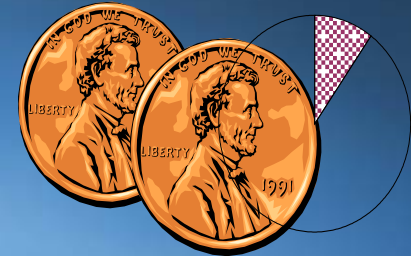


# Breast Cancer Screening: Should I or Shouldn't I?

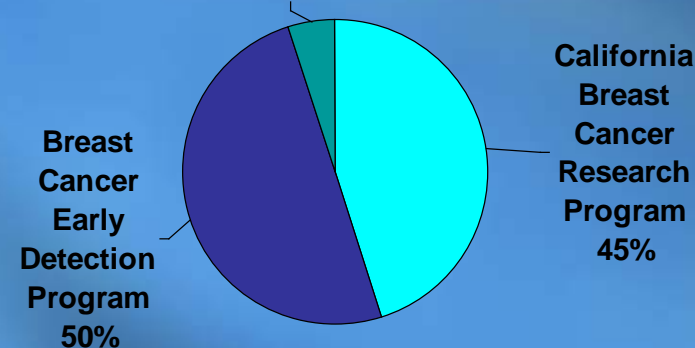
Mhel Kavanaugh-Lynch, MD, MPH  
Director  
California Breast Cancer Research Program  
Research Grants Program Office  
Office of Research & Graduate Studies  
University of California, Office of the President

# Creation of California Breast Cancer Research Program

- Passage of The Breast Cancer Act of 1993
- 45% of funding from a 2 cent per pack cigarette surtax, which generates approximately \$24 million per year.
- 4<sup>th</sup> largest funder of breast cancer in the world.



California  
Cancer  
Registry  
5%



Individual donations

# *Stewardship of CBCRP*

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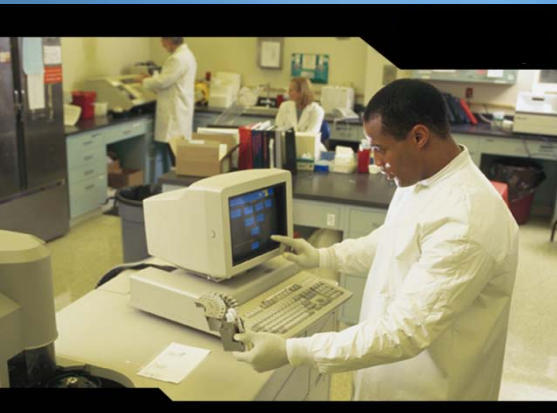
The Legislature hereby requests the University of California to establish and administer the **Breast Cancer Research Program**, which is created by this act, as a comprehensive grant and contract program to support research efforts into the **cause, cure, treatment, earlier detection, and prevention of breast cancer.**

- Housed in Office of Health Affairs, Special Research Programs from 1994-2008
- Now in Research Grants Program Office, Office of Research & Graduate Studies

## What We Do

### MISSION

To eliminate breast cancer by leading innovation in research, communication, and collaboration in both the scientific and lay communities



*Since 1993, the CBCRP has funded:*

- 894 grants
- totaling > \$213 million
- to 101 institutions across the state

Community  
Impact of  
Breast Cancer

Biology of the  
Breast Cell

Diagnosis and  
Treatment

Prevention  
and Risk  
Reduction

*When will those scientists make up  
their minds?*

---



# *Advertisements for Mammography*

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*"A mammogram saved my life."*

*"Get a mammogram for life-saving screening."*

*"With mammography, radiologists can find a cancer the size of a head of a pin."*

*"You may have missed seeing the small dot in this ad, which could be the first sign of breast cancer, but your mammogram will find it."*

*"Mammograms can detect a tumor as little as a grain of rice, while physical exam will not find a cancer until it is 1-2 cm."*

*"One out of every eight American women will develop breast cancer at some point in her lifetime...A mammogram can detect 90% of cancers."*

## *Common Myths about Mammography*

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- Mammograms prevent breast cancer
- A cancer found by mammography is by definition “early” and therefore can be “cured”
- All breast cancers can be found early and cured
- There is no risk to mammography
- There is no risk to follow-up of abnormal mammograms

