

CADTH Reference List

Breast Cancer Screening

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Key Messages

- We found 1 systematic review about the clinical utility of breast cancer screening versus no screening in people at average risk for breast cancer aged 40 years and older.
- We found 1 systematic review about the clinical utility of breast cancer screening with different screening techniques, approaches, or intervals in people at average risk for breast cancer aged 40 years and older.
- We found 1 systematic review and 9 evidence-based guidelines about the use of breast cancer screening in people at average risk for breast cancer aged 40 years and older.

Research Questions

1. What is the clinical utility of breast cancer screening versus no screening in people at average risk for breast cancer aged 40 years and older?
2. What is the clinical utility of breast cancer screening with different screening techniques, approaches, or intervals in people at average risk for breast cancer aged 40 years and older?
3. What are the evidence-based guidelines regarding the use of breast cancer screening in people at average risk for breast cancer aged 40 years and older?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE, the Cochrane Database of Systematic Reviews, the International HTA Database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were screening/diagnosis and breast cancer. CADTH-developed search filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, indirect treatment comparisons, or guidelines. The search was completed on July 19, 2022 and limited to English-language documents published since January 1, 2017. Internet links were provided, where available.

Some of the included publications did not distinguish sex from gender or recognize gender as a spectrum. While we have retained the original language used when reporting the references, we acknowledge that such language is not inclusive of transgender and non-binary people.

Selection Criteria

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in [Table 1](#). Full texts of study publications were not reviewed. Open access full-text versions of evidence-based guidelines were reviewed when available.

Table 1: Selection Criteria

Criteria	Description
Population	People at average risk for breast cancer aged 40 years and older ^a
Intervention	Breast cancer screening using any technique, including: <ul style="list-style-type: none"> • Mammography (film, digital, or tomosynthesis) • MRI • Ultrasound • Clinical breast examination • Breast self-examination
Comparator	Q1: No breast cancer screening Q2: Breast cancer screening using alternative screening techniques, approaches, or intervals Q3: Not applicable
Outcomes	Q1 and Q2: Clinical utility (e.g., incidence of breast cancer, mortality [e.g., breast cancer-related, all-cause], quality of life, proportion of participants who receive unnecessary or inadequate treatment [e.g., due to false-positive or false-negative test results], safety, harms [e.g., rates of adverse events]) Q3: Recommendations regarding best practices (e.g., appropriate patient populations, recommended screening techniques or approaches, screening algorithms)
Study designs	Health technology assessments, systematic reviews, randomized controlled trials, evidence-based guidelines

^aStudies that included people with dense breasts were eligible for inclusion, despite being at increased risk for breast cancer.

Results

One systematic review¹ about the clinical utility of breast cancer screening with different screening techniques, approaches, or intervals in people at average risk for breast cancer aged 40 years and older was identified. One systematic review³ about the clinical utility of breast cancer screening versus no screening in people at average risk for breast cancer aged 40 years and older was identified. One systematic review² and 9 evidence-based guidelines⁴⁻¹² about the use of breast cancer screening in people at average risk for breast cancer aged 40 years and older were identified. No health technology assessments or randomized controlled trials were identified.

Additional references of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

References

Health Technology Assessments

No literature identified.

Systematic Reviews

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Randomized Controlled Trials

No literature identified.

Guidelines and Recommendations

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See: Women with Average Risk 40 Years and Older (MS-6)
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See: Screening for Breast Cancer in Women within the Population at Average Risk (page 245)

Appendix 1: References of Potential Interest

Previous CADTH Reports

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Health Technology Assessments

Unclear Risk Level for Breast Cancer

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Systematic Reviews

Unclear Population Age and/or Risk Level for Breast Cancer

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Unclear Comparator

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Randomized Controlled Trials

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Unclear Methodology

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Alternative Methodology

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