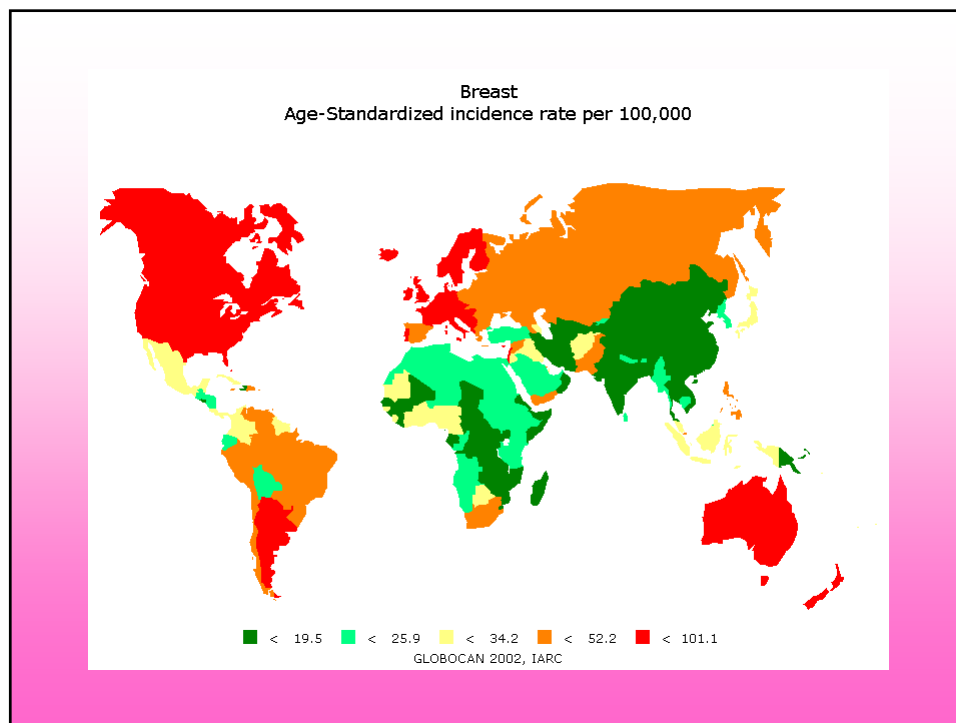




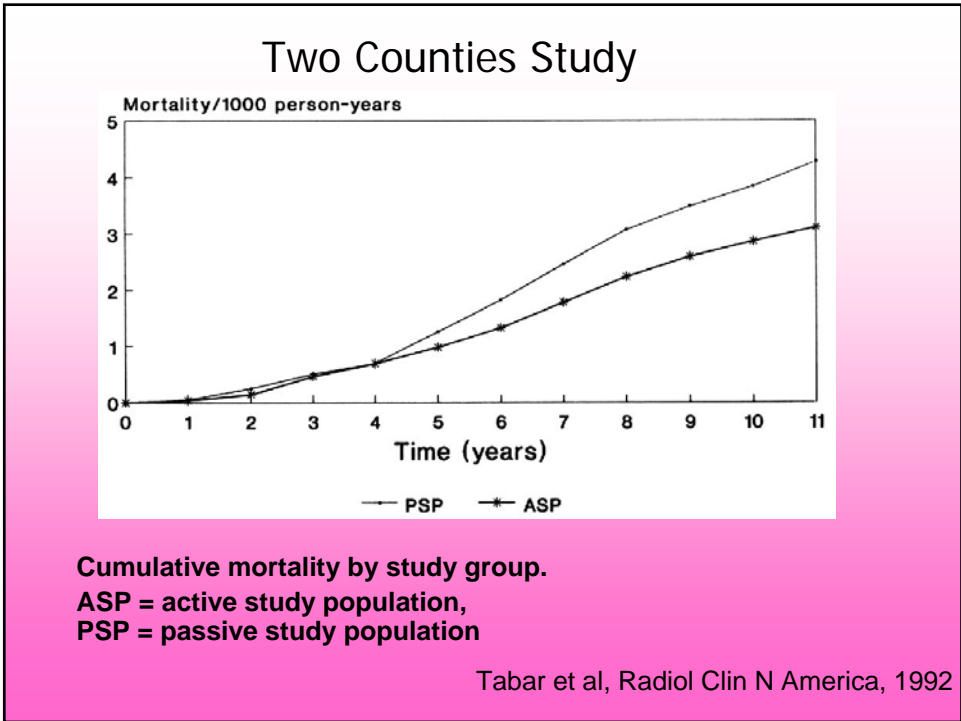
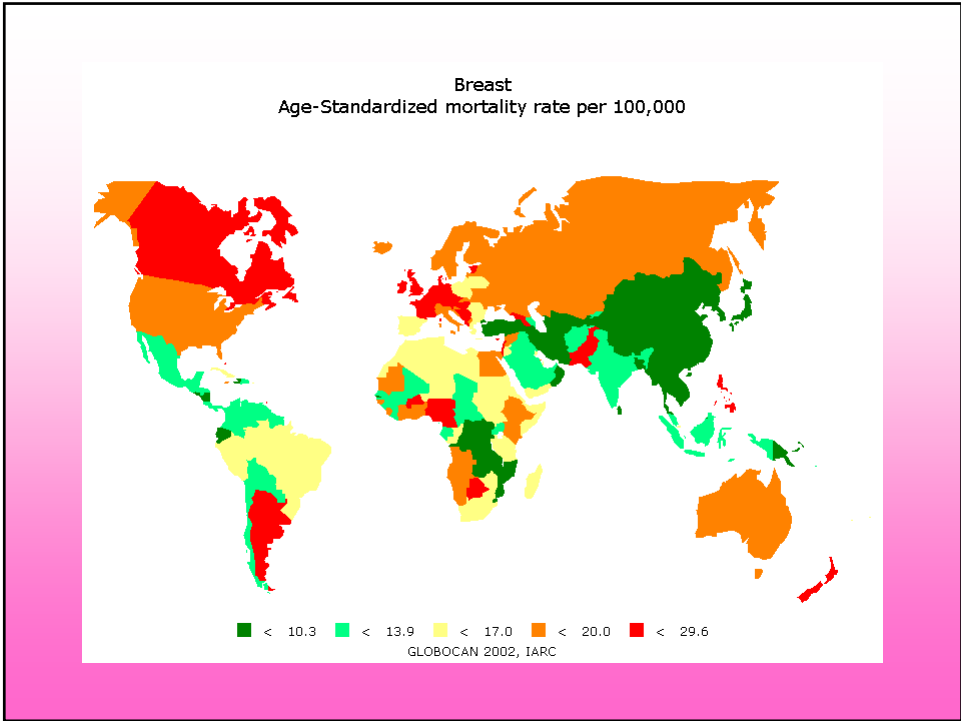
Cancer Screening Programmes