## *“Early detection saves lives”*

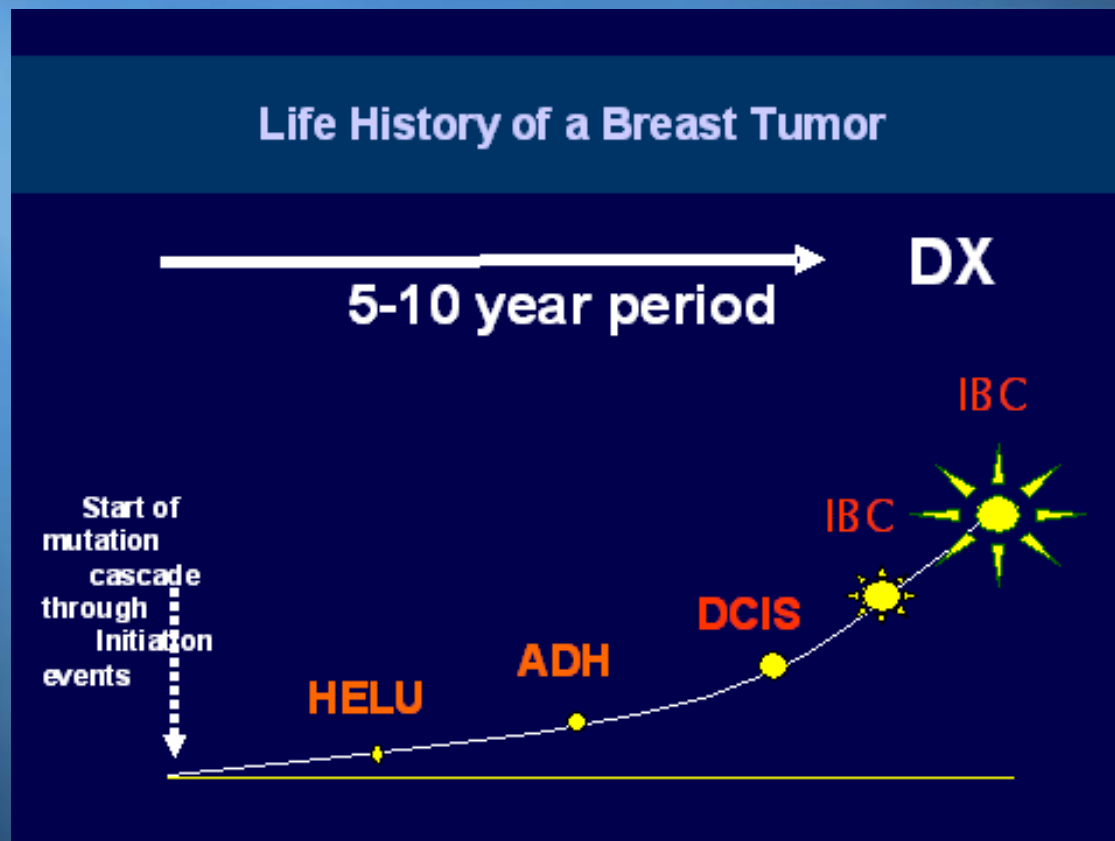
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- Women whose cancers are detected at a lower stage do better than women whose cancers are detected at a higher stage.
- Women whose cancers are detected at an early stage do better than women whose cancers are detected at a later stage.
- A woman who is diagnosed at a later stage could have been diagnosed at an earlier stage if she had been screened.

Makes sense, right?



