

Lives saved by breast cancer screening outweigh harms of overdiagnosis

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Overdiagnosis of breast cancer may be an inevitable consequence of the national population screening program, but the benefits of early diagnosis outweigh the harms of possible overtreatment, according to the authors of a Perspective published by the *Medical Journal of Australia*.

Authors led by Dr. Vivienne Milch, Medical Director of Cancer Australia, wrote that "the concern is that the potential to discourage women from breast screening through concerns of overdiagnosis would result in harms associated with later diagnosis, including deaths from [breast cancer](#)."

"Concerns about overdiagnosis stem from the potential harms that may be experienced by a person receiving the overdiagnosis," Milch and colleagues wrote.

"Harms can range from the psychological stress of receiving a diagnosis through to the potential for complications and adverse effects of diagnostic procedures or treatments.

"However, the challenge is that for any individual, it is not possible at diagnosis to determine whether their [cancer](#) is overdiagnosed or not. The cancers that are overdiagnosed are indistinguishable from other cancers histologically."

Cancer Australia has estimated that for every 1000 Australian women screened for breast cancer every 2 years from age 50 to 74 years, around eight breast cancers may be found and treated which would not otherwise have been found in a woman's lifetime. An equivalent number of breast cancer deaths would be avoided in these women.

"Based on current international evidence, if left untreated, more than 90% of cancers found through [routine screening](#) would progress and become symptomatic and be potentially lethal, depending on modeling assumptions," Milch and colleagues wrote.

"These estimates are indicative of the scale of risk of developing a symptomatic breast cancer which could be detected earlier through screen detection.

"Screen-detected cancers are found at an earlier stage and tend to be smaller; treatment guidelines advise less extensive surgery and reduced need for adjuvant treatments, as well as being associated with improved survival."

The authors highlighted the need to distinguish between formal screening programs such as the national breast screening program, and informal or opportunistic approaches to early detection, such as [prostate-specific antigen](#) (PSA) testing in prostate cancer.

"The reality that a proportion of cancers will be overdiagnosed is inherent in all screening programs," Milch and colleagues wrote.

"Major international reviews have concluded, after a careful evaluation of the balance between benefits

and harms, that there is a net benefit from inviting women to receive breast screening (ie, benefits outweigh harms).

"Population screening programs are offered within a [policy framework](#) that carefully considers the target population that stands to benefit from screening, including age criteria, and ongoing monitoring and reporting of sensitivity, specificity and interval cancers," they concluded.

"There are also ongoing research efforts to improve the effectiveness of breast screening, including evaluation of new approaches to tailor screening to the individual woman's risk profile to maximize benefit and minimize harms.

"Informed consent about [breast screening](#) needs to balance the potential harms with the demonstrated benefits of the current national [screening](#) program."

More information: Vivienne Milch et al.

Overdiagnosis of screen-detected breast cancer, *Medical Journal of Australia* (2021). [DOI: 10.5694/mja2.51045](#)

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