

# Breast Screening

## Why does the debate continue?

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Session code:



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# What causes this debate to be so high-energy?

## Three major contributors

- The history
- The rhetoric
- The evidence – and its relationship to delivery

# History

## Early mammography use\*

- 1960's: first use of mammography
- 1963: Sam Shapiro started Health Insurance Plan (HIP) trial, enrolling 62000 women aged 40 to 64 in US
- 1973: Early results promising; Breast Cancer Detection Demonstration project began, funded by National Cancer Institute, with enthusiastic uptake
  - 35 to 74; included mammogram, thermogram, xerogram

\*See Sharon Batt's *Patient No More: The politics of breast cancer, 1994; Australian edition 1996*

# The seventies

## Rapid Uptake, First Controversies

- 1976 and on: John Bailar published articles that questioned value under age 50. Also questioned potential risks: false positives and biopsies; radiation
- BCDDP machines tested and many found to be emitting high levels of radiation
  - *“As the popular program became a vote-losing nightmare, politicians jumped to attention.” Batt, 1994*
- Hearings held on BCDDP and mammography

# Recommendations in the 1980s

## Evidence and Practice

After hearings, by end of 1970's: NCI recommended mammography after 50

*“The HIP study justified screening women over 50 to gain a limited but real reduction in deaths, while the BCDDP was a cautionary tale against excessive zeal in mammography.”* Batt, 1994

British and Canadian programs targeted women over 50, UICC Task Force and USPSTF supported this

Still, other organizations in US started at 40

# 1988 to late 1990s

## Try to follow the evidence

In US, guidelines settled in on over 40s (*some said to reduce confusion*), while most of the rest of the world continued with over 50  
NCI held evidence workshop in mid-1990s to review evidence for mammography in women 40 to 49; panel found insufficient evidence, but findings were not accepted; **breast cancer remained highly politicized**

*See: Fletcher SW. Whither scientific deliberation in health policy recommendations? Alice in the Wonderland of breast-cancer screening. N Engl J Med. 1997; 336:1180-1183.*



**So, on this backdrop....**

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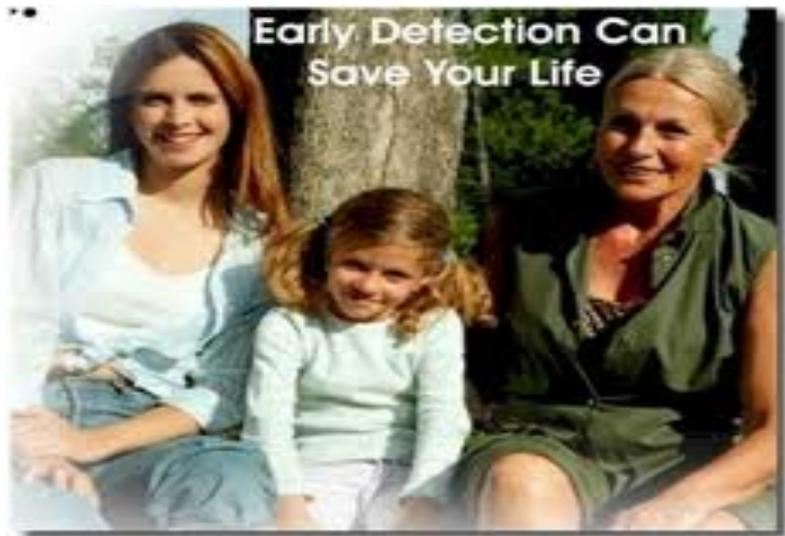


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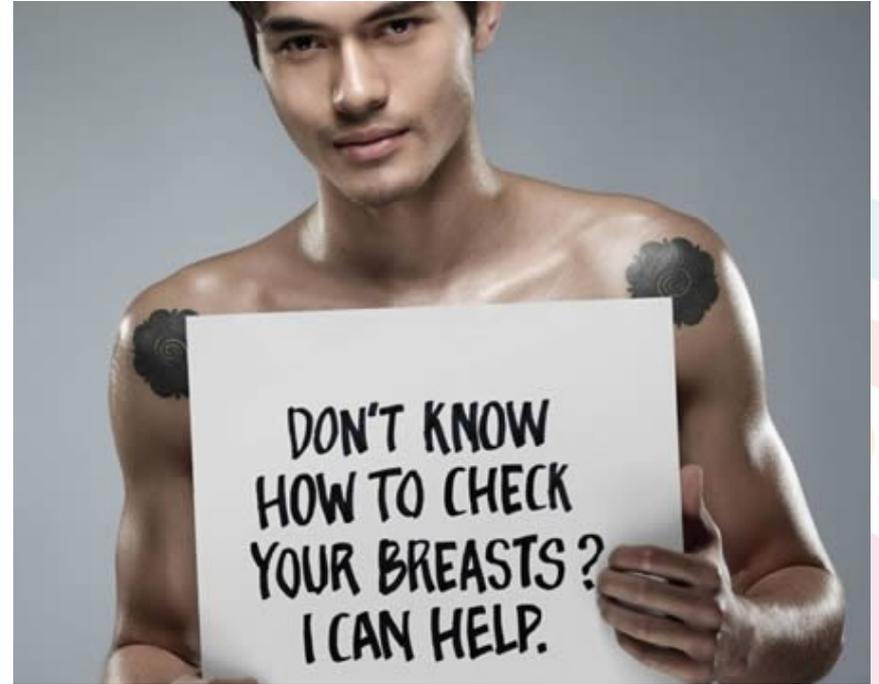