Breast Cancer Screening: Current Issues

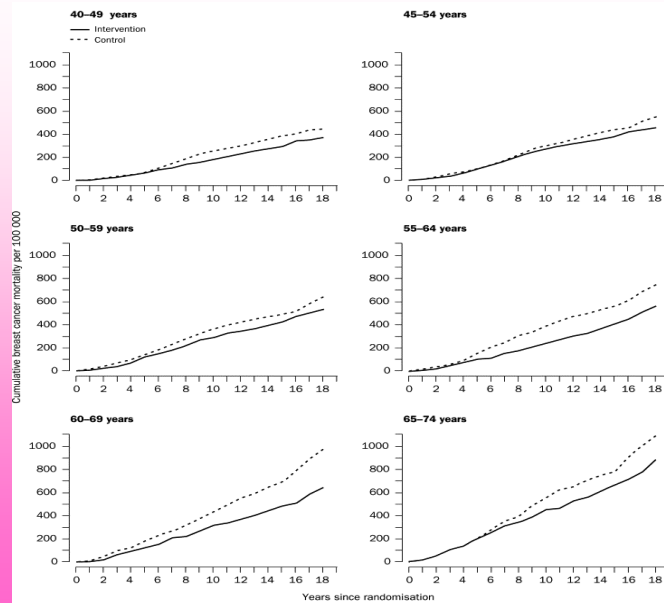
Julietta Patnick
Montréal 2006



Cette présentation a été effectuée le 26 octobre 2006, au cours du Symposium "La santé publique et le dépistage du cancer : espoirs et réalités" dans le cadre des Journées annuelles de santé publique (JASP) 2006. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse <http://www.inspq.qc.ca/jasp>.



Long-term effects of mammography screening: updated overview of the Swedish randomised trials



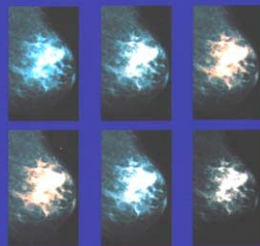
Nyström L et al
The Lancet 2002;
 359: 909-919

IARC Handbooks of Cancer Prevention



International Agency for Research on Cancer
 World Health Organization

Breast Cancer Screening



IARC Press
 2002

"There is *sufficient evidence* from randomized trials that inviting women aged 50-69 years of age to screening with mammography reduces mortality from breast cancer; the best current estimate of the average reduction is 25%. There is only *limited evidence* for this effect in women 40-49 years of age, in whom the reduction, if real, is estimated at 19% but could be less....."

Clinical Breast Examination

Outcome of screening by clinical examination of the breast in a trial in the Philippines.

Pisani P, Parkin DM, Ngelangel C, Esteban D, Gibson L, Munson M, Reyes MG, Laudico A. Int J Cancer. 2006;118(1):149-54.

- The test sensitivity for CBE repeated annually was 53.2%.
- The actual sensitivity of the programme was 25.6%
- Positive predictive value 1%.
- Screen-detected cases were non-significantly less advanced than the others.



www.cancerscreening.nhs.uk

Most UK Screening is on Mobile Units



International Comparison and Shared Learning

© International Epidemiological Association 1998 Printed in Great Britain International Journal of Epidemiology 1998;27:711-742

Breast cancer screening programmes in 22 countries: current policies, administration and guidelines

Sam Shapiro,^a Elizabeth Ann Coleman,^b Mireille Broeders,^c Mary Codd,^d Harry de Koning,^e Jacques Frachebourg,^f Sue Moss,^g Eugenio Paci,^h Sylvie Stachnyko,^h Rachel Ballard-Barbash,ⁱ for the International Breast Cancer Screening Network (IBSN)[†] and the European Network of Pilot Projects for Breast Cancer Screening[‡]