# *Conventional View of Breast Cancer*

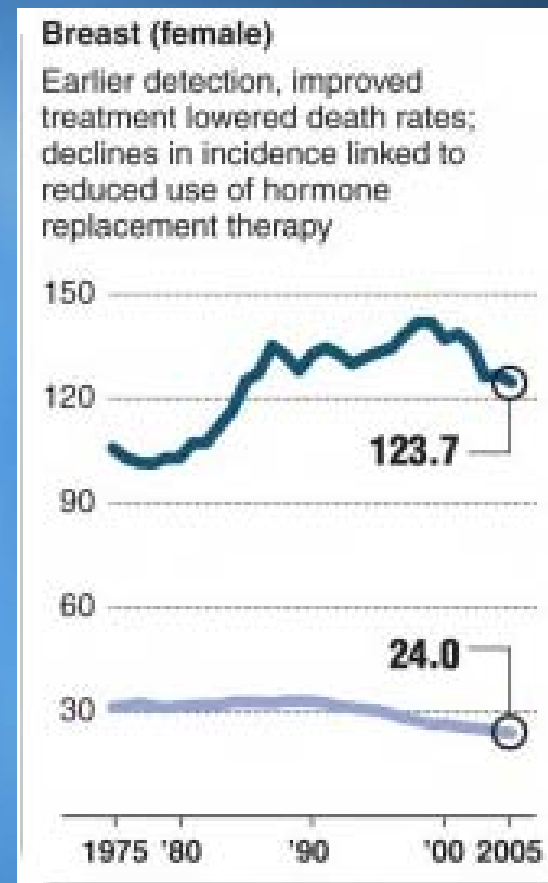
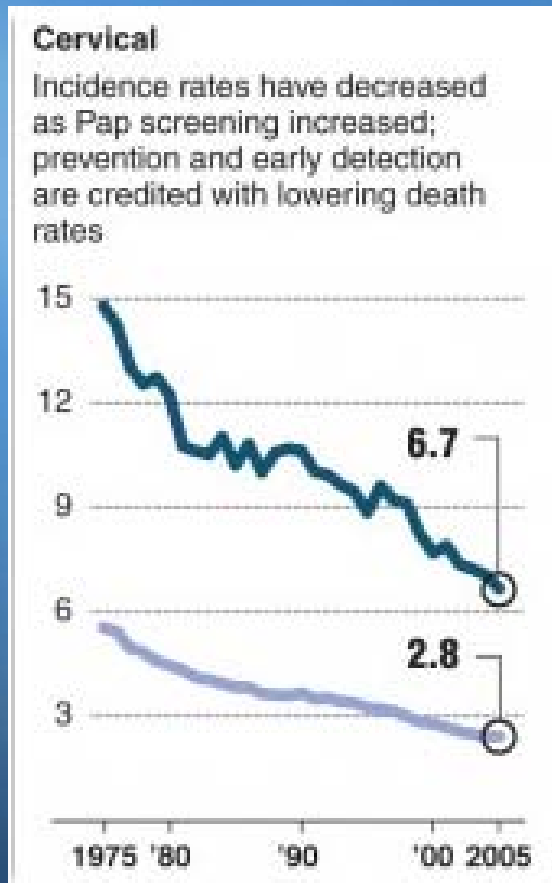


Benign Breast Disease in Women

Richard J. Santen MD, Professor of Medicine, University of Virginia Health System, Charlottesville, Virginia 22908

February 27, 2010

# Two Experiences in Screening

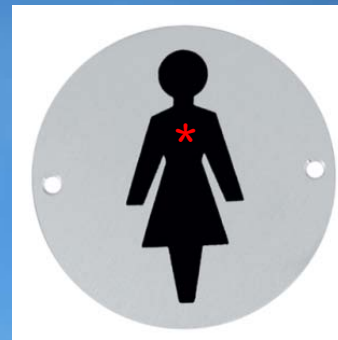


Source: National Cancer Institute; American Cancer Society  
Graphic: Chicago Tribune

# *In the Old Days, there were 2 groups of Women*



Women who  
do not have  
breast cancer



Women found to have breast  
cancer (local, regional or  
distant)

*Then we started screening, and  
there became 3 groups of Women*

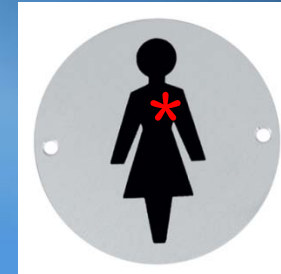
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Women who  
do not have  
cancer



