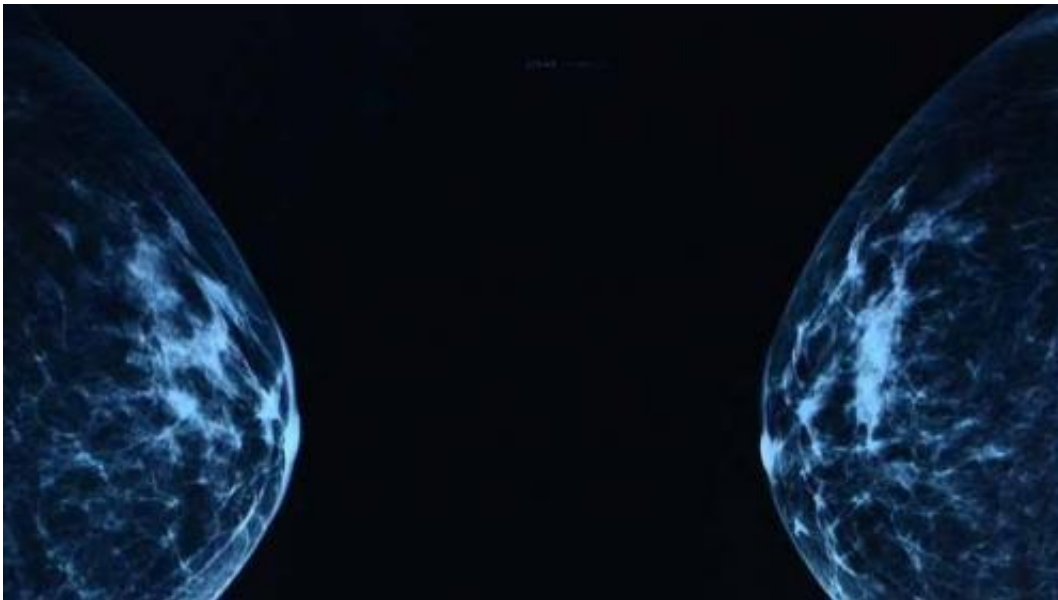


# Predicted deaths of young women with breast cancer underestimated by a quarter

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An online computer programme that helps to predict the most suitable treatment for breast cancer has been found to underestimate the number of women under 40 who will die from the disease by 25 per cent, according to a study published in the *British Journal of Cancer* today.

Researchers carried out an evaluation of the PREDICT computer programme which was developed after studying thousands of UK women of all ages with breast cancer.

The programme itself has been well validated as a predictor of prognosis. However its accuracy among [young women](#) – who represent less than five percent of all breast cancer cases in the UK – might be affected by the fact that data from only a small number of young women were included when the programme was developed, and this could be making its five-year predictions for patients in this age group less accurate. The disease can behave differently in younger women compared with older patients and can sometimes be more aggressive.

Researchers from Southampton and Cambridge, supported by Cancer Research UK and University Hospital Southampton NHS Foundation Trust, looked at how accurately the PREDICT online programme estimates the number of deaths in patients diagnosed with breast cancer before the age of 41.

PREDICT is one of several prediction computer programmes available to doctors and patients, and is one of the few freely available online.

The researchers used information from 3,000 young women diagnosed with oestrogen receptor (ER) positive and ER negative breast cancer in the UK between 2000 and 2008.

When considering all cases together, PREDICT underestimated the number of deaths within five years of diagnosis by 25 per cent, with around 610 deaths occurring in total compared with around 460 predicted.

Evaluation co-author Professor Diana Eccles said: "This research emphasises growing understanding that breast cancer in young women can behave differently, so making predictions using information from mainly older women may not always be accurate enough for younger patients and doctors trying to make important decisions about treatment.

"The computer programme was developed using information from [breast cancer](#) patients of all ages, but included data from only a small number of very young women. This could explain why it isn't as accurate as we would like for younger [patients](#). Our findings will be used to help the group in Cambridge to develop the software further, giving more accurate estimates for younger women."

Researchers found that PREDICT's longer-term estimates of how many young women would die within eight and 10 years of diagnosis were more accurate. But the pattern of underestimating deaths in women with ER positive tumours and overestimating deaths in those with ER negative tumours largely persisted.

Findings from this evaluation will be used to further develop the software and increase its accuracy for the young age group.

Breast cancer is the most common cancer in the UK, with just under 50,000 newly diagnosed cases in women each year. Less than five per cent of cases are in women diagnosed before the age of 40.

Martin Ledwick, head information nurse at Cancer Research UK said: "Computer programmes like PREDICT add to the information that doctors and women have when agreeing on treatment, which might be hormone therapy, chemotherapy or surgery. This evaluation had limitations but it provides valuable data to help improve PREDICT's accuracy for [younger women](#)."

**More information:** "An evaluation of the prognostic model PREDICT using the POSH cohort of women aged 40 years at breast cancer diagnosis" *British Journal of Cancer* 112, 983-991 (17 March 2015) | [DOI: 10.1038/bjc.2015.57](https://doi.org/10.1038/bjc.2015.57)

Provided by Cancer Research UK

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