7 Epidemiol Community Health 2003;57:204-212

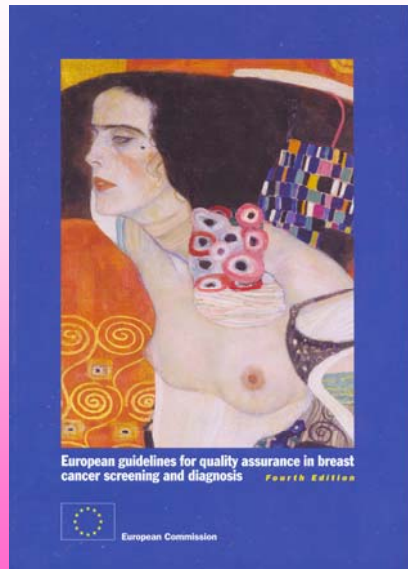
Quality assurance for screening mammography: an international comparison

C Klabirko,^a F Bruchard,^b S Taylor,^a A Schepersgrift,^a B Garland-Barbath, for the International Breast Cancer Screening Network (IBSN)

IBSN

International Breast Cancer Screening Network
Sponsored by the National Cancer Institute

<http://appliedresearch.cancer.gov/ibsn/>



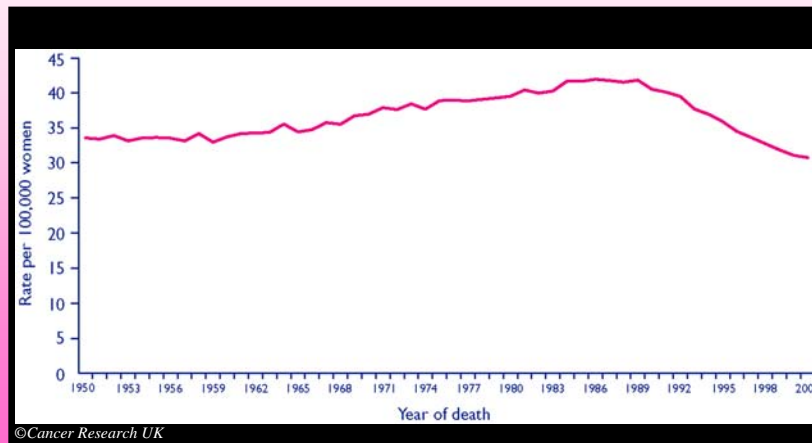
4th edition of European Guidelines for Quality Assurance in Breast Screening and Diagnosis

http://pfconsult.com/fp_cancer_2002_ext_guid_01.pdf

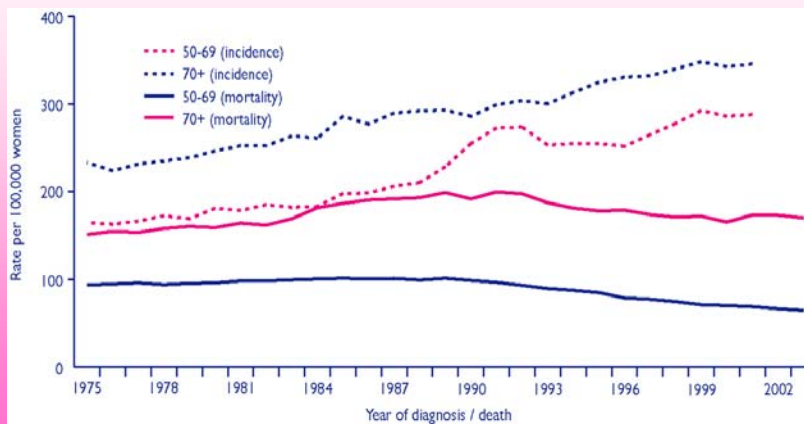
So where are we?

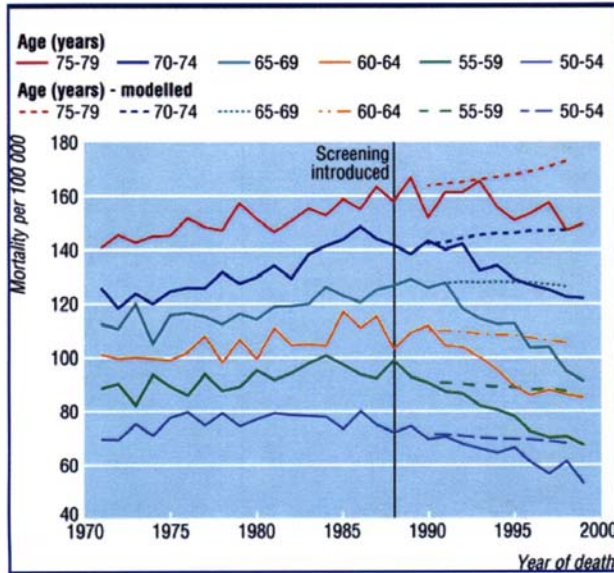
- We know what we should be doing
- How do we know if we are doing it?
- We must evaluate our programs
- But no control groups in population screening programs

Age standardised (European) mortality rate, breast cancer, England and Wales, 1950-2001



