



Just how much does screening mammography reduce mortality from breast cancer?

2%. That's the percentage for women 50 to 69 years old, according to a sophisticated observational study from Norway.

Kalager M, Zelen M, Langmark F, Adami H-O. Effect of screening mammography on breast-cancer mortality in Norway. N Engl J Med. 2010;363(13):1203-1210.

► EXPERT COMMENTARY

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In its 2009 assessment of the benefits of screening mammography among women 50 to 69 years old, the US Preventive Services Task Force (USPSTF) estimated that the modality reduces mortality from breast cancer by 14% to 32%. However, that estimate is based on studies conducted more than 20 years ago.¹

In 1996, some parts of Norway began to offer screening mammography. By 2005, screening had become universally available in the country, with more than 75% of the eligible population participating. During that decade, Norway also established multidisciplinary teams to improve the management of women given a diagnosis of breast cancer.

To determine the effects of *modern* screening, investigators in Norway compared breast cancer mortality in four groups:

- women who lived, from 1996 through 2005, in counties in that country that offered mammography screening
- those who lived, from 1986 through 1995, in these same counties
- those who lived, from 1996 through 2005, in counties that did not offer screening
- those who lived, from 1986 through 1995, in these same counties.

The impact of the combination of mammography screening and multidisciplinary management of breast cancer cases was a 10% reduction in breast cancer mortality. Women who did not undergo mammography screening but whose cancers were treated according to the new paradigm experienced an 8% reduction in breast cancer mortality. That suggests that the reduction in mortality that can be attributed solely to screening mammography is a surprisingly low 2%. In other words, mammography may prevent as few as 2.4 deaths for every 100,000 person-years.

Although these numbers may appear to be strikingly low, the authors point out that

WHAT THIS EVIDENCE MEANS FOR PRACTICE

For the foreseeable future, most clinicians will continue to recommend regular screening for women 50 to 69 years old, and most women will continue to choose to have mammograms. In my practice, however, I plan to spend less time nagging women who are reluctant to get mammograms. I now feel more comfortable recommending screening consistent with the US Preventive Services Task Force guidelines from late 2009.

As for women 40 to 49 years old, I plan to continue following USPSTF guidelines. However, I will also continue to order screens for women in their 40s who are at increased risk of breast cancer due to family history or other reasons and for those who prefer to be screened despite awareness of the high rate of false-positive findings.

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FAST TRACK

Among women 50 to 69 years old, mammography may prevent as few as 2.4 deaths for every 100,000 person-years



they are consistent with those from Britain's national screening program.

Can the low figures be good news?

Although some practitioners may view these data with confusion or even hostility, I see the findings of this study as good news: We have improved our treatment of breast cancer so dramatically over the past few decades that the benefits of early diagnosis have become attenuated. As an editorial accompanying the Norwegian study postulates, "It is quite plausible that screening mammography was more effective in the past than it is now. If women with new breast lumps now present earlier for evaluation, the benefit of screening will be less. If treatment of clinically detected breast cancer (i.e., tumors that are detected by means other than screening) has now improved, the benefit of screening will be less. Thus, the increased awareness about the importance of promptly seeking care for overt breast abnormalities (there is no debate about diagnostic mammography) and the widespread use of adjuvant therapy may have combined to make screening now less important."²

What about women under 50?

Breast cancer is uncommon in women in their 40s, and screening mammograms are associated with a high rate of false-positive results and unnecessary additional imaging and biopsies in this age group. In late 2009, these observations led the USPSTF to recommend against routinely screening women 40 to 49 years old.³

Now, a study from Sweden provides data that contradict that position.⁴ In Sweden, a screening-mammography program was initiated for women 40 to 74 years old between 1986 and 1997. In 1987 and 1988, national guidelines were revised to allow counties that faced financial challenges to curtail screening for women younger than 50 years. At that time, about 50% of Swedish counties discontinued screening of younger women. The remaining counties continued screening women in their 40s at intervals ranging from 18 to 24 months.

From 1986 through 2005, 803 women died from breast cancer that was diagnosed when they were 40 to 49 years old and who were screened by mammography (7.3 million person-years). During the same period, 1,238 women died from breast cancer that was diagnosed when they were 40 to 49 years old and who were not screened by mammography (8.8 million person-years).

Investigators calculated the odds ratio (OR) for fatal breast cancer among women who were screened in their 40s: 0.71 (95% confidence interval [CI], 0.62–0.80). They also estimated that, over a 10-year period (roughly six screening mammograms), one case of fatal breast cancer was prevented among every 1,252 women screened.

Picture remains a bit murky

Coming less than a year after the aforementioned USPSTF recommendations against screening women under 50, and right on the heels of the Norwegian study minimizing the value of screening in women 50 to 69 years old, these new data have ignited controversy.

Unlike their Norwegian counterparts, Swedish investigators failed to report mortality rates, making interpretation of the data difficult. Nor did they detail the health costs of mammograms among women in their 40s.

Note: For more on the debate over screening mammography, see Dr. Kaunitz's earlier commentary on the subject, "I've been rethinking my zeal for breast cancer screening," in the December 2009 issue of *OBG MANAGEMENT*, and Dr. Robert L. Barbieri's distinctive viewpoint, "Access to screening mammography: *Priceless*," in the January 2010 issue at obgmanagement.com. 

References

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4. Hellquist BN, Duffy SW, Abdsaleh S, et al. Effectiveness of population-based service screening with mammography for women ages 40–49 years: evaluation of the Swedish Mammography Screening in young women (SCRY) cohort [published online ahead of print September 29, 2010]. *Cancer.* doi:10.1002/cncr.25650.



The USPSTF recommends against the routine screening of women 40 to 49 years old by mammography