



# On-going and Planned Clinical Outcome Analysis

NCIN Breast TSSG Clinical Leads Workshop  
Birmingham, 5 May 2011

**Dr Gill Lawrence**

West Midlands Cancer Intelligence Unit

Tel: 0121 415 8129 Fax: 0121 414 7714

E-mail: [gill.lawrence@wmciu.nhs.uk](mailto:gill.lawrence@wmciu.nhs.uk)



# Inequalities

- Age
- Deprivation
- Ethnicity
- Effect of presentation route
- **BCCOM on-line**



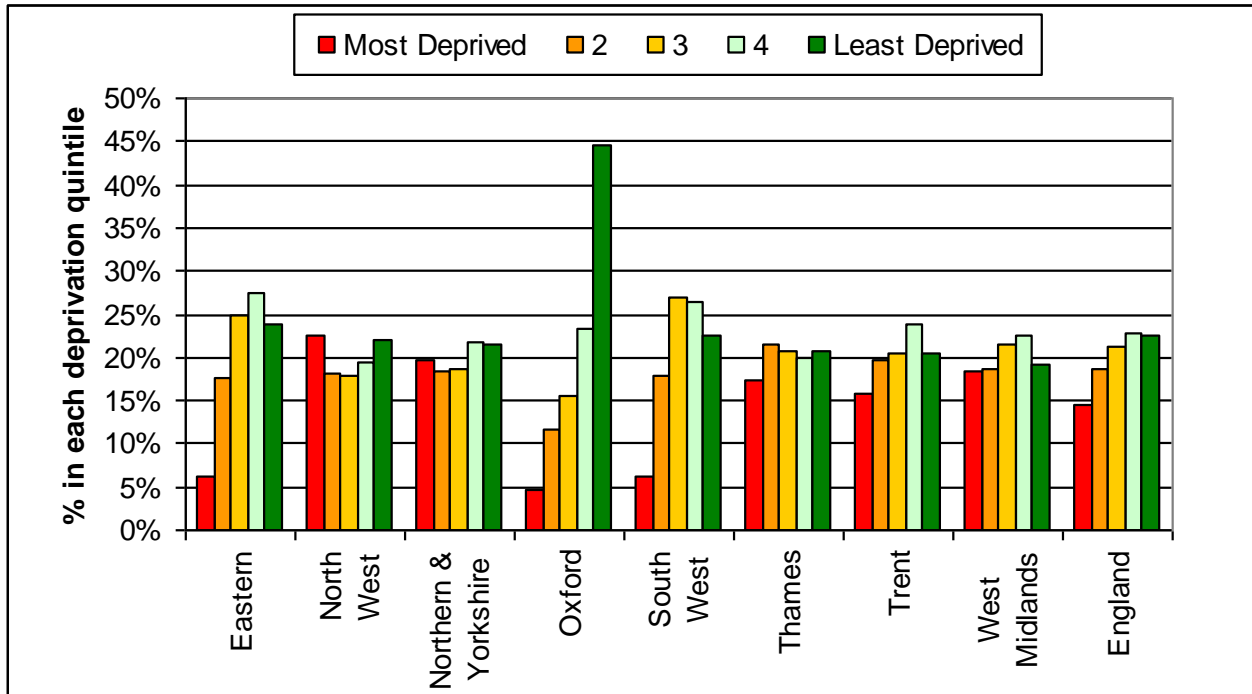
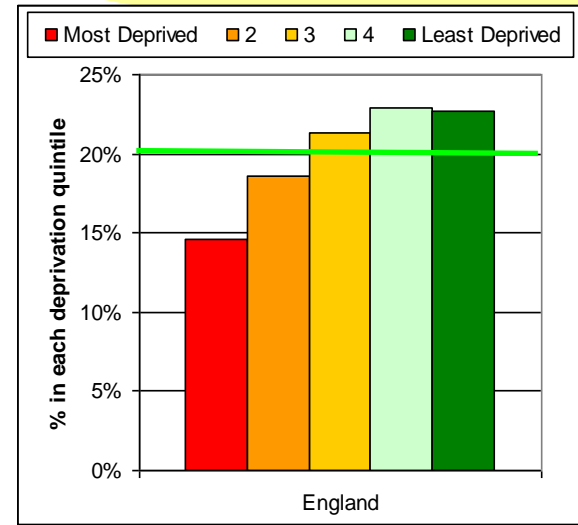
# Breast cancers diagnosed in England in 2006 & 2007

Region	Total no. cases	%	No. SD cases	% SD cases
Eastern	9,568	11.5%	3,186	33.3%
North West	10,685	12.8%	3,234	30.3%
Yorkshire	10,986	13.2%	3,543	32.3%
Oxford	4,384	5.3%	1,502	34.3%
South West	13,580	16.3%	4,349	32.0%
Thames	16,786	20.1%	4,749	28.3%
Trent	8,138	9.8%	2,684	33.0%
West Midlands	9,316	11.2%	2,771	29.7%
<b>TOTAL</b>	<b>83,443</b>	<b>100.0%</b>	<b>26,018</b>	<b>31.2%</b>