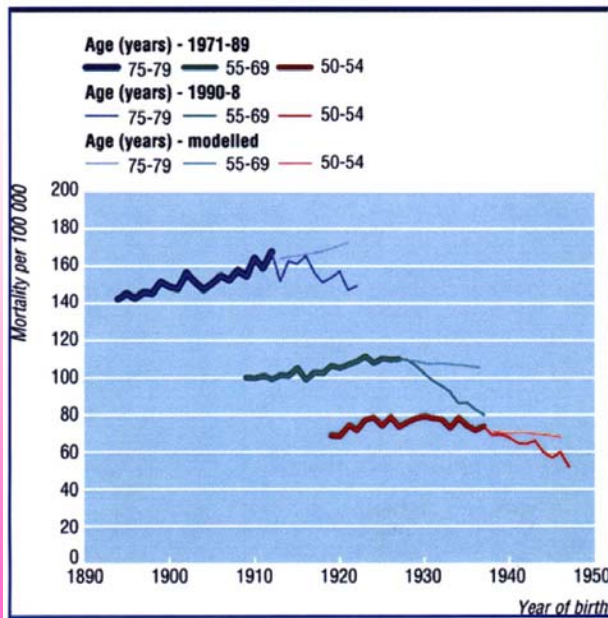
Breast cancer incidence and mortality among British women aged over 50, 1975-2003





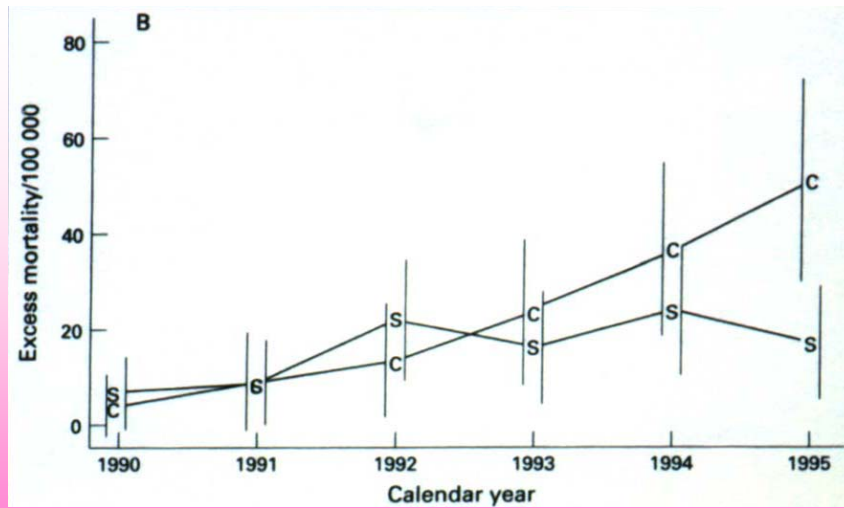
Mortality from breast cancer by year of death for selected age groups, England and Wales, 1971-99

Blanks et al, BMJ 2000



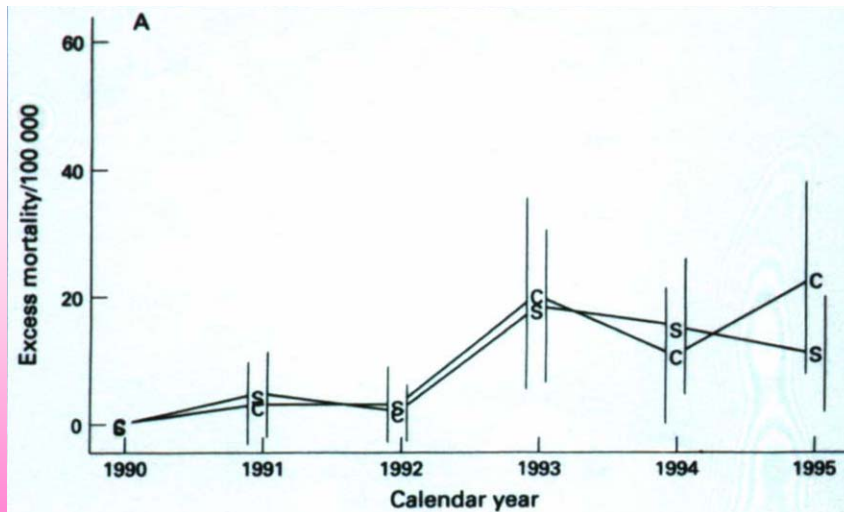
Mortality from breast cancer by year of birth for selected age groups, England and Wales, 1971-99

