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Practical Knowledge. *Real Hope.*

AACR
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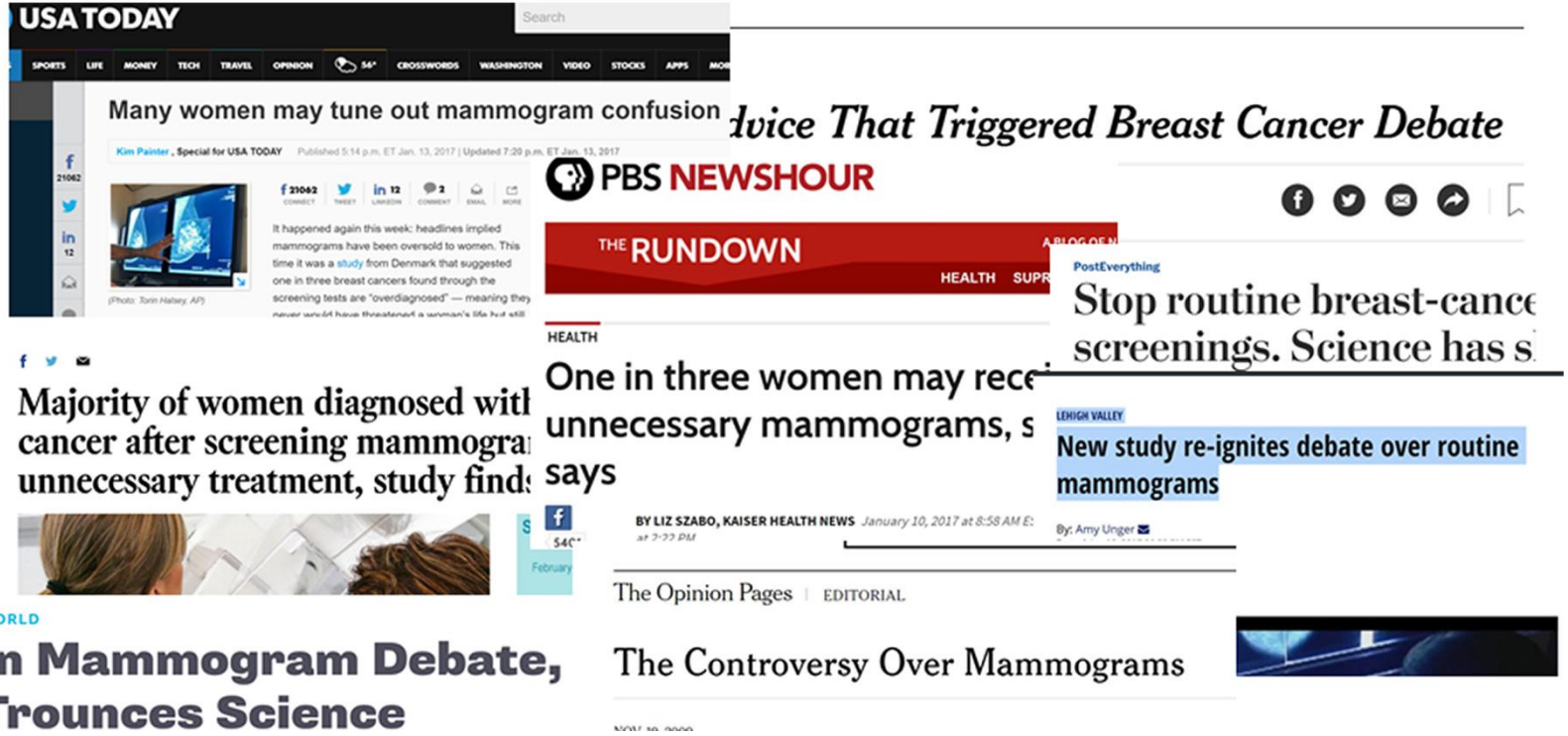
PROGRESS AND PROMISE AGAINST CANCER WEBINAR SERIES