# Deprivation

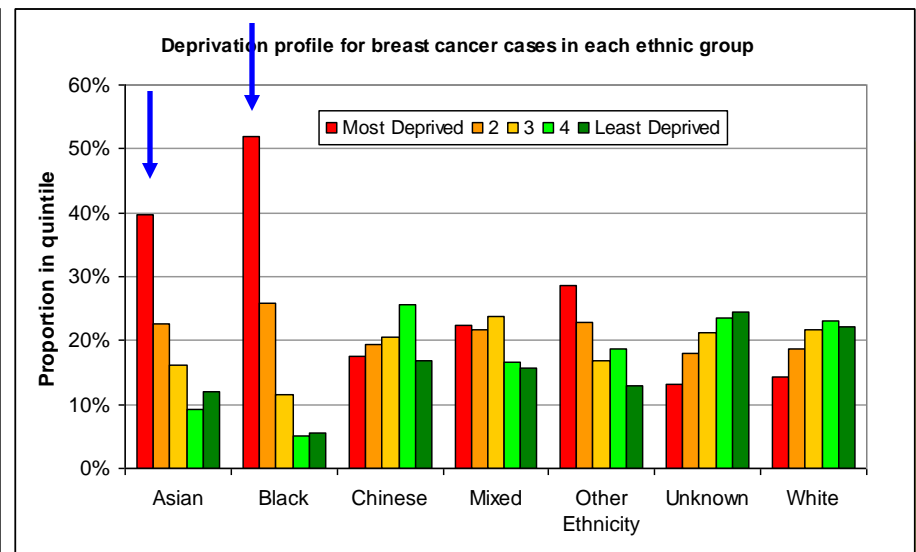
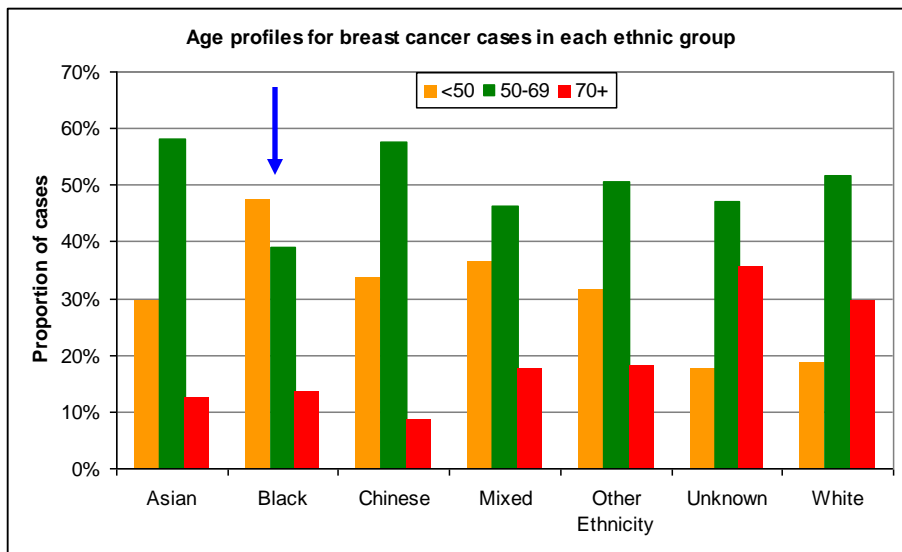
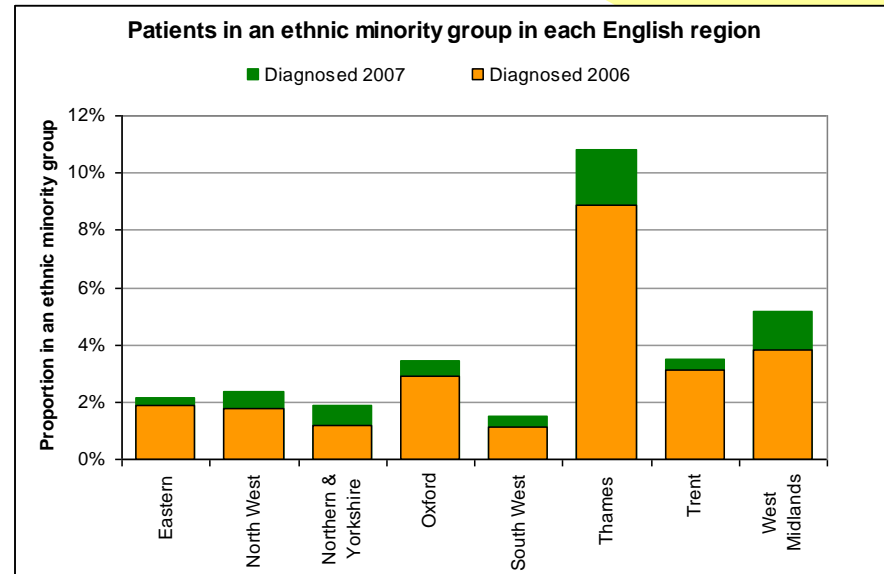
- Deprivation score (IMD2007 income domain) based on postcode and scores grouped into deprivation quintiles



# Ethnicity 2006 & 2007 cases



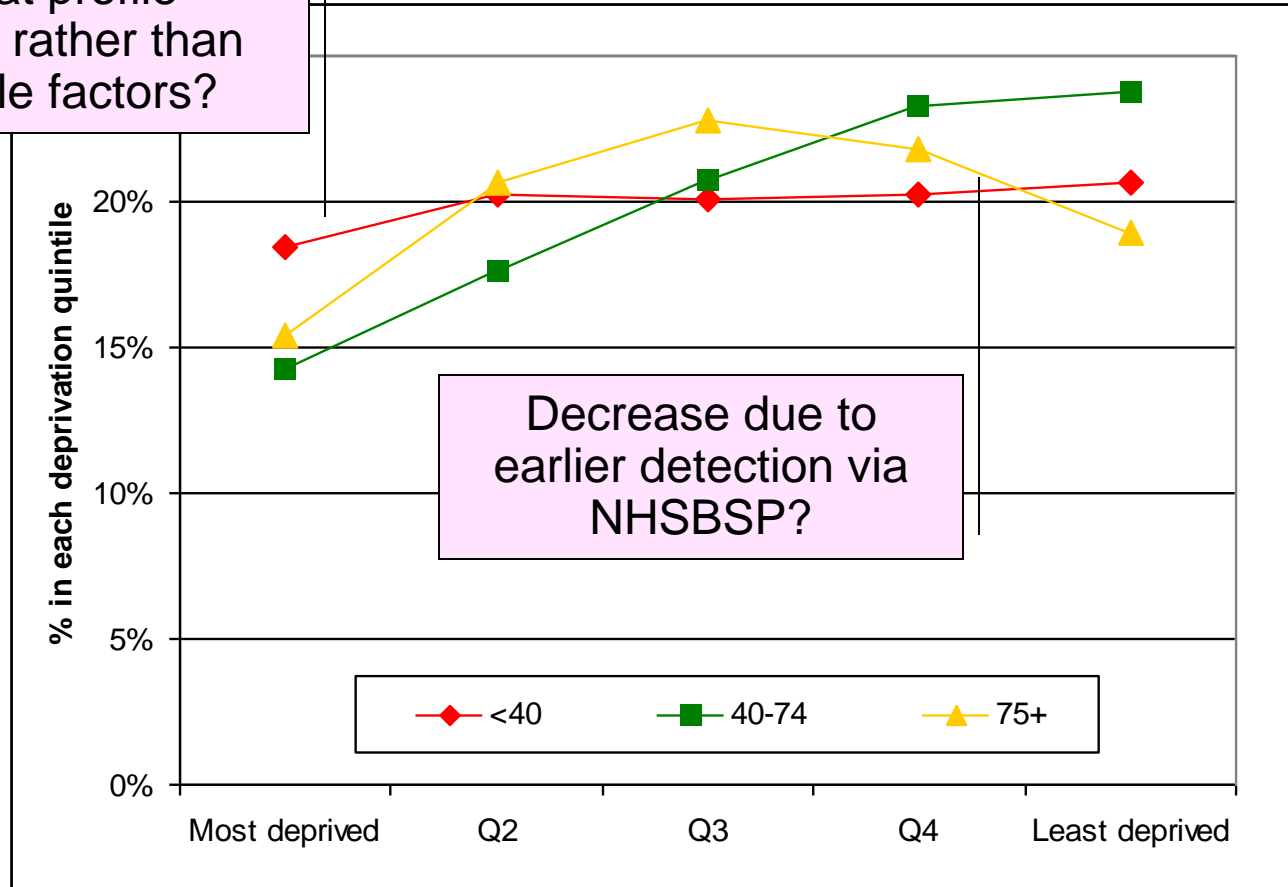
Ethnicity	No. cases	%
White	52,177	70.1%
Asian	1,281	1.7%
Black	823	1.1%
Chinese	127	0.2%
Mixed	194	0.3%
Other	457	0.6%
Unknown	19,344	26.0%
<b>Total</b>	<b>74,403</b>	<b>100.0%</b>





