and trastuzumab routinely used for HER2-positive cancers. Those drugs can only target the HER receptors that are outside of the tumor cell, whereas psoralen can also attack those in the cell nucleus, making it far more effective.

PLoS One, 2014; 9: e88983



Screen villain

Mammography is the technology of choice for many of the world's national screening programs for breast cancer. But several new studies suggest it isn't fit for this purpose and that its cons far outweigh the pros

It seemed like such a good idea at the time: routinely screen every woman over the age of 50 and you'll reduce deaths from breast cancer by a third. And so, buoyed by such a benefit, the American Cancer Society (ACS) and other health advisory bodies have recommended regular screening for all women over 50 using X-ray mammography since the early 1980s—and even extended the recommendation to women over 40 in the 1990s.

On the face of it, the policy seems to have delivered. Around the time routine mammography was introduced, about 32 women per 100,000 were dying of breast cancer every year in the United States; by 2011, this had dropped to 22 women.

Today in the US, 72% of women between 50 and 64 years old have had a mammogram within the past two years. But although most health organizations still maintain that mammograms save lives, they've changed their tone, stopped pushing for broader screening guidelines, and some have even backtracked—for example, the US Preventive Services Task Force and the American College of Physicians no longer recommend routine mammograms for women under 50, and screening only every two years for those 50 and older.

Why? Because a growing body of evidence, including three major studies

in the past year, have said that women aren't being told the full story about mammography. The screening programs haven't had much to do with the decline in breast cancer deaths, and for every one woman whose cancer was detected and correctly diagnosed thanks to mammography, 10 cancers will be 'seen' by the technology that don't actually exist (false positives). Those 10 women will go through the trauma of a cancer diagnosis, biopsy, and potentially even the rigors of chemotherapy, radiotherapy or mastectomy (breast removal)—all to treat a cancer that was never there.

The Swiss Medical Board, an independent health assessor, started the ball rolling in February. They took a fresh look at the early studies that had ushered in the age of mammography and found them wanting. The studies, which dated from 1963 to 1991 and followed 1,000 women who had been screened and a further 1,000 who hadn't, advocated the uptake of mammography as a national screening technology, although the data didn't actually support such emphatic conclusions. In fact, the data suggested the cons outweigh the pros.

Although mammography might save one or two lives, it will detect a further 100 false-positive cases. The Swiss researchers said that health authorities should start setting a time limit on their national screening

programs with a view to winding them down, and that nobody should be thinking about setting up new mass-screening programs if they haven't already done so.¹

Their conclusions have caused an uproar. The Swiss Cancer League said it was astonished, while other groups accused the researchers of being unethical, irresponsible and adding to the breast cancer death toll. But not everyone has taken that line. Eleven of Switzerland's 26 cantons (districts) currently offer routine mammography, but the German-speaking canton of Uri may not now be joining that number. After reading the board's conclusions, it is reconsidering its decision to introduce a screening program.

In response to their critics last April, two of the board's researchers—Nikola Biller-Andorno and Peter Jüni—point out three very worrying trends uncovered by their analysis.² The first was that the benefits of mammography are based on outdated trials, such as those they analyzed. Since the last of the trials carried out in 1991, better and more targeted cancer treatment has been introduced, and this may have had more to do with the drop in death rates from breast cancer than the widespread use of mammography.

Even after carefully re-reading the data, it is still not at all obvious that mammography benefits outweigh the harm. The original expectation that mammography would reduce breast cancer deaths by a third was based on conclusions of the UK's 1986 Forrest Report, which ushered in universal screening, but this relied on just two studies, both of which were inaccurate. More recently, estimates for reductions in breast cancer deaths have varied from 10 percent to 20 percent, but even those benefits seem to come with strings attached.

The Canadian Breast Screening Study monitored the lives of nearly 90,000 women aged between 40 and 59, around half of whom had regular mammogram screening, while the rest had physical examinations and the usual community care.³ During the study, 3,250 women in the mammography group and 3,133 in the physical-examination group were diagnosed with breast cancer, and 500 and 505 of them, respectively, died. But although mammography was no better than physical examination at detecting cancer and saving lives, 22 percent of cases detected by mammography were false positives, which triggered unnecessary invasive treatment.

Why the false positives?

Most false-positive readings happen when the mammogram picks up a case of DCIS (ductal carcinoma in situ) which, despite its name, very rarely turns into cancer. Because of mammography's limitations, the oncologist must assume that each DCIS detected is malignant and so begin a process of testing and even surgery.