Blanks et al, BMJ 2000



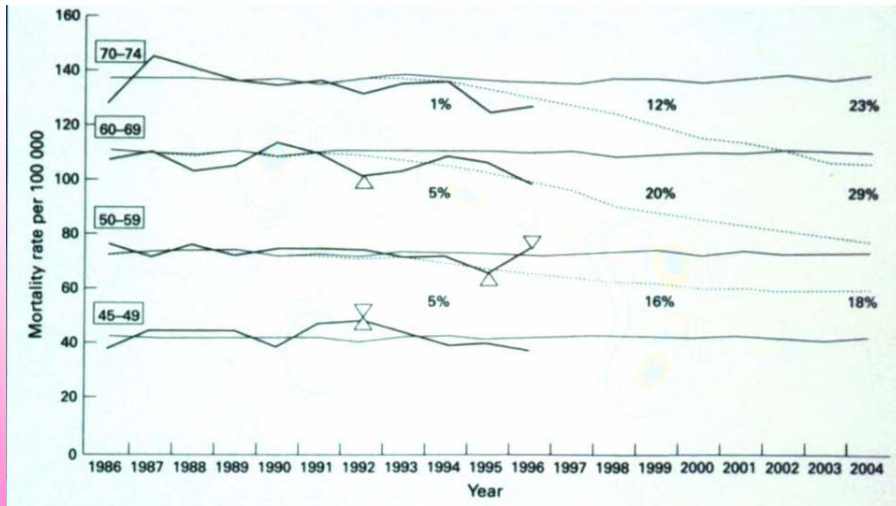
Annual rates of excess mortality from breast cancer 1990-95 for screened (S) versus control (C) counties, stratified according to age at diagnosis into 50-69 years. Bars indicate 95% confidence intervals.

Lenner & Jonsson, 1997



Annual rates of excess mortality from breast cancer 1990-95 for screened (S) versus control (C) counties, stratified according to age at diagnosis into 40-49 years. Bars indicate 95% confidence intervals.

Lenner & Jonsson, 1997



Age standardised mortality rates, with and without screening, observed in the Netherlands and predicted by MISCAN, for the age groups 45-49, 50-59, 60-69 and 70-74. The expected mortality reduction for these age groups after 5, 10 and 15 years of screening is also shown.

van den Akker - van Marle et al, 1999

ASSWORD → ALAN HANSEN INTERVIEW ON PODCAST SPORT 14-15

Daily Telegraph

Daily Telegraph October 18 2006

WANTS TO POST OFFICE
STOP HIM: PAGE 4

FREE HORRIBLE HISTORIES BOOK

CLAIMY WHIS ON VIA POST: PAGE 25

WEDNESDAY, OCTOBER 18, 2006 No. 47080

... saving David from poverty



Screening for breast cancer 'may harm women'

By Mike Fleming
Medical Correspondent

BRITISH cancer screening may be doing more harm than good, a new report says.

The research found that for every 100 women invited to have mammograms, only one would be saved from dying from breast cancer. The report also found that 10 women would be diagnosed with breast cancer unnecessarily, and 10 women would be treated unnecessarily.

The research, published in the British Medical Journal, is the first to show that breast screening can do more harm than good. It found that for every 100 women invited to have mammograms, only one would be saved from dying from breast cancer. The report also found that 10 women would be diagnosed with breast cancer unnecessarily, and 10 women would be treated unnecessarily.


We are doing good

We are inevitably doing some harm

Does the good outweigh the harm?

Screening for breast cancer with mammography (Review)


Gotzsche PC, Nielsen M



THE COCHRANE COLLABORATION®

This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2006, Issue 4

<http://www.thecochranelibrary.com>



WILEY
Publishers Since 1807

Screening for breast cancer with mammography (Review)
Copyright © 2006 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd

For every 2000 women who are invited to join a programme over 10 years, one will have her life prolonged.

10 women will have been diagnosed as having breast cancer and will receive treatment for it, even though they would have survived without the treatment.

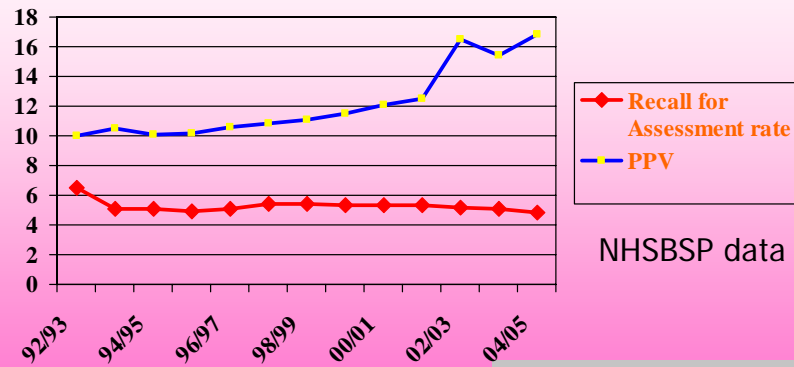
A further 200 women will experience important psychological distress for many months because of false positive findings.

“Women invited to screening should be fully informed of both

2000 women screened for 10 years

Cochrane review	NHSBSP
<ul style="list-style-type: none"> • 1 life prolonged • 10 women treated who would otherwise have lived out their lives without treatment • 200 false positives • Women invited to screening should be fully informed of both benefits and harms • http://www.mrw.interscience.wiley.com/cochrane/clsysrev/articles/CDO01877/frame.html 	<ul style="list-style-type: none"> • 5-8 lives prolonged • 5-8 women treated who would otherwise have lived out their lives without treatment • 85 false positives • Women invited to screening should be fully informed of both benefits and harms • http://www.cancerscreening.nhs.uk/breastscreen/publications/nhsbsp61.html

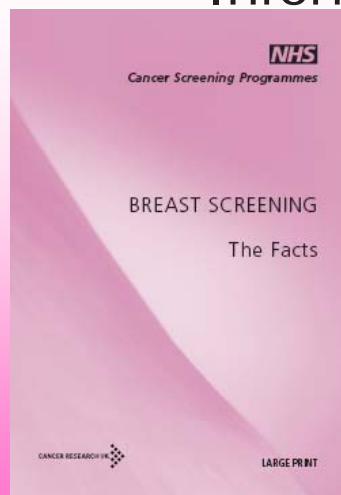
Breast Screening Assessment: Rate and Yield