# Variation in Deprivation with Age at Diagnosis

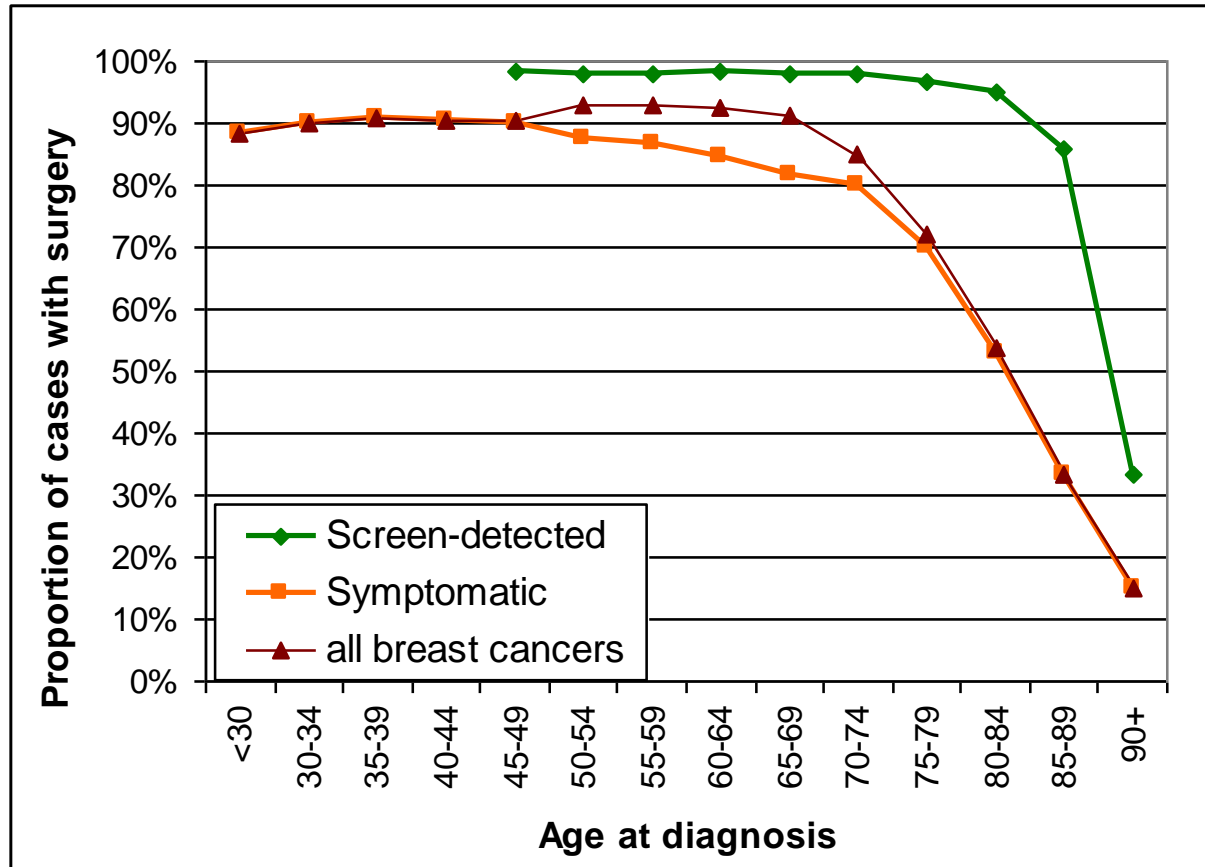
<40 flat profile – familial rather than lifestyle factors?



Women diagnosed with breast cancer in 2007



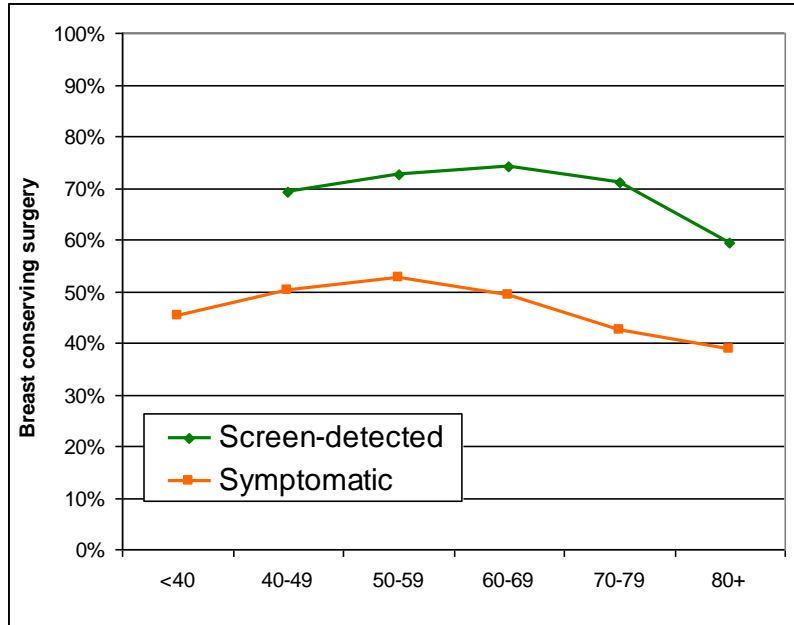
# Variation in Surgical Treatment with Age and Presentation Route



