

Lives saved by breast screening outnumber cases of overdiagnosis, review says

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A Europe-wide review of breast cancer screening has concluded that the benefits in lives saved outweigh the risks of overdiagnosis.

The analysis, carried out by a working group from nine European countries, showed that for every 1000 women between the ages of 50 and 69 who are screened, between seven and nine lives are saved and four women are “overdiagnosed.”

The conclusion contradicts that of critics of breast cancer screening, who have argued that the number of women damaged by false positive findings exceeds the number who benefit by having their cancers detected earlier.

The new results are published in a special supplement of the *Journal of Medical Screening*.¹

The analysis incorporated work from two groups, the European Screening Network, which reviewed published studies of risk and benefit, and the European Network for Indicators on Cancer, which reviewed the organisation, participation rates, and performance of 26 screening programmes in 18 countries, covering 12 million women between 2001 and 2007.

The conclusion reached was that, for every 1000 women screened, 170 women who did not have cancer would have at least one recall followed by a non-invasive assessment before the absence of cancer could be confirmed and that another 30 women would be recalled and would undergo invasive procedures such as a biopsy before the absence of cancer was confirmed.

Expressed as a “number needed to screen,” 14 women would need to be screened every two years between the ages of 50 and 69 for one case of breast cancer to be detected, and for every life saved 111 to 114 women would need to be screened. On the negative side, for every six women screened one would be given a false positive result and be recalled for further non-invasive assessment before being cleared, and for every 33 women screened one would require an invasive procedure before being cleared.

Stephen Duffy, professor of cancer screening at the Wolfson Institute of Preventive Medicine at Barts and The London School of Medicine and Dentistry, who is one of the coordinators of the working group and coauthor of the supplement, said, “This is the only comprehensive review of the results of breast screening services in Europe.

“It reports results from screening millions of women and confirms that the screening services are delivering the benefits expected from the research studies conducted years ago. In particular, it is good news that lives saved by screening outweigh overdiagnosed cases by a factor of two to one.”

Eugenio Paci, director of the Cancer Prevention and Research Institute in Florence, Italy, who is a coauthor, said, “By weighing up the pros and cons of breast cancer screening programmes we hope to ensure that women are fully aware of the chief benefits and harms and can make a fully informed choice when they decide whether or not they wish to attend screening.

“There has been quite a lot of discussion recently over the worth of breast cancer screening, and for this reason it is timely that the international group of experts has assessed the impact of population based screening in Europe and has found that it is contributing to the reduction in deaths from the disease.

“We believe that not only should our conclusions be communicated to women offered breast screening in Europe but that, in addition, communication methods should be improved in order to raise women’s awareness and to make information more accessible, relevant, and comprehensible.”

1 Euroscreen Working Group. Summary of the evidence of breast cancer screening outcomes in Europe and first estimate of the benefit and harm balance sheet. *J Med Screening* 2012;19:suppl 1.

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