

Harms outweigh benefits for women aged 70 and over in national breast cancer screening programs

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Extending national breast cancer screening programmes to women over the age of 70 does not result in a decrease in the numbers of cancers detected at advanced stages, according to new research from The Netherlands.

Instead, researchers told the European Breast Cancer Conference that their findings suggest that extending screening programmes to older women results in a large proportion of women being over-treated, and at risk from the harmful effects of such treatment, because these women were more likely to die from other causes than from any tumours detected in the early stages of growth.

Dr Gerrit-Jan Liefers (MD, PhD), a surgical oncologist and head of the geriatric oncology research group at Leiden University Medical Centre (Leiden, The Netherlands), said: "For a screening programme to be effective, one would expect that the incidence of early stage breast cancer would increase while the incidence of advanced stage cancer would decrease because any cancer would have been detected at an earlier stage.

"However, when we investigated the effect of extending the screening programme in The Netherlands from age 69 to 75, we found that it had not led to a decrease in the rate of advanced breast cancers detected, while the numbers of early stage tumours strongly increased. This

implies that the effect of screening in elderly women is limited and leads to a large proportion of over-diagnosis."

The Netherlands [breast cancer screening](#) programme was extended in 1998 to include women up to the age of 75. Dr Liefers and his colleagues looked at results from The Netherlands Cancer Registry for 25,414 women aged between 70-75 who were diagnosed with breast cancer between 1995 and 2011.

They found that after the extension of the upper age limit, the incidence of early stage breast cancer (stages 0, I and II) increased significantly from 260 cases per 100,000 women in 1995 to up to 382 cases per 100,000 women in 2011. Meanwhile, the number of advanced stage breast cancers (stages III and IV) did not change significantly: in 1995 there were 59 cases detected per 100,000 women compared to 53 per 100,000 in 2011.

"In these more elderly women, other, competing causes of death are of major importance. Although surgery that is confined to removing just a small tumour (loco-regional treatment) is generally considered to be low risk, we have previously demonstrated that the proportion of patients who develop postoperative complications strongly increases with age and increasing numbers of other diseases or conditions that they may have. Furthermore, older patients are at risk from the adverse side-effects of adjuvant treatments such as hormone therapy or chemotherapy. Therefore, screening could result in over-treatment and consequently in decreased quality of life and ability to function in older breast cancer patients, without lowering the incidence of advanced stage breast cancer or deaths from the disease," he said.

"In upcoming decades, an increasing proportion of [breast cancer patients](#) will be elderly and, therefore, the additional costs of treating over-diagnosed tumours could result in a tremendous increase in health

expenditure, while no actual health benefits are being obtained. Since [breast cancer treatment](#) in older patients is mostly not evidence-based due to poor inclusion of older patients in clinical trials, we propose that studies investigating breast cancer treatment are much more important than breast cancer screening in this population and should be prioritised.

"Currently, the NHS Breast Cancer Screening Programme in the UK is undertaking a large randomised controlled trial in patients aged 71-73 in order to evaluate the effects of screening on breast cancer incidence and mortality. Until results of this trial become available, we suggest that the decision to participate in the screening programme should be personalised, for instance in discussions with primary care physicians, and be based on remaining life expectancy, the patients' ability to function in everyday life and their preferences.

"A prediction tool should be developed in order to estimate which women are at increased risk of breast cancer and should receive breast cancer screening, instead of screening the whole population. For example, an older woman with a long life expectancy who has certain risk factors for developing breast cancer could benefit from breast cancer screening. In contrast, an older woman with multiple other diseases or life-limiting conditions, and without any risk factors for [breast cancer](#), will only be at risk of over-diagnosis and overtreatment and may not benefit from screening."

Dr Hilary Dobson, chair of EBCC-9's national organising committee and who is Clinical Lead of the West of Scotland Breast Screening Service and the Lead Clinician of the West of Scotland Cancer Advisory Network (WoSCAN), commented: "These findings from The Netherlands are important when considering how best to offer an effective screening strategy to women aged 70 years and over. The authors conclude that the challenge of over-diagnosis poses a significant issue in this age range when screening is offered on a population basis

and suggest a move towards a more personalised approach would be more appropriate. Continued scrutiny and analysis of other studies, for example, the piloting of an age extension to invitations for [women](#) up to the age of 73 currently underway in the UK, will provide an important contribution to the discussion."

More information: Abstract no: O-406, "Breast cancer screening in older women". Friday 21 March, Management of screen detected cancer session, 08.45-10.15 hrs GMT, Hall 2.

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