Women diagnosed with breast cancer in 2007

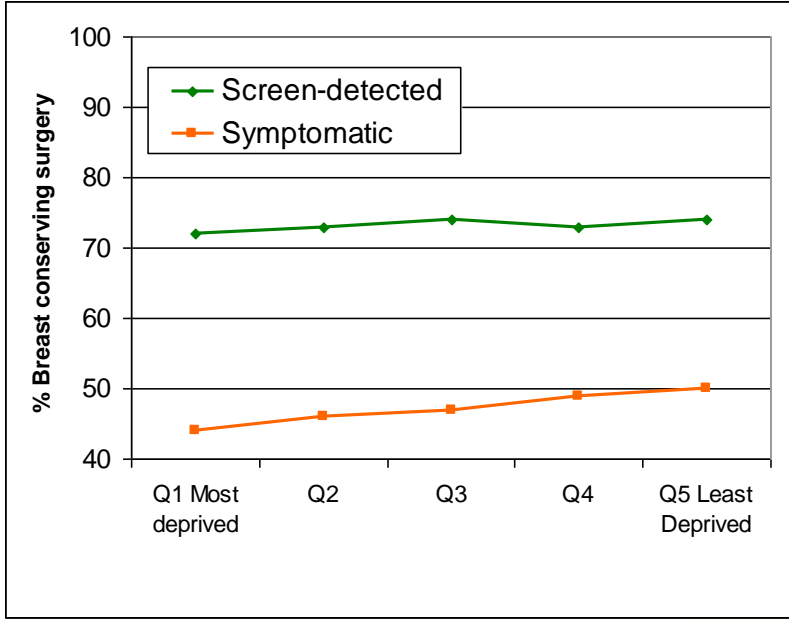


# Breast Conserving Surgery



Variation with age and presentation route

Variation with deprivation and presentation route

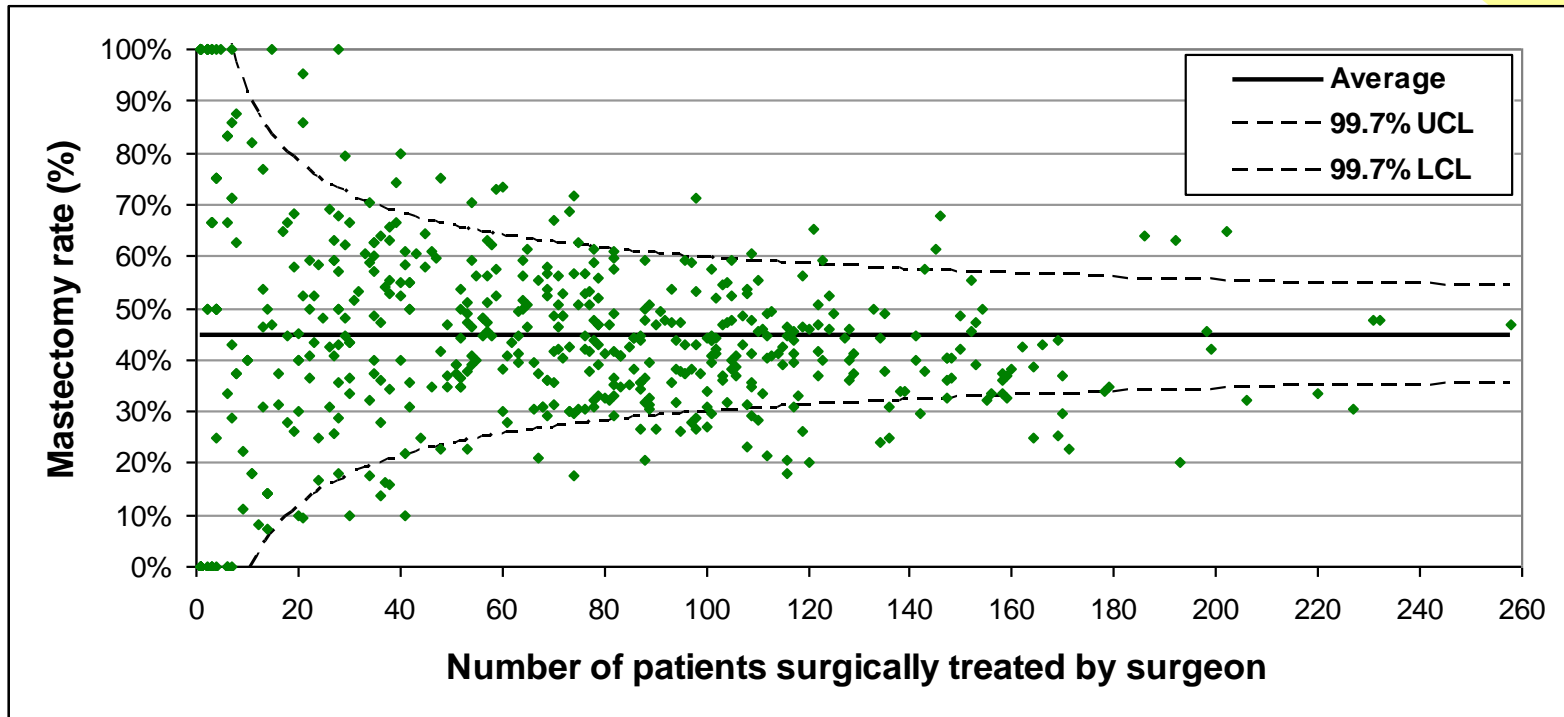


Women diagnosed with breast cancer in 2007





# Mastectomy Rates - variation between surgeons



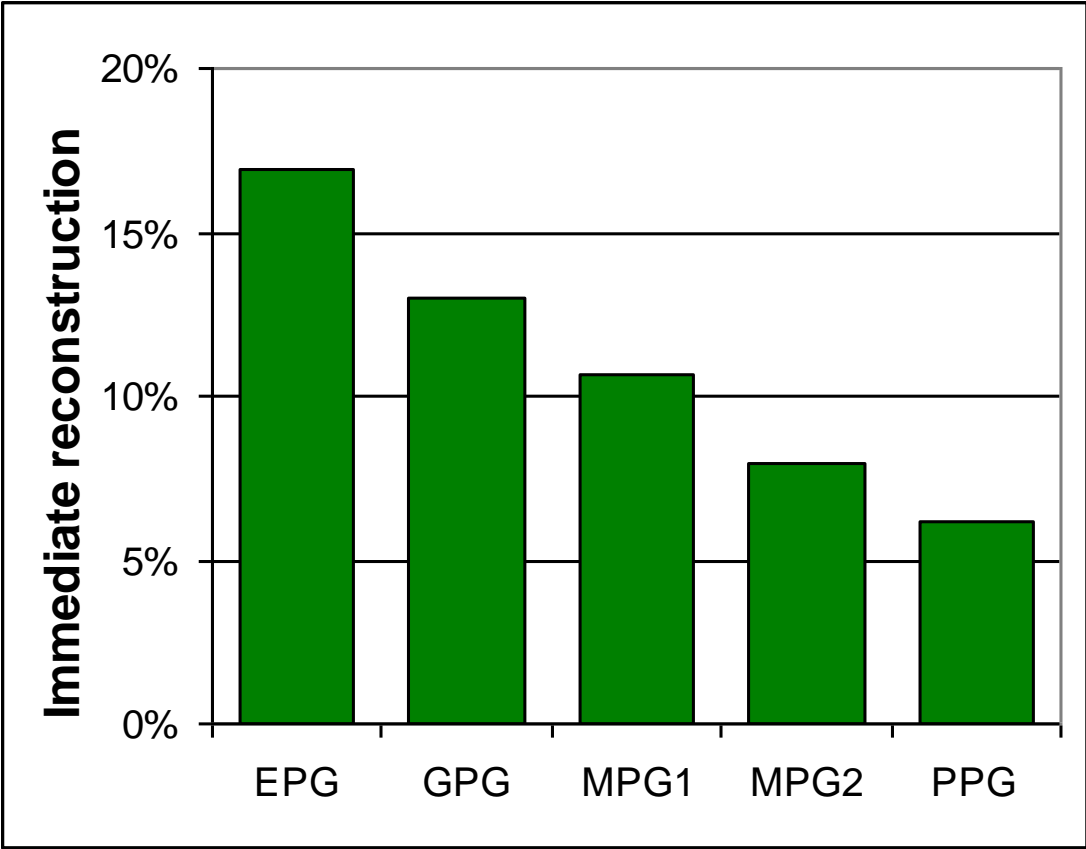
524 surgeons treated 36,695 women with breast cancer  
385 (73%) treated at least 30 breast cancers  
27 (5.2%) have significantly high mastectomy rates  
44 (8.4%) have significantly low mastectomy rates

Women diagnosed with breast cancer in 2007



# Immediate Reconstruction

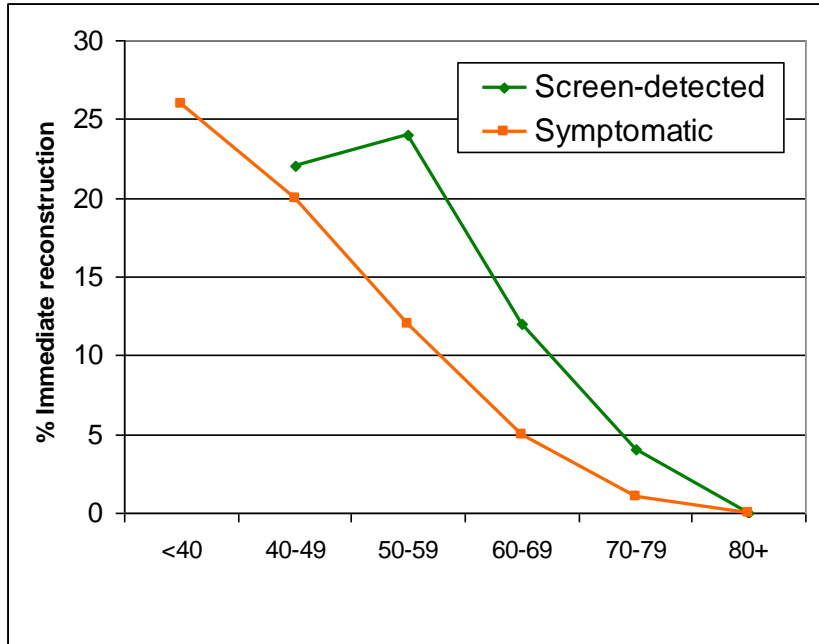
Variation with Nottingham Prognostic Index Group



