Aids for deciding whether to participate in breast cancer screening



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- Barratt AL, Irwig L, Glasziou P et al. Users Guides to the Medical Literature: how to use guidelines and recommendations about screening. *JAMA 1999;281:2029-2034.*
- Barratt A, Trevena L, Davey HM, McCaffery K. Decision aids for screening. *BMJ 2004;329:507-510*
- Barratt A, Howard K, Irwig L, Salkeld G, Houssami N. Model of outcomes of screening mammography: information to support informed choices. *BMJ 2005;330:936-940*



http://www.abc.net.au/rn/talks/8.30/helthrpt/stories/s1440410.htm

Having a cancer test *if you're healthy* is a close call

Cancer screening is a two edged sword

- Its not always good to look for cancer early

Not all cancers are created equal

There's an enormous reservoir of cancer out there

- Most adults have pathologic evidence of thyroid cancer
- Over half of older men have pathologic evidence of prostate cancer
- 40% of middle aged women have DCIS of the breast

In 7 autopsy series:

- Median prevalence of invasive breast cancer was 1.3%
- Median prevalence of DCIS was 8.9%
- Prevalences were higher in women aged 40-70 years
- Mean number of slides ranged from 9-275; series with more slides reported higher prevalences

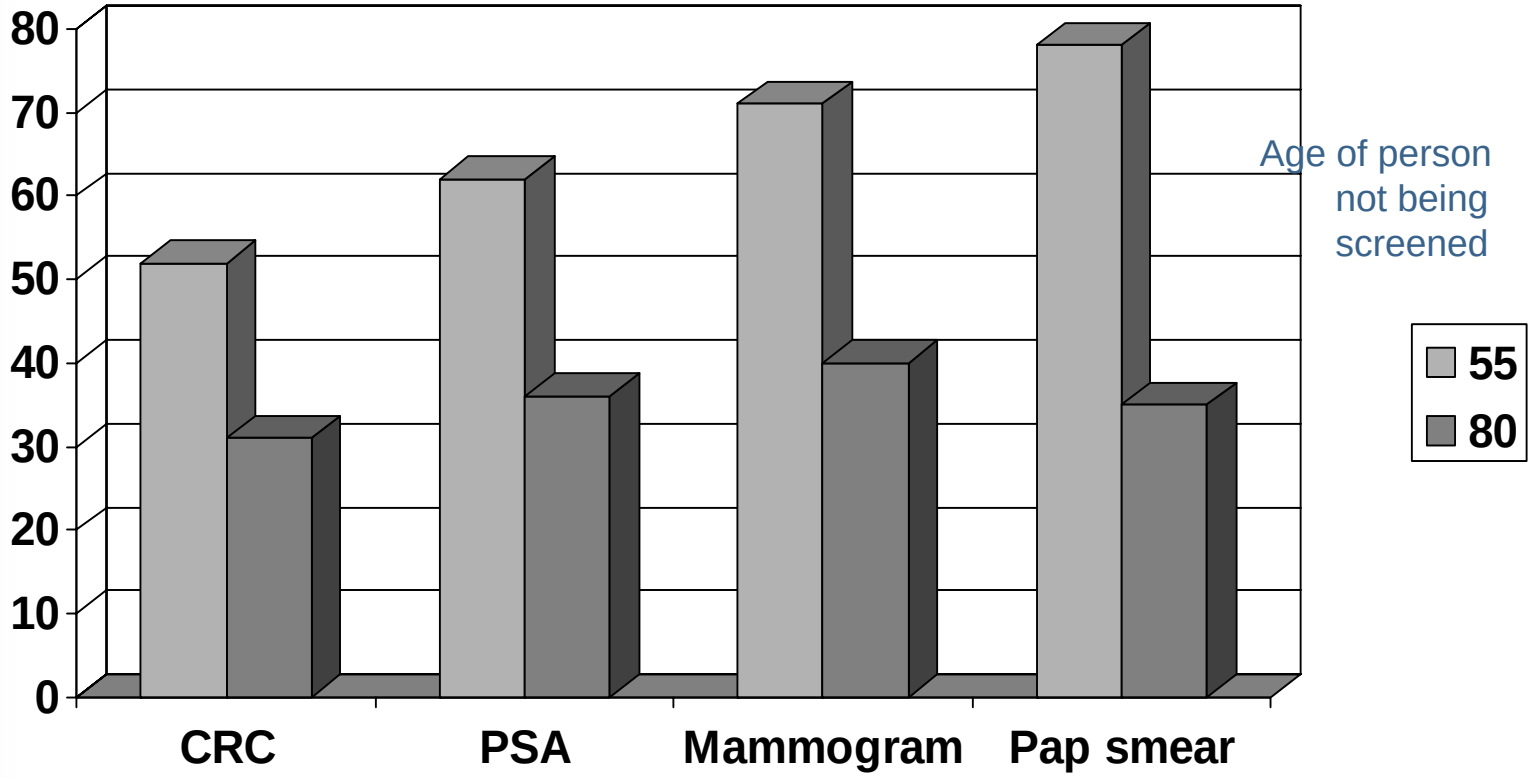
Welch HG, Black WC. Annals Internal Medicine 1997;127:1023-1027

Over-detection is the most important and the least understood downside of screening

The challenge is to find the cancers that matter without dredging up all the cancers that don't

- The best test is no longer the test that detects the most cancers

Do you feel that a person who did not have the routine test was irresponsible ?



