

# Breast cancer screening and better treatment both help to save significant numbers of lives

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A Dutch study of the effectiveness of breast cancer screening shows that, even with improved treatments for the disease, population-based mammography programmes still save a significant number of lives.

The finding, presented today at the eighth European [Breast Cancer Conference \(EBCC-8\)](#) in Vienna, will add further fuel to the debate about whether or not [breast cancer screening](#) does more harm than good. Those who argue against national screening programmes say that treatment for the disease is so effective nowadays that the chances of surviving it are as good as if the [tumour](#) had been detected via a national screening programme; they believe these programmes are bad for women because they can lead to unnecessary investigations, over-treatment and worry.

However, Dutch researchers found that adjuvant therapy (treatment given in addition to primary therapy such as surgery) reduced deaths by an estimated 13.9% in 2008 compared to no treatment; but they also found that screening every two years reduced deaths by an additional 15.7%.

Mrs Rianne de Gelder, a PhD student and researcher at the Erasmus University Medical Center (Rotterdam, The Netherlands), told the conference that she and her colleagues had used a computer modelling technique called microsimulation to show that adjuvant treatment reduced deaths from breast cancer from 67.4 per 100,000 women years to 57.9. However, with the addition of two-yearly screening between the

ages of 50-75 (the current screening age in The Netherlands), the deaths fell to 48.8 per 100,000 women years, meaning that adjuvant therapy combined with screening reduced deaths by a total of 27.4%.

If screening were to be extended to women aged between 40-49, deaths would reduce by a further 5.1%, making a total reduction in breast cancer deaths of 31.1% compared to a situation where there was no treatment and no screening for women aged between 40-75. The researchers assessed the reduction in breast cancer deaths for the total female population over the whole of life (0-100 years old), including women who had never been screened.

Mrs de Gelder said: "The effectiveness of breast cancer screening has been heavily debated in the last couple of years. One of the arguments that critics have is that, since breast cancer patients can be treated so effectively with adjuvant therapy, the relative effects of screening become smaller and smaller. Our study shows that, even in the presence of adjuvant therapy, mammography screening (between age 50 and 75) is highly effective in reducing breast cancer deaths – and, in fact, is slightly more effective than adjuvant treatment. Screening women of these ages should definitely continue.

"In addition, if screening could be started before the age of 50, the breast cancer mortality could be further reduced, even when breast cancer patients are effectively treated by adjuvant therapy. It has the potential to further decrease breast cancer mortality by up to 5.1% when 10 additional annual screening examinations starting from age 40 are performed. Policy makers should investigate further the ideal age for starting screening, taking into account not only the effects, but also the risks and costs of extending the lower age limits."

The microsimulation computer model that the researchers used was created using both Dutch and international statistics on breast cancer

incidence, survival and mortality, screening programmes, including rates of cancer detected by screening and those that were diagnosed in between screenings, and the use and effectiveness of adjuvant breast cancer treatments. Breast cancer mortality in the model was also based on Dutch mortality data between 1975 and 2008, and so included data from the period in which women were not screened and hardly ever received adjuvant therapy, as well as the period in which women could have been screened and treated with adjuvant therapy.

Mrs de Gelder concluded: "It is important to note that our study demonstrated that the observed reduction in breast [cancer mortality](#) in The Netherlands could not fully be explained by mammography screening and adjuvant therapy only. Other, unknown causes are likely to have contributed to fewer deaths as well. These causes may, for instance, include further developments in breast cancer diagnostics and treatment. It may also be possible that the effects of screening and adjuvant treatment are even larger than currently assumed in the model."

Professor David Cameron, from the University of Edinburgh (Edinburgh, UK), and chair of EBCC-8 said: "This paper will make an important contribution to the ongoing debate about the level of benefit of a population-based mammographic screening programme. Many aspects of breast cancer management have improved since the original randomised trials of breast cancer screening, and so it is important to dissect out the relative contributions of [treatment](#), [screening](#) and other changes in the management."

Provided by ECCO-the European CanCer Organisation

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