Around 60,000 new cases of DCIS are detected by mammography screening every year in the US alone, and yet fewer than 5 percent, or 3,000, develop into breast cancer. This suggests that around 57,000 American women go through the trauma of unnecessary worry, biopsies and surgery every year unnecessarily.¹

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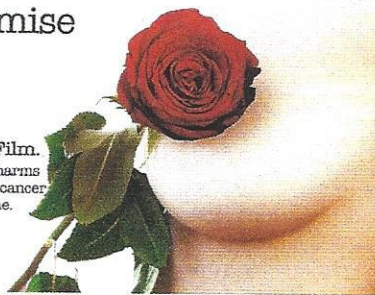


The prestigious Nordic Cochrane Centre in Copenhagen, led by Peter Gotzsche, came to similar conclusions. They took another look at eight studies of mammography involving around 600,000 women aged 39 to 74. Mammography didn't reduce the number of deaths from cancer over a 10-year period, even though the rates of lumpectomy, mastectomy and use of radiotherapy were far higher among women who had been screened. The treated women went through psychological distress, anxiety and uncertainty for years—and yet, for too many of them, it was utterly unnecessary because the mammogram had been wrong. The Cochrane researchers estimate that, for every 2,000 women screened, one will avoid dying from breast cancer and 10 healthy women will get a false-positive reading.^[1]

Then there are the two mismatched worlds that seem to be happily coexisting: the researchers who keep uncovering inconvenient truths about mammography and the women who are the targets of screening. The two Swiss researchers were “disconcerted” by the women's perceptions about the benefits of mammography. One study by the Swiss Cantonal Health

The Promise

Documentary Film.
The truth about the harms
of the routine breast cancer
screening programme.



What's the alternative?

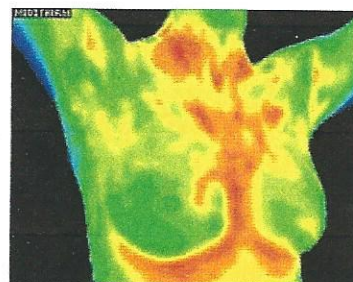
For 30 years until the mid-1980s, thermography, or digital infrared thermal imaging, was considered a viable alternative to mammography; radiologists saw it as complementary and often used the two screening technologies together. Essentially, mammography picks up mass while thermography registers activity as reflected by heat.

It is also safer than mammography, as it neither subjects the patient to a dose of radiation nor needs to have the breast crushed between plates.

Early studies supported the technology with enthusiasm. In one, 10 percent more cancers were detected when thermography and mammography were used together,^[2] while another found that thermography was the better ‘first alarm’ in 60 percent of cancer cases detected.^[3]

Thermography fared even better in a study of 39,802 women, screened over a three-year period, in which researchers concluded that 30 percent of the cancers would never have been detected had only mammography been used.^[4] Overall, an abnormal infrared image is the strongest risk indicator for the future development of breast cancer, and is 10 times as significant as a family history of the disease. In one study of around 58,000 women screened with thermography, more than a third of those who had an abnormal reading developed cancer within five years. The researchers concluded that “an abnormal thermograph is the single most important marker of high risk for the future development of breast cancer.”^[5]

Other viable alternatives include clinical examination and ultrasound. Ultrasonography is an accurate follow-up procedure when a mammogram detects an abnormality and the woman is at moderate risk for breast cancer.^[6]



Office in Bellinzona, which surveyed 4,140 women, found that 68 percent thought mammography reduces the rate of breast cancer deaths by at least half. As the research team concluded, this rose-tinted view of mammograms throws into doubt the possibility of true informed consent.^[7]

Looking back on the controversy they have created, the Swiss researchers note that the main argument against their conclusion was that it contradicted the global consensus of leading experts in the field, which “made us appreciate our unprejudiced perspective resulting from our lack of exposure to past consensus-building efforts by specialists in breast-cancer screening.” In other words, file under ‘Emperor's New Clothes.’

Essentially, mammography simply isn't fit for purpose, they conclude. “From an ethical perspective, a public health program that does not clearly produce more benefits than harms is hard to justify. Providing clear, unbiased information, promoting appropriate care and preventing over-diagnosis and over-treatment would be a better choice.”

Bryan Hubbard

Thermography neither subjects the patient to a dose of radiation nor needs to have the breast crushed between plates

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