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Often, ads feature younger women



# Many breast cancer promotions sexualize the message



# Maximizing benefit, minimizing harm

## Even when recommendations aren't that new.....

CMAJ

GUIDELINES

### Recommendations on screening for breast cancer in average-risk women aged 40–74 years

The Canadian Task Force on Preventive Health Care

See related commentary by Gøtzsche on page 1957 and at [www.cmaj.ca/lookup/doi/10.1503/cmaj.111721](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.111721)

**O**f the newly diagnosed cases of breast cancer in Canada, 80% were in women over the age of 50 years, and about 28% were in women aged 70 years or older (Figure 1),<sup>1</sup> with little variation by province. Regular screening for breast cancer with mammography, breast self-examinations and clinical breast examinations are widely recommended to reduce mortality due to breast cancer. Although

disease (defined as those with no previous breast cancer, no history of breast cancer in a first-degree relative, no known mutations in the *BRCA1/BRCA2* genes or no previous exposure of the chest wall to radiation). Recommendations are provided separately for women aged 40–49, 50–69 and 70–74 years and are aimed at clinicians and policy-makers. The recommendations are intended to inform both organized and oppor-

**Competing interests:** Marcello Tonelli, Michel Joffres, James Dickinson, Harminder Singh, Gabriela Lewin and Richard Birtwhistle have received support for travel to meetings from the Public Health Agency of Canada. Gabriela Lewin is an employee of Kemptville District Hospital. No other

## Time to stop mammography screening?

Peter C. Gøtzsche MD

See related guidelines by the Canadian Task Force on Preventive Health Care on page 1991 and at [www.cmaj.ca/lookup/doi/10.1503/cmaj.110334](http://www.cmaj.ca/lookup/doi/10.1503/cmaj.110334)

**T**he Canadian Task Force on Preventive Health Care should be congratulated for its new recommendations on screening for breast cancer in women at average risk aged 40–74 years.<sup>1</sup> These guidelines are more balanced and more in accordance with the evidence than any previous recommendations.

The recommendations against routine clinical

rently submitted for publication) of our 2009 Cochrane review of

### Doubtful effect

If screening does not detect advanced cancers, it is a waste of resources. A review of studies f

**Competing interests:** None declared.

“If screening had been a drug, it would have been withdrawn from the market. Thus, which country will be first to stop mammography screening?”



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## New breast cancer screening guidelines inflame debate, add to confusion

**CARLY WEEKS**

Globe and Mail Update

Published Monday, Nov. 21, 2011 12:16PM EST

Last updated Wednesday, Nov. 23, 2011 7:49PM EST



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**ANDRÉ PICARD**

## Why the new breast cancer screening guidelines make sense

**ANDRÉ PICARD** | [Columnist profile](#) | [E-mail](#)

From Thursday's Globe and Mail

Published Wednesday, Nov. 23, 2011 7:46PM EST

Last updated Thursday, Nov. 24, 2011 10:47AM EST

Or, put another way...

# The Gazette

montrealgazette.com



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## McMartin: New breast cancer screening guidelines full of crap

BY PETE MCMARTIN, POSTMEDIA NEWS NOVEMBER 28, 2011





# Current evidence and new debates

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# Estimates of benefit are surprisingly uniform

## Results of pooled reviews

Review group	40 to49	50 to 59	60 to 69
CPSTF	0.85	0.79	0.68
USPSTF	0.85	0.86	Ca. 0.70

Marmot (UK) review looked at 50 to 70 and arrived at estimate of 0.80

Gotzsche and Olsen had estimate of 0.81.

# Canadian Task Force

Outcome per 10000 screened	40-49	50-69
False-positive on mammogram	3270	2820
Unnecessary biopsy	360	370
Deaths prevented	4.8	13.9

For 10000 women screened every 2 to 3 years for about 11 years; adapted from CMAJ 2011; 183:1991-2001

# What about harms?

This turns out to be the part of the equation with the most controversy – but can be greatly impacted by quality control efforts

# Estimates of risk: recall

Hubbard (2011): over a period of 10 years, 61% of women would be recalled with annual interval, and 41.6% if biennial

This study had recall rate of 16.3% at first mammo, and 9.6% at subsequent

Canadian programs, over 2 million screens, had recall rates of 12.6% and 6% respectively

UK program has 4% recall overall

## Estimates of harm: False positive biopsy

Hubbard: 3% for 50-59

Canadian programs: 1.8% for 50 to 69

UK program: 0.05%

# Overdiagnosis risk

Most commonly discussed in prostate cancer and in thyroid cancer

Many of the recent increases in incidence may reflect diagnosis of cases that would never have caused morbidity/mortality if not found as a result of screening/over-vigilance

Early estimates in breast cancer range from 16 to 31% of all cancers; recent ones using Canadian RCT data arrive at estimate of about 11% (of all cancers, NOT of all women)

# Summary

## Controversy often not on evidence, but on values

- Good evidence that there is benefit
- Harm:benefit ratio varies by age group (and probably risk group)
- Organized screening, or high levels of quality control, required to limit the harms – this is the most variable part of the equation
- Need to be careful in developing messages that are balanced – but positive when warranted