

# Annual mammographic screening to reduce breast cancer mortality in women from age 40 years: long-term follow-up of the UK Age RCT

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## Plain English summary

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## Plain English summary

It is known that breast cancer screening with mammography (i.e. X-ray of the breasts) in women aged  $\geq 50$  years leads to a reduction in the number of deaths from breast cancer. In the UK, the NHS Breast Screening Programme offers regular screening to women aged 50–70 years. There is still some disagreement about the effect of such screening on the risk of death from breast cancer for those aged 40–49 years. There is also concern about overdiagnosis, that is, the finding of breast cancer that would not have been diagnosed in a woman's lifetime if she had not been screened.

This study recruited 160,921 women aged 39–41 years and randomly assigned one in three of the women to be offered annual mammographic screening from age 40 to 48 years. The women were followed up for occurrence of breast cancer, death from breast cancer and death from all other causes.

We found that the women who were offered the screening were 25% less likely to die of breast cancer in the first 10 years in the trial. This mortality reduction was reduced with later follow-up, with a 12% reduction after an average of 23 years. There was no effect of offering screening on death from other causes.

During the early years of the trial, the women offered screening had larger numbers of breast cancers diagnosed, but this excess disappeared after the first National Programme screen. This suggests that there is no overdiagnosis from screening those aged 40–49 years over and above that which already results from screening those aged  $\geq 50$  years.

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## This report

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