Schwartz and Woloshin JAMA 2004 291:71-78

False alarms

- Cumulative effects
- Sub-groups

False negatives

- Interval cancer rates

How can we best provide this information to women in breast cancer screening programs?

General principles on the provision of information about cancer screening:-

- information should be balanced - describing benefits and harms over a similar time frame, such as 10 years
- estimates should be presented in absolute terms with a constant denominator (such as per 100 or 1000 people)
- needs to be easy to make direct comparisons of outcomes between screened and non screened groups

Patient decision aids

- Decision aids are balanced, evidence based tools that help people weigh up probabilistic information to make health care choices

- Useful for preference sensitive decisions when there is no single clear best choice

Screening strategy	Comparator
1000 women begin screening at age 40 and have five biennial screens (from 40-49 years)	*No screening*
1000 women begin screening at age 50 and have five biennial screens (from 50-59 years)	No screening
1000 women aged 60, who now have a further five biennial screens (from 60-69 years) having been screened biennially from 50	No screening
1000 women aged 70, who now have a further five biennial screens (from 70-79 years) having been screened biennially from 50	*Stop at 69, having previously been screened from 50-69 years*

Table 2 Outcomes for women who undergo screening compared with those who do not. Figures are cumulative number out of 1000 women over 10 years

	Age 40		Age 50		Age 60		Age 70	
Event over 10 years	Begin screening at age 40, five biennial screens	No screening	Begin screening at age 50, five biennial screens	No screening	Have five more biennial screens	No screening	Have five more biennial screens	Finish screening at age 69
Are recalled for more tests	250.9		242.0		184.6		166.6	
Recalled for:								
Extra imaging only (clinical examination plus mammography and/or ultrasound)	191.4		177.9		128.6		110.2	
Biopsy (total having at least one biopsy)	59.5		64.1		56.0		56.4	
Fine needle aspiration biopsy	31.7		30.5		25.4		25.4	
Core biopsy	21.7		27.2		25.3		25.8	
Open biopsy	6.1		6.4		5.3		5.2	
Invasive breast cancer detected at screening	8.5		17.6		23.3		26.4	
Develop interval cancer	9.1		10.4		9.2		8.8	
Diagnosis of invasive breast cancer	17.6	13.2	28.1	19.8	32.5	23.9	35.1	25.1
DCIS*	3.4	0.3	4.9	0.4	5.5	0.5	5.7	0.5
Breast cancer diagnosis of any kind	21.0	13.5	32.9	20.2	38.0	24.4	40.8	25.6
Die from breast cancer	2.0	2.5	4.0	5.9	5.1	8.1	6.2	8.4
Die from causes other than breast cancer	10.8	10.8	25.3	25.2	68.5	68.4	199.5	199.3
Total who die	12.8	13.3	29.3	31.1	73.6	76.5	205.7	207.8

*Ductal carcinoma in situ, detected by screening in screening group, and presenting clinically with symptoms in unscreened group.

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Should I Continue Having Mammograms to Screen for Breast Cancer?



A decision aid for women aged 70 and older at their next screening mammogram.

AUSTRALIAN SCREENING MAMMOGRAPHY DECISION AID TRIAL

Should I continue or stop having mammograms to screen for breast cancer?

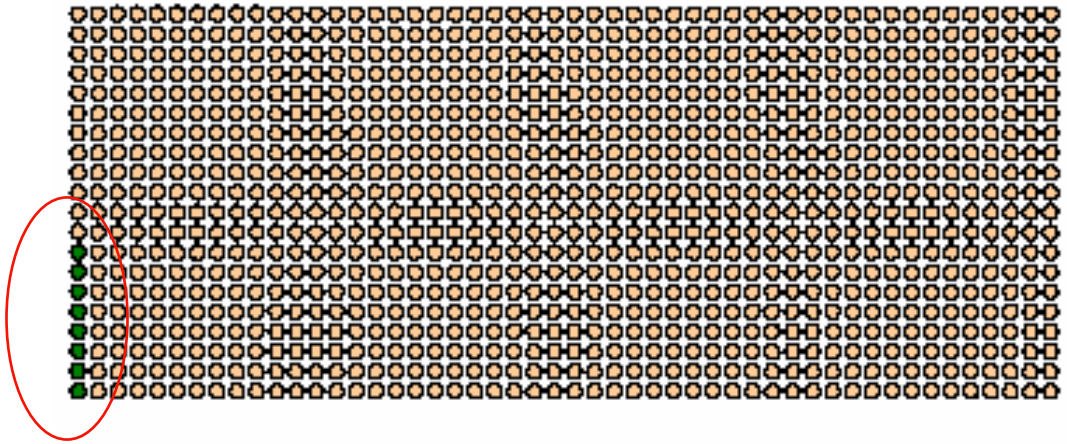
Many people think mammograms are always a good thing. But there are reasons why you might choose not to have another screening mammogram if you are aged 70 or older. The following pages outline some issues you may want to consider in making your decision.