NHSBSP data

Comparison of Screening Mammography in the United States and the United Kingdom
Smith-Bindman et al. JAMA.2003; 290: 2129-2137

Informed Choice



To help you decide whether or not to come for breast screening, the main benefits and difficulties of screening for breast cancer are explained below

<http://www.cancerscreening.nhs.uk/breastscreen/publications/ia-02.html>

visit our cancer-screening programme website at
www.cancerscreening.nhs.uk;

Benefits listed

- Most breast cancers are found at an early stage when there is a good chance of a successful recovery.
- Around half the cancers that are found at screening are still small enough to be removed from the breast. This means that the whole breast does not have to be removed.
- Breast screening saves an estimated 1,400 lives each year in this country.
- Breast screening reduces the risk of the women who attend dying from breast cancer.

Limitations listed

- We will call back some women for more investigations if we are not sure about their mammogram. After more tests, we will find that many of these women will not have cancer. If you are called back it can cause worry
- Screening may miss some breast cancers.
- Not all breast cancers that are found at screening can be cured.
- Many women find mammography uncomfortable or painful, but normally just for a brief period of time.

SCREENING IS A QUESTION OF BALANCE

Advantages
Benefits
Sensitivity

Disadvantages
Costs
Specificity

The Daily Telegraph

Newspaper of the Year

No. 44,158

Britain's biggest-selling quality daily

Friday, June 6, 1997 45p

Erica Jong on love and sex in her fifties
Interview Page 23

The English now dress better than the French, says Jean Paul Gaultier
Style Page 27

Lottery Society winners Page 46
Runs for all (bar Australia)
Page 42

Blunders in breast cancer testing

1,900 women alerted after two patients die

RECENT breast tests on 1,900 women are to be re-examined after an inquiry found that errors by doctors in charge of screening led to delays in detecting the disease in two breast cancer patients who have since died.

The error represents the most serious claim of incompetence in breast cancer screening since the NHS established a national programme in 1992.

The two women whose work has been the focus of the inquiry are the East Devon Breast Screening Service, and Dr Graham Wright, his assistant, were found to have been completing standard treatments for women with abnormal test results.

The consultants had second-

discussed these failures case by case in a confidential report to hospital managers at the end of a six-week inquiry by a team from the National Breast Screening and Training Centre.

Its findings coincide with a Government initiative to speed up the diagnosis and treatment of breast cancer. Frank Hudson, the Health Secretary, has promised to divert £10 million from health service budgets.

In December 1995, the East Devon Breast Screening Service, and Dr Wright, his assistant, were found to have been completing standard treatments for women with abnormal test results.

The consultants had second-

checked screening the women rather than sending them for mammography tests were carried out in a series of errors.

"It is the sort of things that we happen 20 years ago and it should not have been happening in 1997," said a spokesman for the National Breast Screening Programme. "We have not encountered it before and we do not know if it is happening elsewhere, but if it is in other centres we will also have to be prepared."

Questions about the breast

screening service in Devon had been raised by medical staff at the Royal Devon & Exeter Hospital who were concerned that 12 women had been wrongly diagnosed as having breast cancer.

The inquiry into the cases, which had started over a year ago, found that three had been treated incorrectly but that there had been serious problems with the screening process.

Three test results had been incorrectly classified as "normal" because of calcium deposits in the breast which can indicate that cancer is developing.

The correct procedure in such cases is an immediate biopsy. But in the nine cases in Devon, the women were put into the early recall system — to be screened again sooner than the usual three-year interval — instead of being referred to the specialist.

Both consultants have agreed to undertake remaining and further subject to disciplinary action.

Ms Pether, chief executive

of the Royal Devon & Exeter Healthcare Trust, said it was unclear whether or not the deaths were preventable.

"Even if a breast cancer is picked up very early and treated, there is no guarantee that the patient will not die," said Mrs Pether.

"In these cases we know there was a delay in recommending further action. What we do not know is the impact on the overall outcome of the treatment of the women concerned."

Mrs Pether said the screening service, which was set up in 1991 and tests 12,000 women each year, was performing well and would be required. An audit of 1,900 other mammography tests will begin next week.

The film from tests on 1,700 women who were called back for re-examination or placed on the early recall list in the past two years will be checked again to see if similar mistakes were made.

The test results for a further 200 women who developed breast cancer during the three-year interval between screening will also be examined to see if their clinicians could have done anything to help.