Women diagnosed with breast cancer in 2007

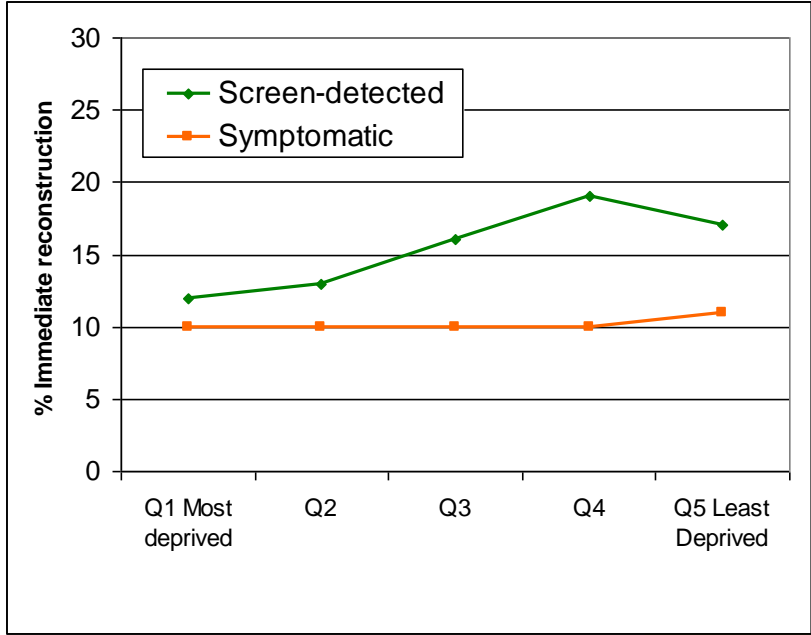


# Immediate Reconstruction



Variation with age and presentation route

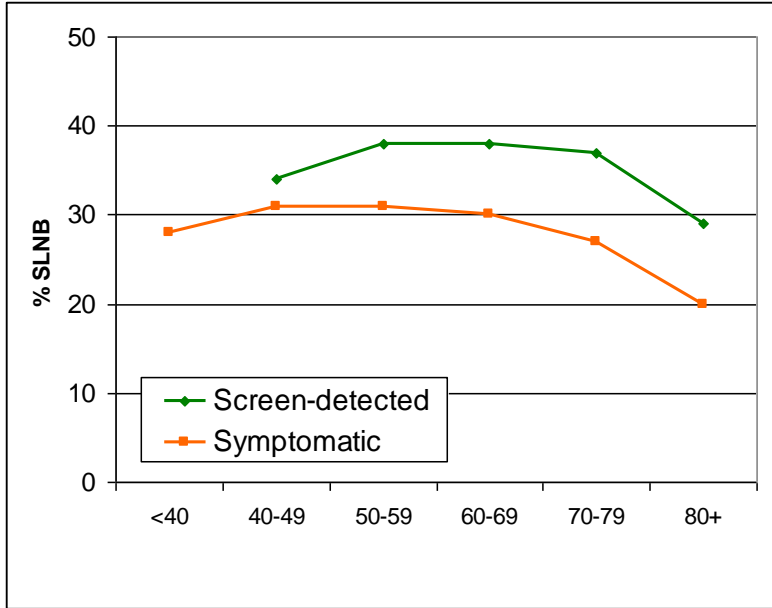
Variation with deprivation and presentation route



Women diagnosed with breast cancer in 2007

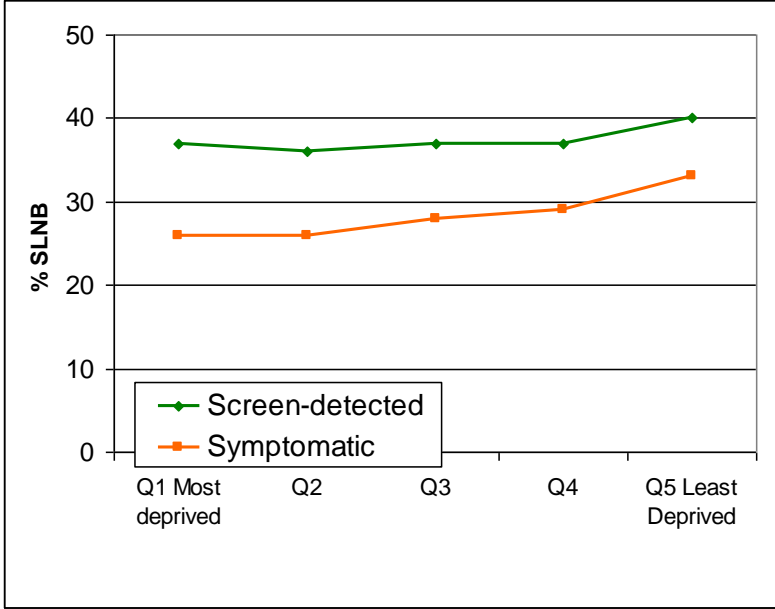


# Sentinel Lymph Node Biopsy



Variation with age and presentation route

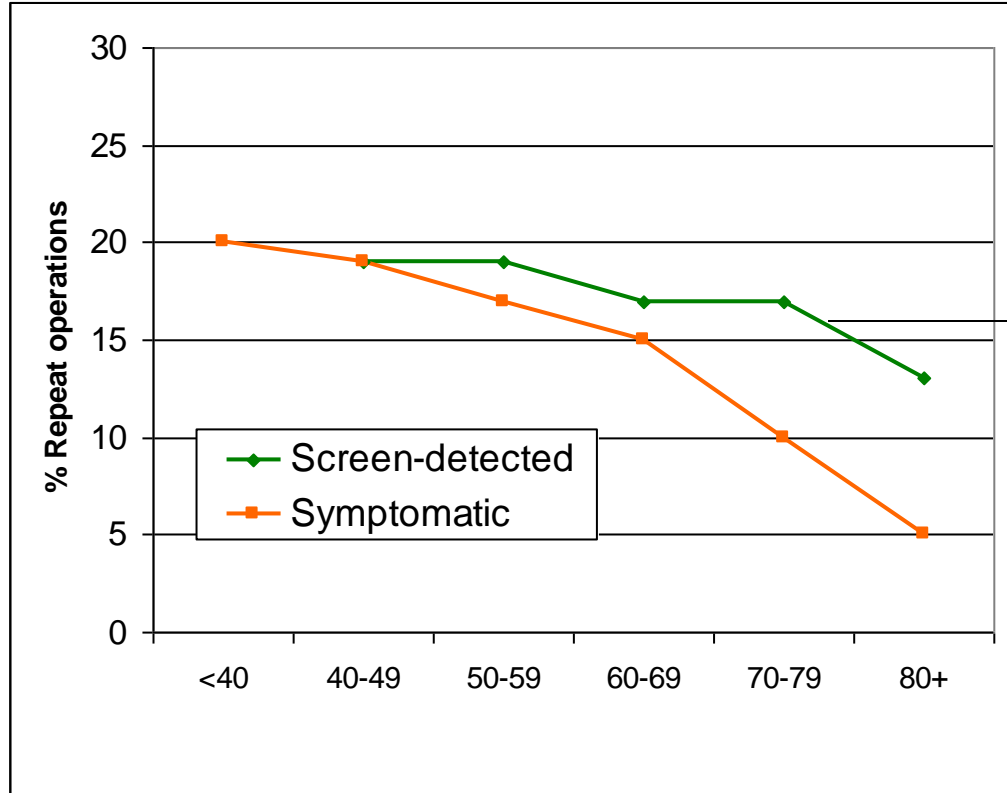
Variation with deprivation and presentation route