Women with  
early breast  
cancer



Women with  
late breast  
cancer

# *And as we screened, these groups changed*



There became fewer women who do not have cancer

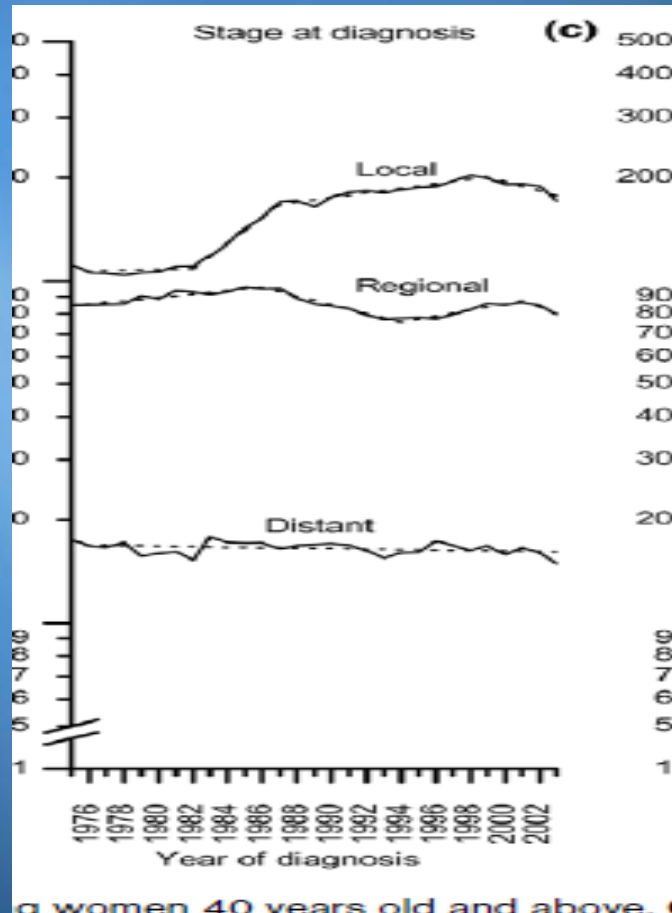


There became more women with early breast cancer



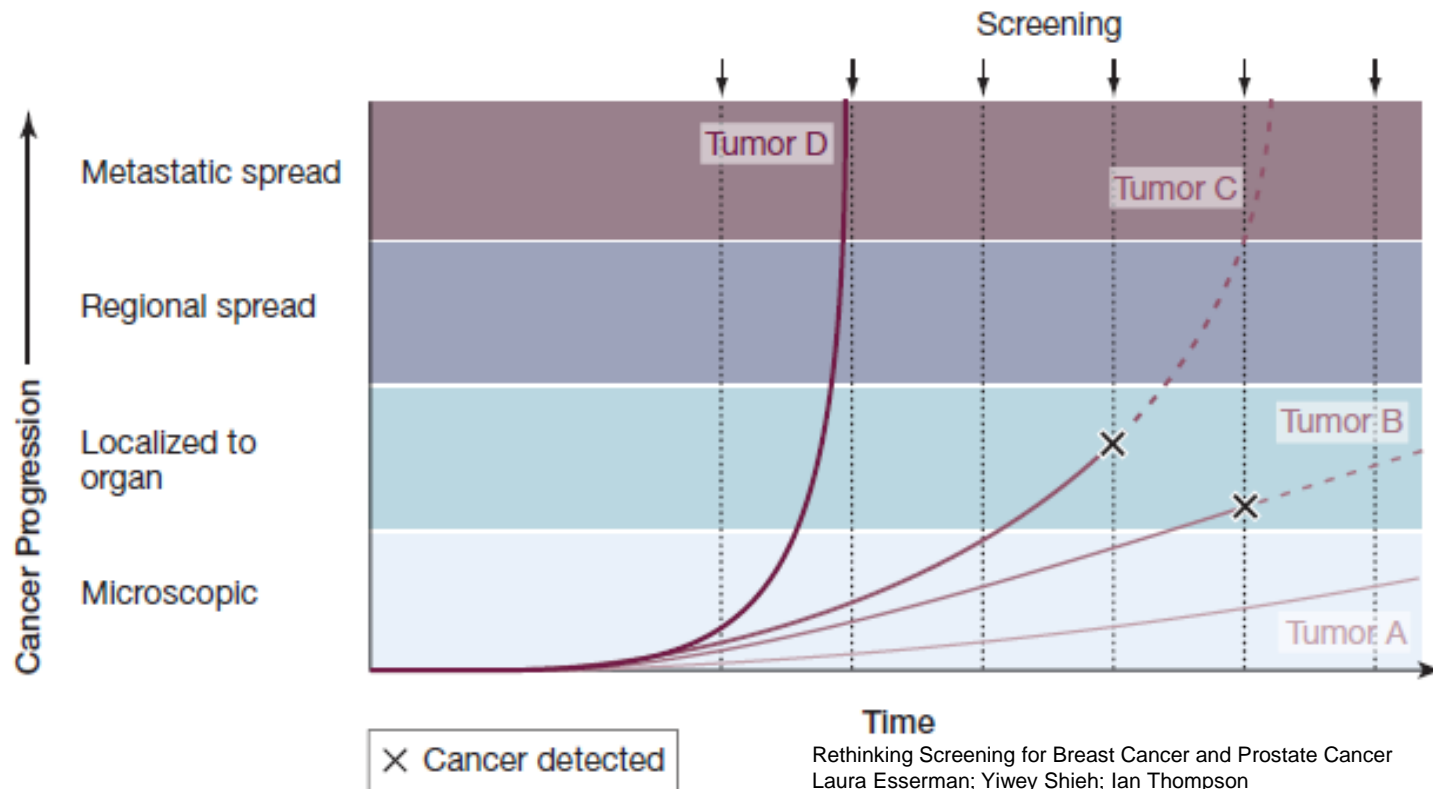
And there are the same number of women with late breast cancer