BREAST CANCER SCREENING IS A CHOICE

by ELAINE SCHATTNER, MD

no financial disclosures (ES)

Typical headlines focus on controversy



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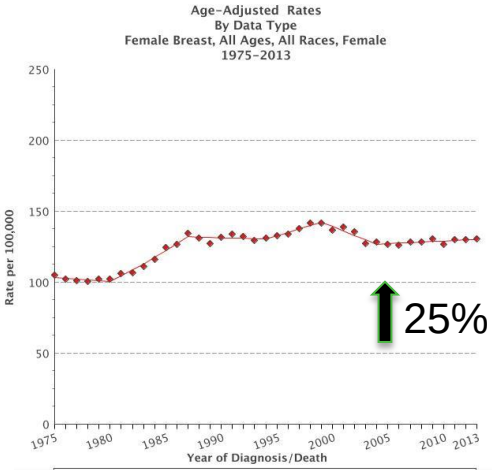
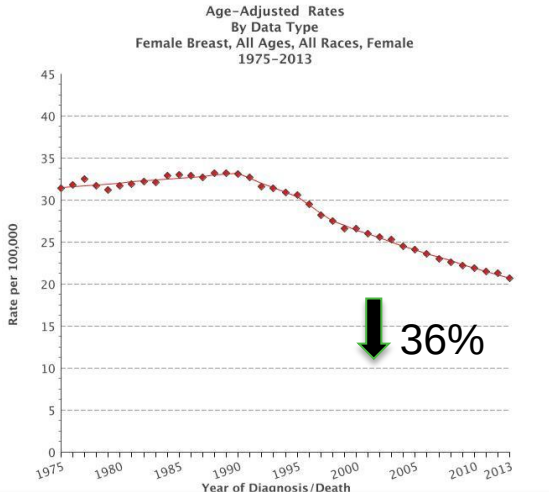
Data:
Breast Cancer Incidence and Death Rates among U.S. women 1975 – 2013

Invasive tumors* (up):



Deaths* (down):



NCI/SEER population data, *rates are per 100,000 U.S. women

Screening Debate Key Question:

Is the decline in breast cancer deaths due to

- *Early detection?*
- *Better treatment?*
- *Both?*

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Questions to Consider for an Informed Decision:

- *If* — Do you want to get screened for breast cancer?

  Consider your risk: • Female • Age • Family history

  • BRCA or other gene disposition • prior cancer?

- *How?* • Mammography is "gold standard" • Ultrasound • MRI
- *When?* • Age to begin? • Age to stop screening? • How often?
- *Why?* — (not) motivating factors:
  - Risks and Benefits
  - Fear vs. Reason
  - Uncertainty vs. Information and Control

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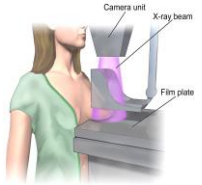
What is Breast Cancer Screening?

Screening is a way to detect breast cancer before it causes symptoms or serious health problems.

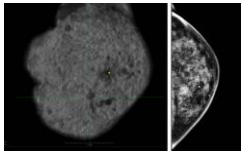
It is *not* preventive. It is not full-proof.

- Physical examination • clinical • self-exam (out of favor)
- Mammography
  - Traditional x-rays (film) • Digital (2-D) • Tomosynthesis (3-D)
- Supplemental imaging:
  - Magnetic Resonance Imaging (MRI); mainly for high-risk
  - Breast Ultrasound (sonograms); useful in evaluating dense breasts
  - Molecular Breast Imaging (MBI); new, not much data

There is no blood test to detect breast cancer.