Women diagnosed with breast cancer in 2007



# Repeat Operation Rates

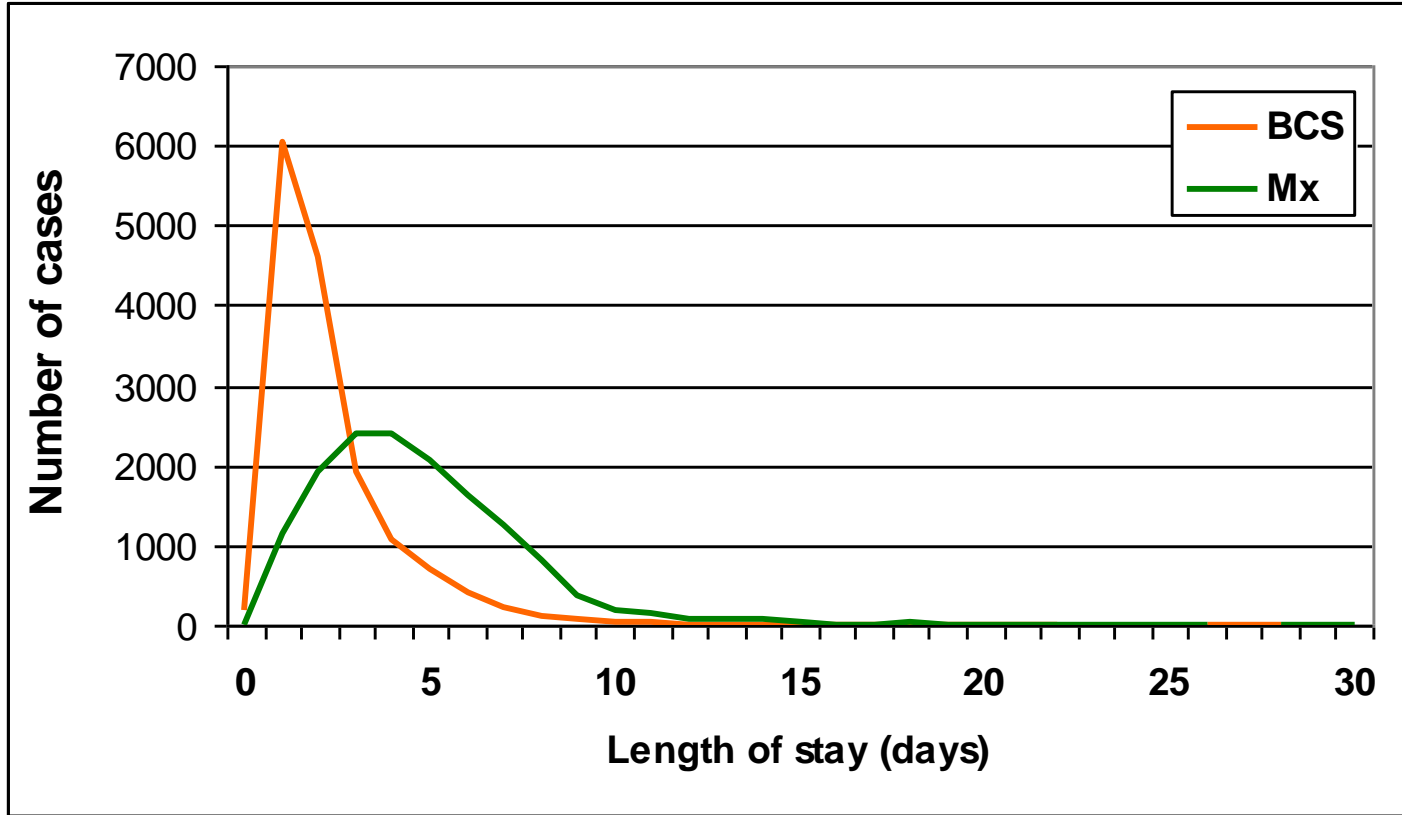


\* More non/micro  
invasive cancers  
\* More breast  
conserving surgery  
\* More sentinel lymph  
node biopsies

