

Breast screening program effective in preventing some invasive cancers

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Screening for and treatment of an early form of breast cancer has been found to prevent subsequent invasive cancer, according to research led by Queen Mary University of London (QMUL).

Ductal carcinoma in situ (DCIS) is described as a very early form of breast cancer, where cancer cells are present in milk ducts, but have not yet invaded the surrounding breast tissue. Around 4,800 people are diagnosed with DCIS in the UK each year and the main form of [treatment](#) is surgery followed by radiotherapy.

Ongoing public debate about the harm caused by mammography screening through overdiagnosis has led to controversy over the value of screening for and treatment of DCIS. A major question has been the extent to which diagnosis and treatment of DCIS may prevent the occurrence of [invasive breast cancer](#) in the future.

The researchers analysed data on 5,243,658 women aged 50-64 who were screened over a four year period across 84 screening units in the UK's National Health Service Breast Screening Programme in England, Wales and Northern Ireland.

They found that increased prior screen detection of DCIS was associated with a reduction in invasive cancers occurring in the subsequent three-year interval. In 90 per cent of the screening units, for every three screen-detected cases of DCIS, there was one fewer case of invasive cancer in the following three years. As the study is based on screening unit level

data, it cannot give definitive proof of progressive potential or otherwise of individual DCIS cases.

Lead researcher Professor Stephen Duffy from QMUL said: "There has been controversy over whether [ductal carcinoma](#) in situ will ever become [invasive cancer](#). This is the first study from the screening programme which suggests that a substantial proportion of DCIS will become invasive if untreated, and it is therefore worth detecting and treating early. People can be reassured that detection of DCIS in the [breast screening](#) programme is benefitting the patients."

The study, published in *The Lancet Oncology*, is the first to explicitly investigate the association between screen-detection of DCIS and subsequent incidence of invasive [breast cancer](#) within the NHS Breast Screening Programme.

The findings suggest that, overall, detection and treatment of DCIS is worthwhile in the prevention of subsequent invasive disease. The authors note, however, that it cannot be known for certain what the outcome would have been for any individual DCIS if it had not been treated.

The average rate of DCIS detected at [screening](#) was 1.6 per 1,000 women screened, while the subsequent average rate of invasive cancers found within 36 months of their last screen was 2.9 per 1,000 screened.

The research was funded by the Department of Health Policy Research Programme and NHS Cancer Screening Programmes.

More information: Screening-based detection of ductal carcinoma in situ and subsequent incidence of invasive interval breast cancers: a retrospective population-based study, *The Lancet Oncology*. 4 December 2015.

Provided by Queen Mary, University of London

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