# Trends in Stage at Diagnosis

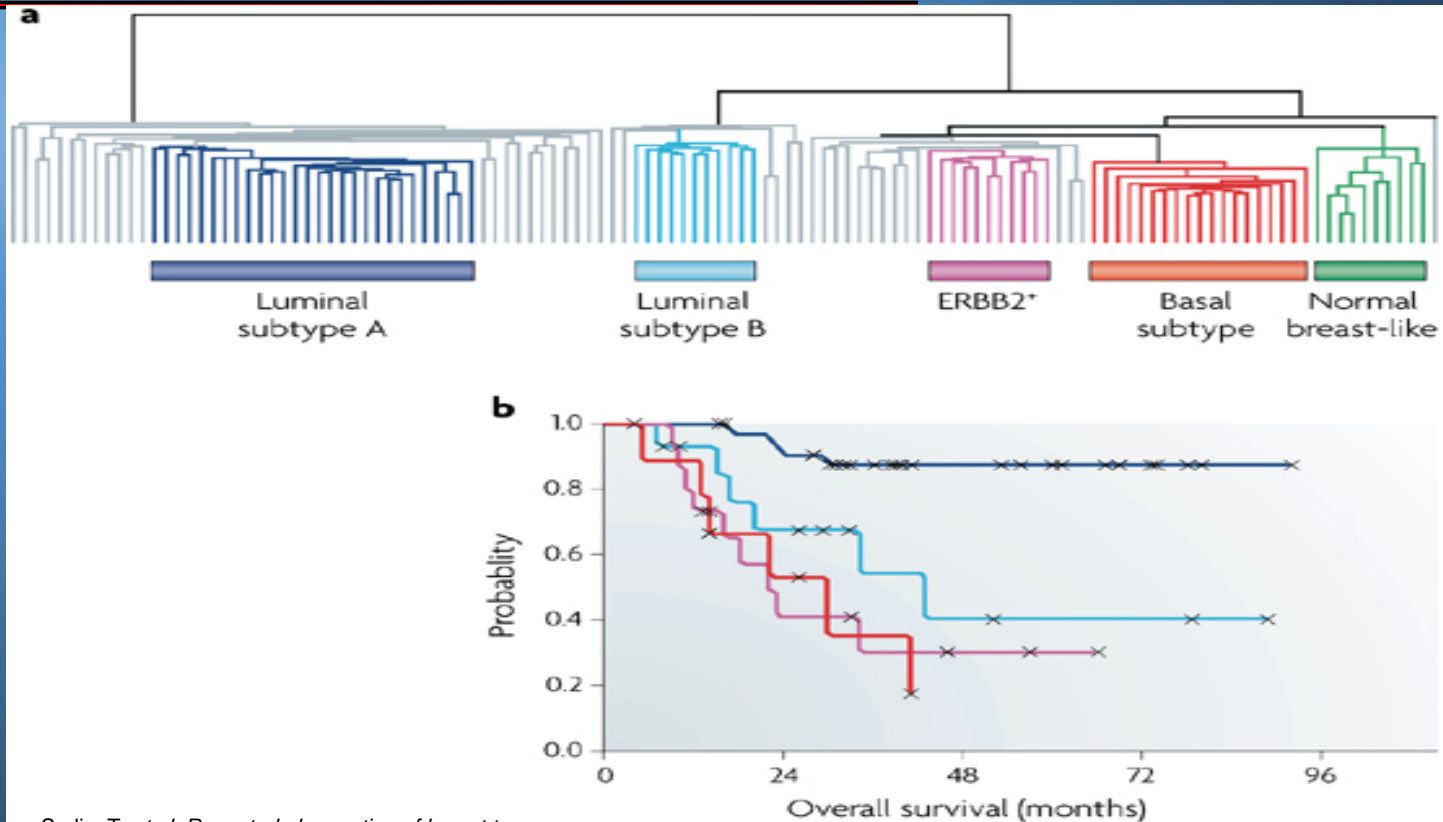


Recent trends in breast cancer incidence rates by age and tumor characteristics among U.S. women. Ahmedin Jemal, Elizabeth Ward and Michael J Thun. *Breast Cancer Research* 2007, 9:R28 (doi:10.1186/bcr1672)

# *Early & Late May Have More to do With the Cancer Than the Woman*



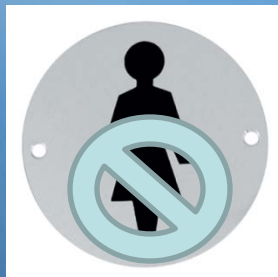
# Not All Breast Cancers Are Alike



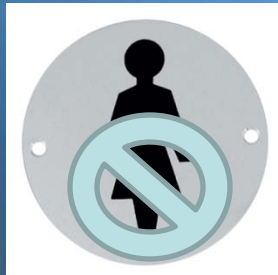
Sorlie, T. *et al.* Repeated observation of breast tumor subtypes in independent gene expression data sets. *Proc. Natl Acad. Sci. USA* 100, 8418–8423 (2003)