Women diagnosed with breast cancer in 2007



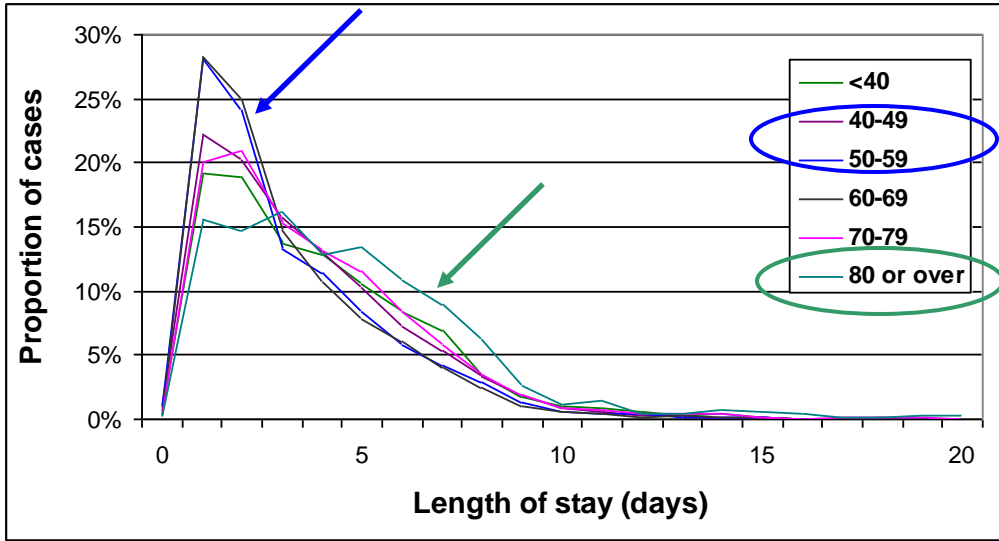
# Length of Stay



Women diagnosed with breast cancer in 2007

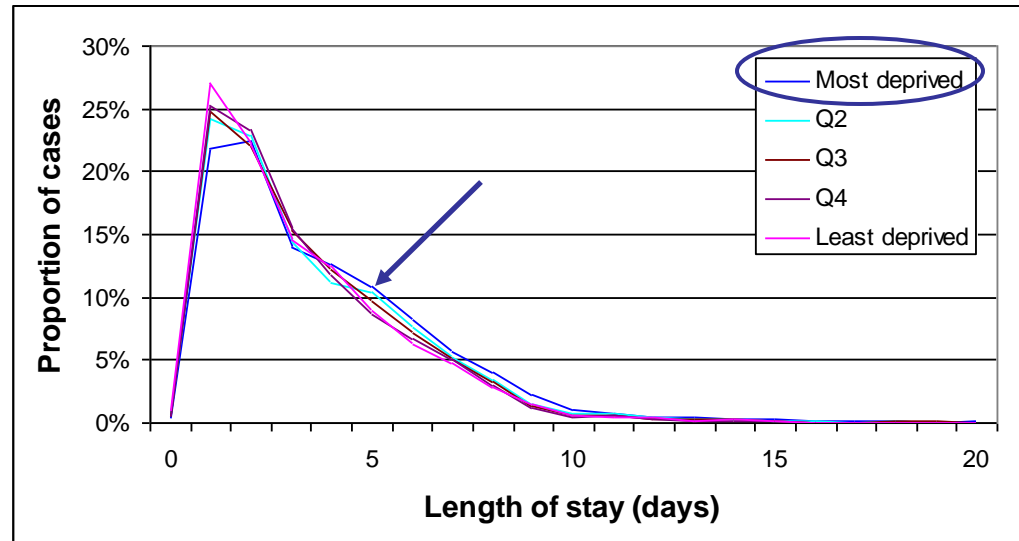


# Length of Stay



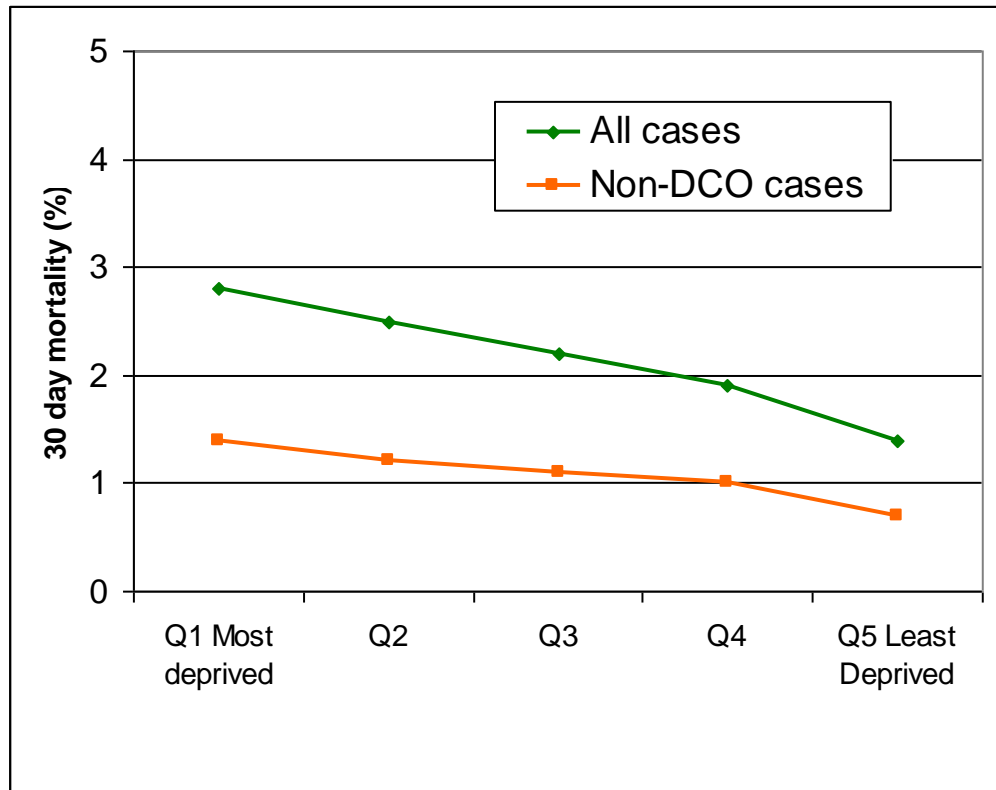
Variation with age

Variation with deprivation





# 30 day mortality



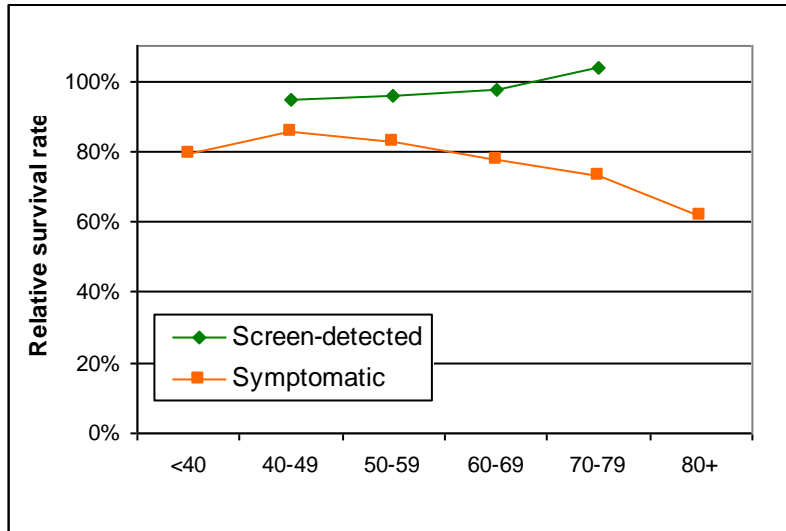
**DCO = Death Certificate Only**  
 853 cases in total  
 431 DCO cases

Women diagnosed with breast cancer in 2007



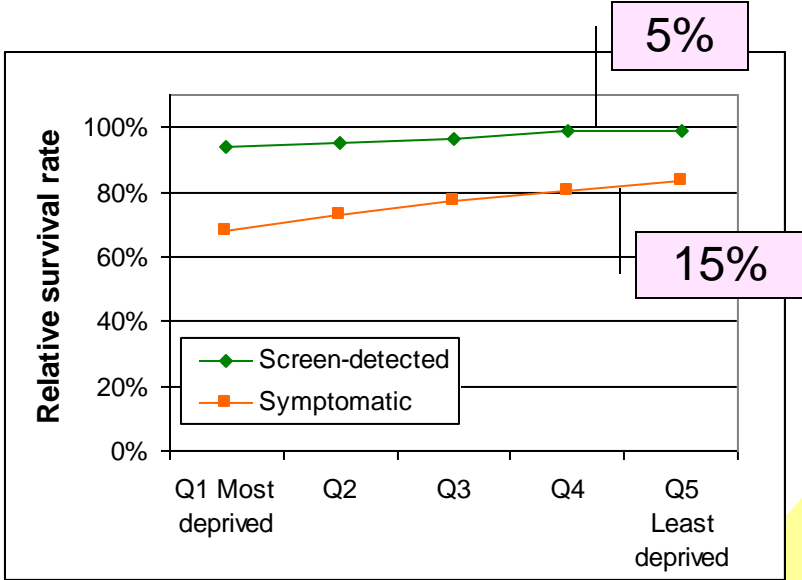


# 5-year relative survival



Variation with age and presentation route

Variation with deprivation and presentation route



Women diagnosed with breast cancer in 2002/03

# To Find Out More



## Breast Cancer in the Elderly

### NCIN Data Briefing

#### Introduction

In the UK in 2006, 49,452 breast 15,400 (31%) were in patients examines variations in management invasive (95%) and non-invasive elderly patients of whom 15,327 w

#### Age at diagnosis and route

The majority of breast cancers are of age. Women aged 50-70 an screening (50-64 in Northern Ire) may self-refer, in 2006 only 9% of and over were screen-detected (F Women aged 71-73 years will included in the planned extensive the screening programme outline the Cancer Reform Strategy (Engl which is likely to result in a gr proportion of screen-detected bi cancers in this age group in future.