Mammogram
Blausen gallery image



breast sonogram, mammogram
(images, GE Healthcare)

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Breast Cancer Screening Guidelines for Women at Average Risk:

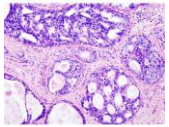
	USPSTF (Jan '16)	ACS (Oct '15)	ACOG (2011)	ACP (May '15)	AAFP (2013)
Age < 40	No	No	No	No	No
40 – 49 **+/-**	Emphasize screening as *individual decision*	Provide *opportunity* for screening for ages 40-44; annual mammography starting at 45 years	Offer annual mammography; emphasis on *shared decision-making*	*Discuss* risks and benefits; order mammography every 2 years "if an informed woman requests it"	Consider individual risk, values and *comfort level* of patient and physician
50 – 75 **yes**	**Recommend** mammography every 2 years	**Yes**: annual mammography ages 45 – 54; continue or transition to every 2 years	**Yes**: Annual mammography (or every 2 years)	Clinicians should **encourage** mammography screening every 2 years	**Offer** screening mammography "at least" every 2 years
> 75 years **unclear**	Need data	Offer screening if woman is otherwise healthy and likely to live 10 years	No particular guidance	Clinicians should not screen average-risk women over 75 years (or expected lifespan less than 10 years)	Little info: keep "patient's life expectancy, functional status, and goals of care in mind"

Risks of Breast Cancer Screening:

- False alarms: extra imaging, biopsies (“false positives”)
- Missed cases: when screening fails to catch early breast cancer (false negatives)
- Overdiagnosis refers to finding an abnormality that is unlikely to cause harm.

Controversial – examples may include:

- slow-growing tumors in people who are likely to die of something else;
- Stage 0 or non-invasive tumors, like DCIS (ductal carcinoma *in situ*);
- Atypical findings, like LCIS (lobular carcinoma *in situ*).



DCIS histopathology
(Wikimedia image)

Research is needed and ongoing to determine best management of low-grade conditions.

Overdiagnosis ≠ Overtreatment

- Overteatment happens when doctors give more therapy than is needed.

can be: • surgical • medical (chemo, other) • radiation

Education of doctors and patients is key to avoiding overtreatment.

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Reasons to Choose Screening:

- Breast cancer is common:
  - 260,000 invasive cases in the U.S. each year • 1.7 million worldwide

  Breast cancer can be lethal:
  - Malignancy is the leading cause of death in U.S. women ages 35 – 60 (CDC);
  - Most frequent cancer form and killer in women under age 60;
  - 41,000 U.S. deaths each year (113 every day, avg.) • many more worldwide
- Benefit 1: Screening reduces a woman's chances of dying from breast cancer and may prolong survival (studies vary);
- Benefit 2: Early detection permits women with cancer to choose less treatment.
  - reduced or no chemo • smaller surgery
- Benefit 3: Avoid harms and costs of delayed diagnosis:
  - Treatment of advanced disease: prolonged, more intensive, toxic and expensive.
  - Stage 4 (metastatic) breast cancer remains incurable; treatment is lifelong.

3 Things to Keep in Mind about Breast Cancer Screening:

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1. Most published studies and popular infographics reflect outcomes of very old mammograms (1960s – 1980s).

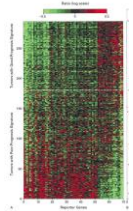
   Imaging advances since 2000 render those data obsolete:

   - digital mammography instead of film (2-D and 3-D)
   - supplemental imaging – sonograms, MRI have improved.

J. Jin *JAMA* 2014

2. Pathology tools have improved; overtreatment is less likely.

   - Genetic and other molecular tests—now in everyday practice—enable doctors to determine if cancer is fast-growing and likely to cause harm;
   - Tumor subtype and molecular details should guide treatment choices.



van de Vijver MJ et al. *NEJM* 2002

3. Radiologists vary in experience and skill; screening quality varies.

How To Get the Best Screening Possible *if* You Choose to Get Screened:

1. Check that the screening facility is certified by the FDA's Mammography Quality Standards Act and Program (MQSAP)
2. If possible, have the procedure done by a breast imaging specialist.
   - Be aware that quality varies among radiologists;
   - Consider traveling for the procedure to a facility with expertise.
3. Stay informed!
   - Know about dense breasts (http://densebreast-info.org/)
   - Radiologists (www.rsna.org and www.acr.org)
   - Radiation doses (www.nrc.gov and www.hps.org)
4. Talk to your doctor and other women in your community.

Thank you!

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