Mrs Pether said the screening service, which was set up in 1991 and tests 12,000 women each year, was performing well and would be required. An audit of



”

I offer my sincere apologies to the women affected by this and the worry and distress caused

Chris Harrison
GMSHA

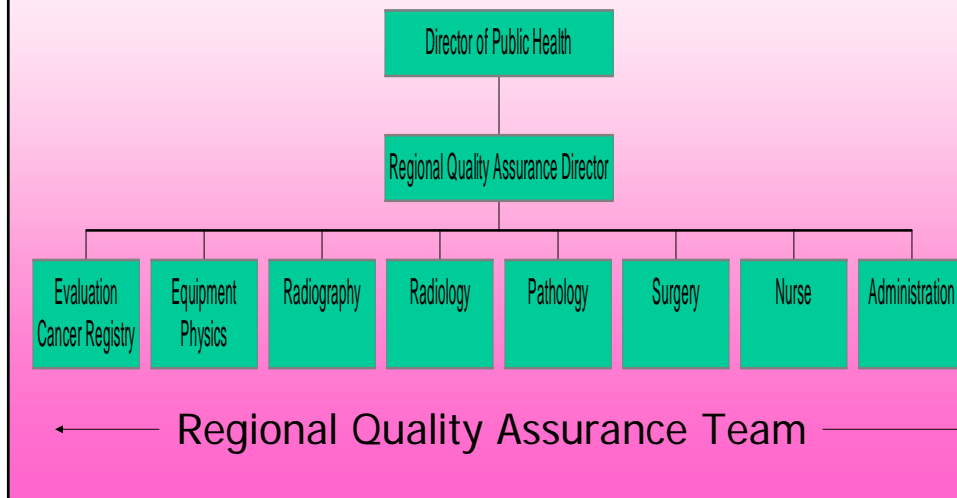


January 2006



December 2002

Regional Structure of NHSBSP



NHSBSP Standards Include:

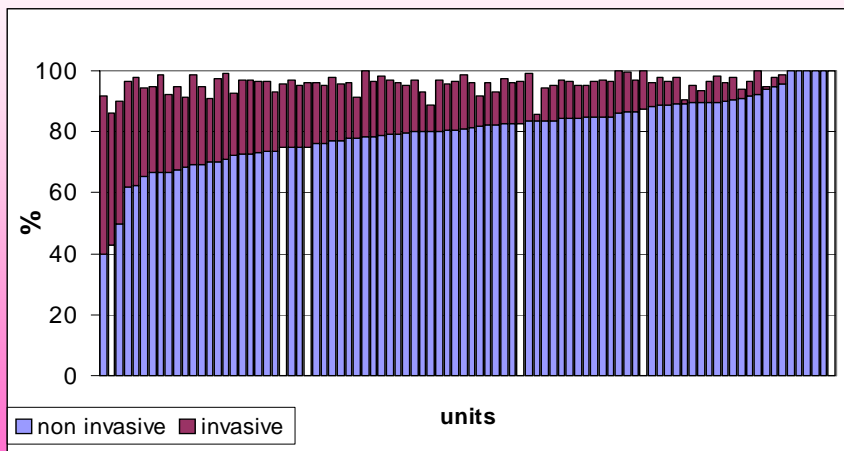
- Coverage
- Standardised Detection Ratio
- Cancer Detection Rate (invasive/in situ)
- Small Invasive Cancer Rate (<15 mm)
- Image Quality
- Radiation Dose
- Repeat Film Rate
- Assessment Rate
- Non-operative Diagnosis Rate
- Benign Biopsy Rate
- Interval Cancer Rate

Monitoring of Adherence to Standards

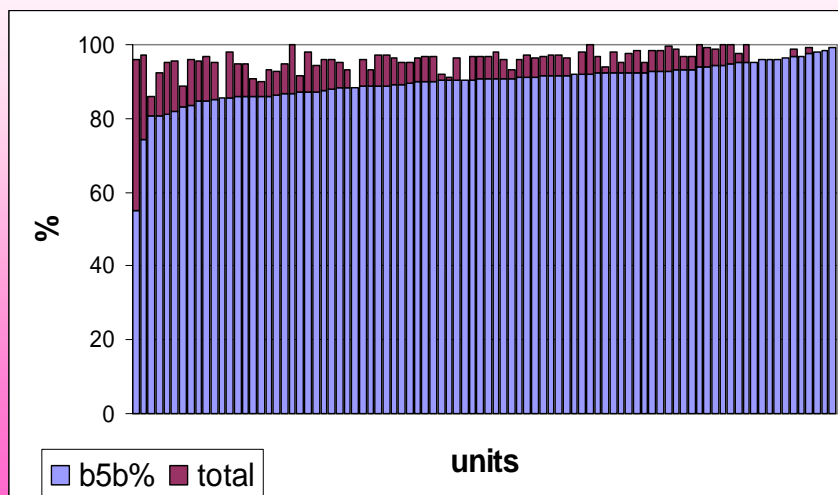
NHS Breast Screening Programme

- NHSBSP Standard Statistics
- External Quality Assessment
- Regular Quality Assurance Visits