There is no right or wrong answer about whether to continue or stop having screening mammograms.

It is your decision to make.

Screening is for women with no breast symptoms.
If you have any breast symptoms, you should see your doctor.

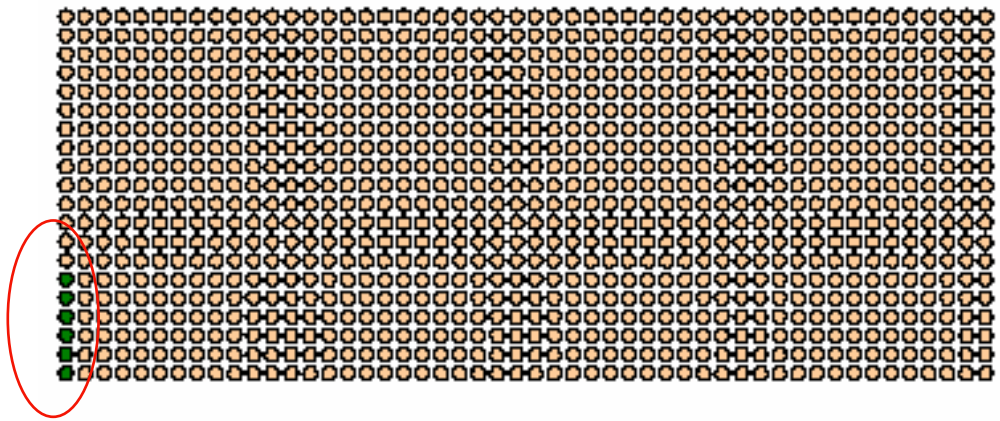
How many women aged 70 who stop having screening mammograms will die from breast cancer in the next 10 years?



Out of 1000 women aged 70 who stop screening mammograms, over the next 10 years:

- 8 women will die of breast cancer

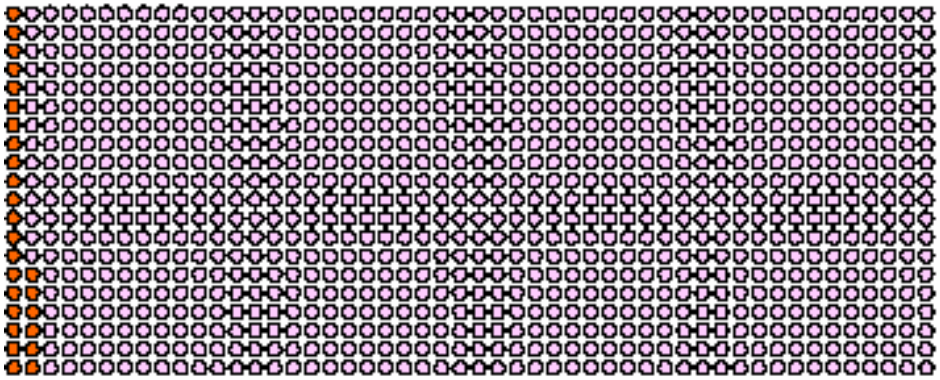
How many women aged 70 who continue having screening mammograms every 2 years for the next 10 years will die from breast cancer?



Out of 1000 women aged 70 who continue screening mammogram every 2 years for the next 10 years:

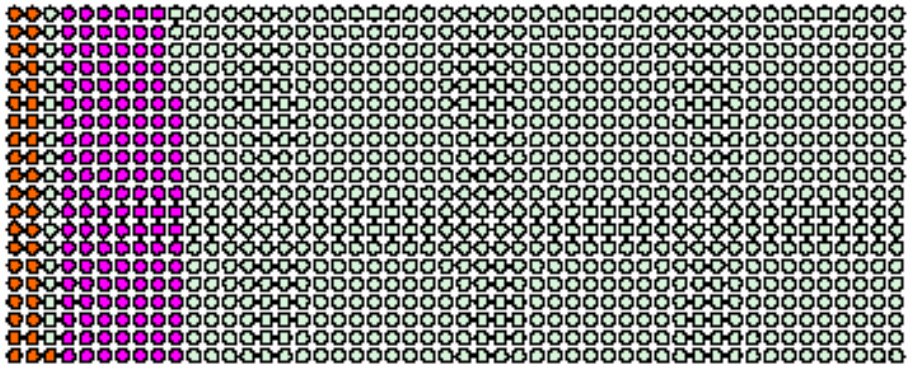
- 6 women will die of breast cancer

What else happens to 1000 women aged 70 who stop having screening mammograms?