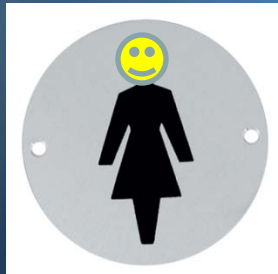
# Outcomes of a Mammogram



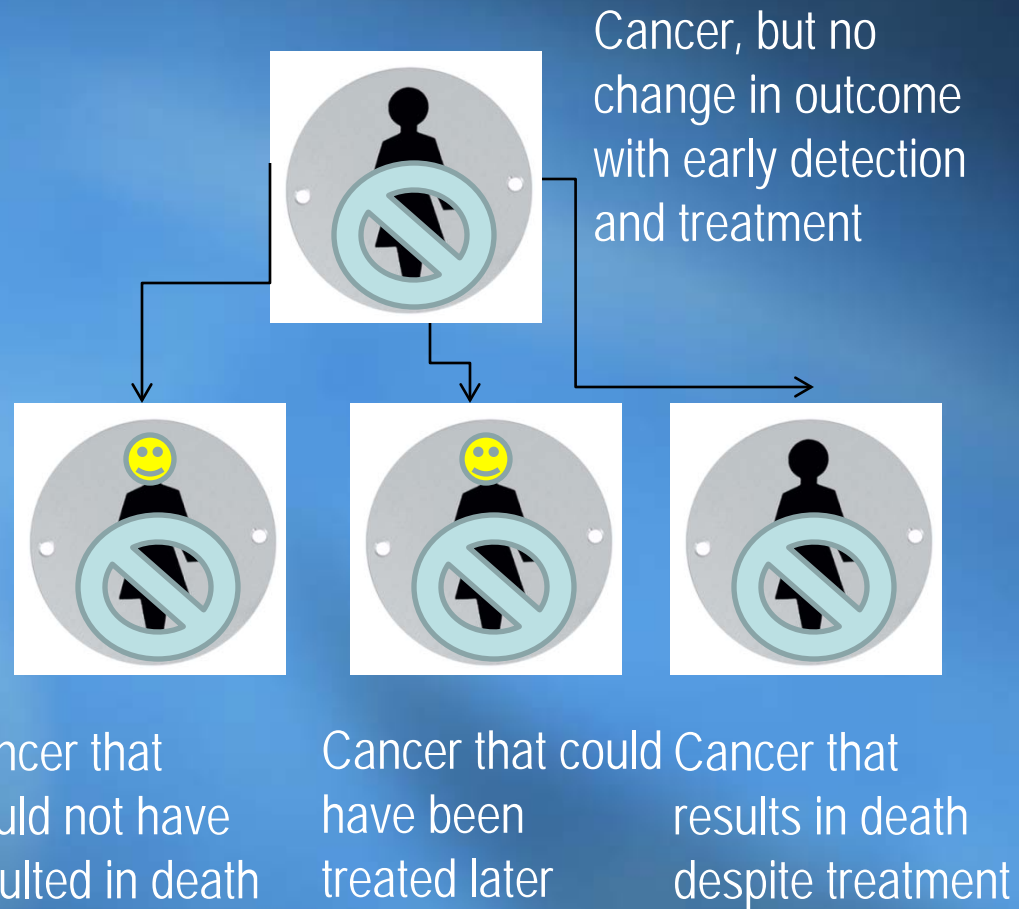
No cancer



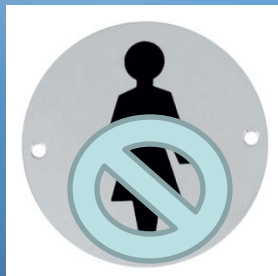
Abnormal, requiring  
additional tests  
No Cancer



Cancer that is only  
treatable when  
detected preclinically.  
Life saved!



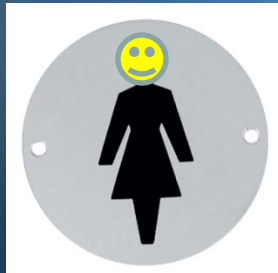
# Harms Suffered by Women Who Undergo Screening