National Analysis of Individual Unit Data: Non-Operative Diagnosis 2003-04



National Analysis of Individual Unit Data: Non-Operative Diagnosis 2003-04



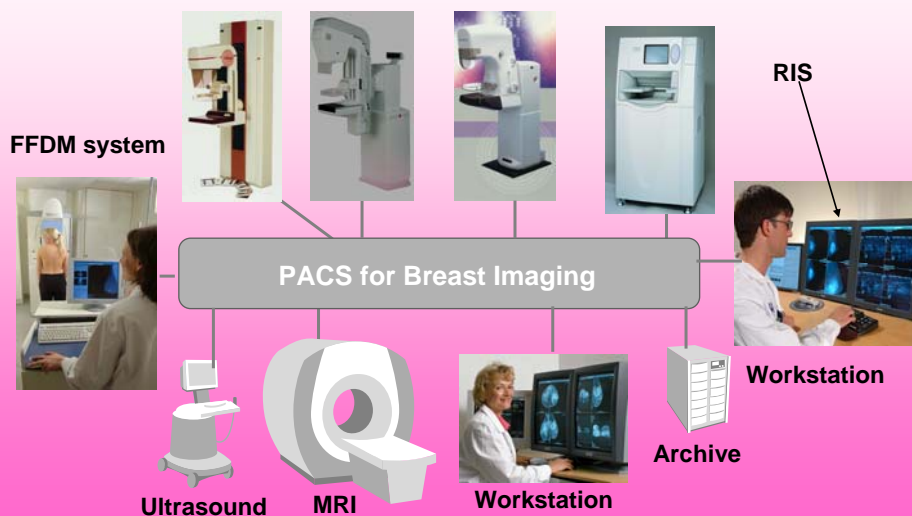
National Statistics Bulletin

Selected diagnostic and outcome statistics for women aged 50-64,					
Prevalent round					
	Benign Biopsy rate ⁽¹⁾	Preoperative Diagnosis rate ⁽²⁾	Small cancers detected (<15mm) per 1,000 ⁽³⁾	Standardised detection ratio (SDR) ⁽⁴⁾	Assessment rate ⁽⁵⁾
Breast Screening Unit	per 1,000	% ⁽²⁾	per 1,000 ⁽³⁾	(SDR) ⁽⁴⁾	% ⁽⁵⁾
England	2.0	90	2.7	1.4	8.2
Region	1.9	92	2.6	1.4	6.4
Unit 1	2.0	100	2.8	1.3	7.6
Unit 2	1.8	93	2.3	1.6	5.9
Unit 3	1.9	85	2.8	1.3	5.9

Challenges for the Future

- Digital mammography and PACS
- Family history screening and younger women
- MRI screening for women with genetic mutations?
- Demographic change

Digital Mammography and PACS



Family history screening and younger women



Daily Mail 29 April 2003

NHS Guidelines: Family History Annual Mammography

- 40-49 "satisfying referral criteria to secondary or specialist care (at raised risk or greater)"
- Surveillance should only be undertaken after provision of information about its potential advantages and disadvantages for the early detection of breast cancer
- This should be of high quality (equivalent to NHS Breast Screening Programme standard) and audited

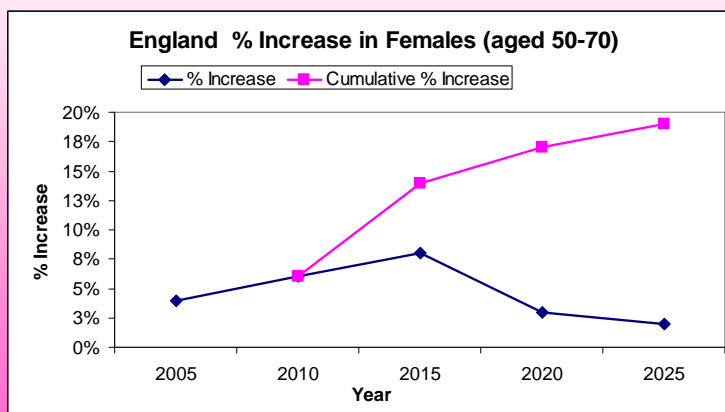
www.nice.org.uk

NHS Guidelines: Family History Annual MRI

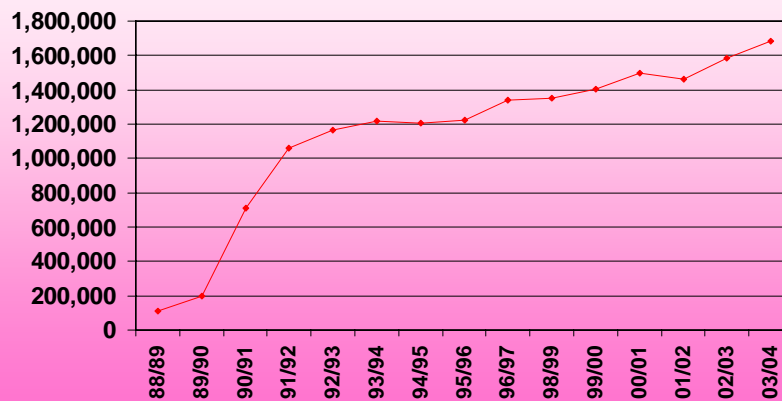
- *BRCA1* and *BRCA2* mutation carriers aged **30–49 years**
- *TP53* mutation carriers aged **20 years** or older
- **From 30–39 years:**
 - to women at a 10-year risk of greater than 8%
- **From 40–49 years:**
 - to women at a 10-year risk of greater than 20%, or
 - to women at a 10-year risk of greater than 12% where mammography has shown a dense breast pattern.

www.nice.org.uk

Demographic change: Projected population changes in women in England



NHSBSP Numbers of women screened



Summary

- Breast Cancer remains a major problem
 - Death rates falling
 - Incidence rates rising in all age groups
- Breast Screening offers benefits and carries risks
 - Informed choice a key part of participation
- Breast Screening contains continuing challenges for those who work in the field



Cancer Screening Programmes

Thank you

www.cancerscreening.nhs.uk