- 26 women develop symptoms and are diagnosed with breast cancer
- 974 women continue with their daily activities without being affected by breast cancer or attending for screening for the next 10 years

What else happens to 1000 women aged 70 who continue having screening mammograms every 2 years for 10 years?



- 41 women are diagnosed with breast cancer over the 10 years
  - 32 women have their cancer detected by screening
  - 9 women develop symptoms and are diagnosed with breast cancer between mammograms
- 135 women have extra tests after an abnormal mammogram. The extra tests show these women don't have breast cancer. Aside from the inconvenience of attending for these tests, some women will worry long after they have had them[5]
- 824 women are correctly reassured they do not have breast cancer

AUSTRALIAN SCREENING MAMMOGRAPHY DECISION AID TRIAL

A decision aid for women aged 40 thinking about starting mammography screening



Should I Start Having Mammograms to Screen for Breast Cancer?

Some 40 year old women start thinking about whether they should attend mammography screening now or wait until they are 50. If you are in this situation, you might find this website helpful.

Researchers from the University of Sydney have compiled the best available evidence regarding mammography screening and created what we call a decision aid. A decision aid is intended to provide you with unbiased information so that you can make a decision after considering the evidence.

We invite you to spend approximately 30 minutes reading the decision aid and completing some questions. All of your responses remain confidential, and at no time do we ask your name or an email address.

If you are interested, click 'next' to find out more.

» Next

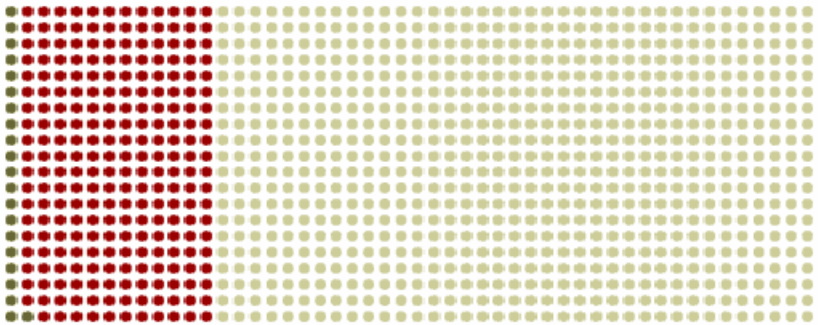
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AUSTRALIAN SCREENING MAMMOGRAPHY DECISION AID TRIAL

A decision aid for women aged 40 thinking about starting mammography screening

What else happens to 1000 women aged 40 who *have* screening mammograms every two years for 10 years?



- 21 women are diagnosed with breast cancer over the next 10 years
  - 12 women will have their cancer detected by screening
  - 9 women develop symptoms and are diagnosed with breast cancer between screening mammograms
- 239 women have extra tests after an abnormal mammogram. The extra tests will show these women don't have breast cancer. Aside from the inconvenience of attending for these tests, some women will worry long after they have had them[4]
- 740 women are correctly reassured they do not have breast cancer

BreastScreen Australia recommends and provides free mammograms for women aged 50-69. Women aged 40-49 can also attend for a free mammogram if they wish.

4. Thinking about whether you want to start having screening mammograms, at the moment how far along are you with your decision regarding screening mammograms?

- ○ I have not yet thought about the options
- ○ I am considering the options
- ○ I am close to choosing one option
- ○ I have already made a choice

5. At the moment what do you intend to do about screening mammograms?

- ○ I intend to start having screening mammograms every 2 years
- ○ I intend to have one now and decide in 2 years time whether to have another one
- ○ I am undecided as to whether to have a screening mammogram
- ○ Not have a screening mammogram now, and re-consider in 2 years
- ○ Not have a screening mammogram now, and re-consider when I am 50 years old

Australian Screening Mammography Decision Aid Trial

- Women aged 38-41 years
- www.mammogram.med.usyd.edu.au

Informed choice

- UK National Screening Committee move to Informed Choice
- People can make rational but different choices – cancer screening decisions are preference sensitive

Conclusions

- Benefits and harms of cancer screening are finely balanced.
- Over-detection and over-treatment is probably the most important and the least understood of the harms of screening.
- Cancer screening decisions are preference sensitive; either choice for or against screening can be rational.
- We need to give people balanced information about the benefits and harms and let them choose what they want.