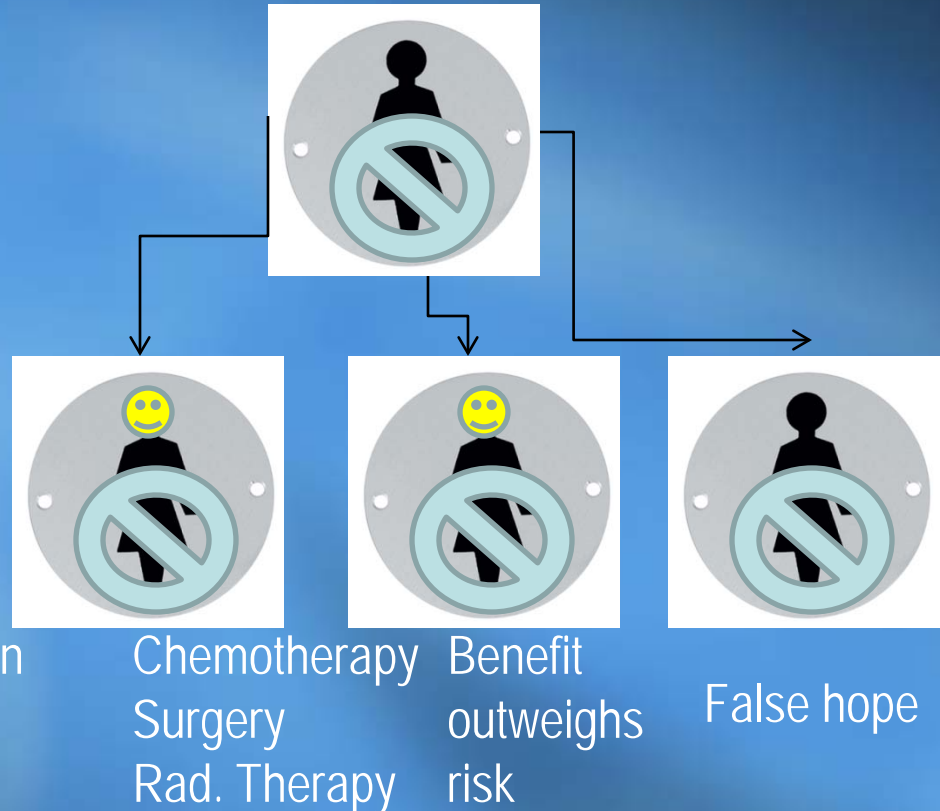
Radiation



Radiation  
More radiation  
Anxiety  
Biopsy

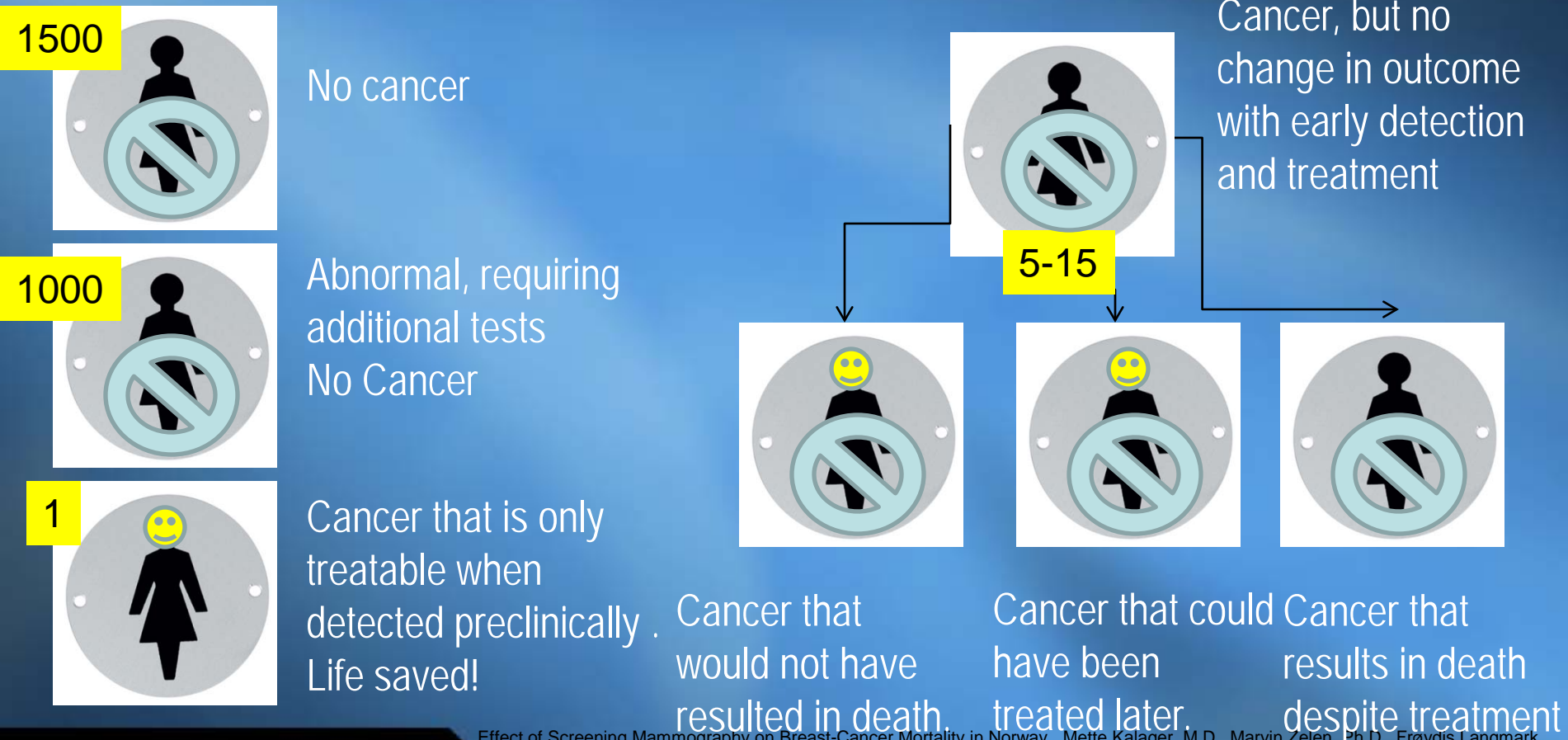


Benefit  
outweighs  
risk



Screening for Breast Cancer: An Update for the U.S. Preventive Services Task Force  
HD Nelson; K Tyne.; A Naik; C Bougatsos; B K Chan; and L Humphrey  
*Annals of Internal Medicine* November 17, 2009 vol. 151 no. 10 727-737

# Outcomes for 2500 Women Aged 50-69 Who Have a Mammogram



Effect of Screening Mammography on Breast-Cancer Mortality in Norway. Mette Kalager, M.D., Marvin Zelen, Ph.D., Frøydis Langmark, M.D., and Hans-Olov Adami, M.D., Ph.D. N Engl J Med 2010; 363:1203-1210

## *What We Know Today*

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- The decision about whether to undergo screening mammography is, in fact, a close call.
- Many argue that because it is a delicate decision — involving trade-offs among noncomparable outcomes — it must be left to informed individuals to decide.
- Others will argue that physicians should continue to persuade women to undergo screening and that the modest benefit is worth the associated harms

## *So, Should I Screen or Not?*

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- Think carefully about screening and discuss it with your healthcare provider.
- If you engage in screening, understand the risks as well as the benefits.
- Whether or not you engage in screening, if you feel a lump or other changes in your breast, get it checked out.
- If you get diagnosed with breast cancer and have not been screened, remember that screening would probably not have made a difference.

# *More Information on Breast Cancer Research*

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[www.cabreastcancer.org](http://www.cabreastcancer.org)

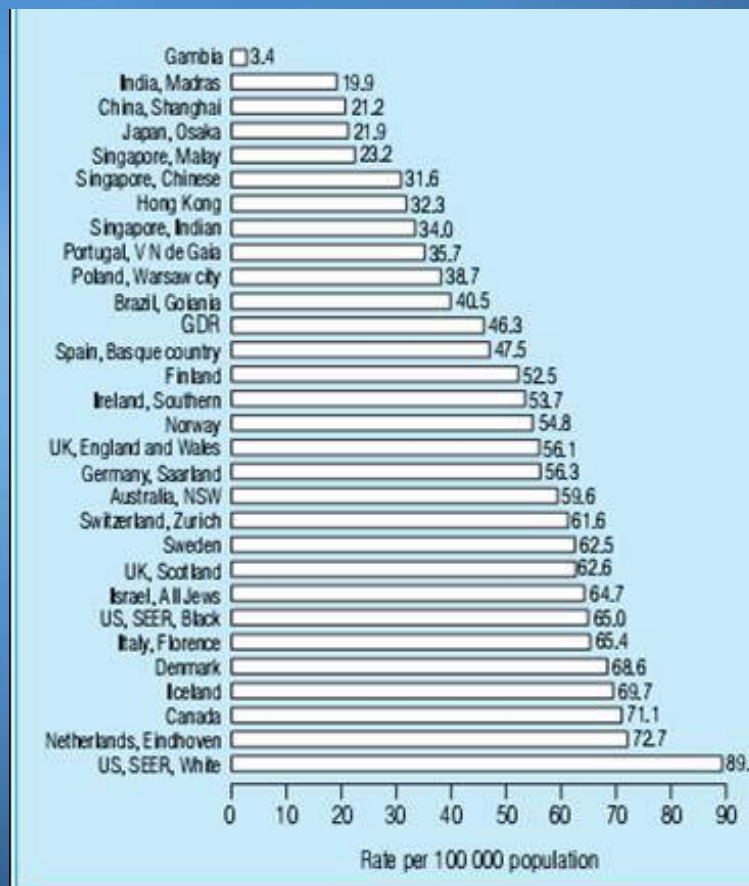


Figure 1.2 Age standardised (World) incidence and mortality rates,