#### Surgical treatment

Surgical treatment was recorded 90% of patients aged 50-70 y compared with 58% for those age and over (Figure 2). For the r patients, a higher proportion surgical treatment was recorded screen-detected cancers (95%) for cancers diagn symptomatically (54%). In wo aged 70 and over, those with scr detected breast cancers had a hi proportion of breast consei surgery (71%) than those presented with symptoms (40%).

The decrease in surgical treat with age was quite marked symptomatic patients; with 853 symptomatic patients aged unc having surgery compared with 54% of the 14,034 sympor patients aged 70 and over.

Using informati

## Breast Cancer : Deprivation

### NCIN Data Briefing

#### Introduction

In England in 2006, 41,482 patients (41,190 were diagnosed with breast cancer. 89% 11% non-invasive tumours. A deprivation s income domain of the Index of Deprivation ; assigned to 41,347 patients (99.7%) w postcode. Only 15% of breast cancer patient deprived quintile of the English population a most affluent quintile (Table 1).

The age profile for the most affluent breast c slightly younger; in women aged 50 - 70 ye cancers in the most affluent female co detected compared with 51.8% in the mo For women aged 71-73, 24.7% of the most 9.6% in the most deprived cohort. This may self-refer for breast screening.

Table 1 : Age and route of presentation fo according to deprivation quintile

Deprivation quintile	Total cases	
	No.	%
Quintile 1 (Most Deprived)	6,068	15
Quintile 2	7,741	19
Quintile 3	8,816	21
Quintile 4	9,388	23
Quintile 5 (Most Affluent)	9,335	23
All England	41,482	100

#### Tumour Characteristics

Tumour size was recorded for 84% of the 4,210 surgically treated invasive breast cancers in the most deprived quintile, nodal status for 61% and grade for 95%. Where data were known, 44% were greater than 20mm in diameter, 41% were node positive and 39% were poor prognosis Grade 3 tumours (Figure 1). Patients in the most affluent quintile had better prognosis tumours; for those with known data, 39% were greater than 20mm in diameter, 38% were node positive and 36% were Grade 3.

Using informati

## Breast Cancer : Ethnicity

### NCIN Data Briefing

#### Introduction

Ethnicity was available from the Hospital Episode Statistics (HES) dataset for 68% of the 41,482 patients (41,190 female, 292 male; 99% invasive, 11% non-invasive) diagnosed with breast cancer in England in 2006. Reported ethnicity, which is more likely to be recorded for surgically treated patients, was amalgamated into the broad groupings: "White", "Black", "Chinese", "Asian", "Mixed" and "Other".

#### Age at diagnosis and route of presentation

In patients known to be Black, the median age at diagnosis was younger, 50 years compared with 62 years for those known to be White (Table 1). In the screening invitation age group (50-70 years) 56.3% of women known to be White had screen-detected breast cancers compared with 52.1% of women known to be Asian and only 44.6% of women known to be Black.

Table 1: Age at diagnosis and route of presentation for breast cancers diagnosed in England in 2006 according to ethnicity

Ethnicity Grouping	Total cases		Age at diagnosis (Median, Interquartile Range)	Women aged 50-70	
	No.	%		No.	Screen-detected (%)
White	26,807	64.6%	62 (52-72)	14,500	56.3%
Asian	611	1.5%	55 (47-65)	359	52.1%
Black	428	1.0%	50 (43-63)	177	44.6%
Chinese	74	0.2%	53 (48-59)	43	53.5%
Mixed	97	0.2%	52 (43-67)	44	50.0%
Other Ethnicity	222	0.5%	55 (48-66)	122	57.4%
Unknown	13,243	31.9%	63 (53-77)	6,201	54.4%
All England	41,482	100%	62 (52-73)	21,536	55.6%

#### Tumour characteristics

Patients known to be Black were more likely to have high grade, node positive tumours. Grade was recorded for 93% of the 351 surgically treated invasive breast cancers in Black patients, and nodal status in 63% of these cases. Where data were known, 56% of tumours in Black patients were poor prognosis Grade 3 tumours and 64% had involved lymph nodes (Figure 1). In comparison, for patients known to be White, the proportions of Grade 3 and node positive cancers were lower, at 36% and 38% respectively.

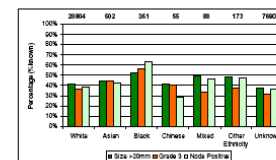


Figure 1: The proportion of surgically treated invasive cancers with poorer prognosis in terms of size, grade and nodal status

#### KEY MESSAGE:

There are ethnic variations in the age, route of presentation and tumour characteristics of breast cancer patients in England. Patients known to be Black are younger, less likely to be screen-detected and have worse prognosis tumours.

# All BREAST CANCER Report

A UK analysis of all symptomatic and screen-detected breast cancers diagnosed in 2006



The second report will be published on-line in a few weeks time



# BCCOM on-line



This is the online BCCOM audit system, provided by WMCIU in collaboration with ECRIC.

Unauthorised access is prohibited and is contrary to the Computer Misuse Act 1990, which may result in criminal offences and a claim for damages.

If you are not sure if you should be using this system, please seek advice before continuing.

If you encounter any problems, please phone the BCCOM team on [TODO-phone-number] between [times-and-days-of-operation] or email [wmciu.bccom@nhs.net](mailto:wmciu.bccom@nhs.net)

Name	<input type="text"/>
Password	<input type="password"/>
	<input type="button" value="Log in"/>

**Legal Notice:**

This system is a restricted access system; only personnel authorised by WMCIU and ECRIC may access this system.

All activity on this system is subject to monitoring.

If information collected reveals possible criminal activity or activity that exceeds privileges, evidence of such activity may be provided to the relevant authorities for further action.

By continuing past this point you expressly consent to this monitoring.



**Last login at 10.02.2011 11:12 (22 minutes ago)**

## **BCCOM Project**

Welcome to the online BCCOM audit, of primary breast cancers diagnosed in 2008.

This will let you:

- review and correct the records of patients treated by you
- inform the BCCOM team of extra patients to review
- reassign patients to other clinicians
- print a summary for CPD purposes

You can [log out](#) at any time, and come back later to complete your cases.

If you encounter any problems, please phone the BCCOM team on [TODO-phone-number] between [times-and-days-of-operation] or email [wmciu.bccom@nhs.net](mailto:wmciu.bccom@nhs.net)

You are logged in as SMITH AR (GMC number 1415000). [Edit your name](#) if it needs correcting.

You have 3 patients awaiting review (and have already reviewed 10).

[Please click here to continue to your list of patients.](#)



## BCCOM Patient List

You have 3 patients awaiting review (below), and have reviewed 10. [Show all patients](#)

Please click the Edit links below, [report missing patients \(by NHS number\)](#), or [finish and print a summary](#).

You can [log out](#) at any time, and come back later to complete your cases.

Are any patients below not yours to audit? You can [reassign patients to another consultant](#).

NHS number	Surname	Forename	Date of birth	Assigned hospital	Responsible consultant		Hospital number	
476 121 0001	VICTOR	ALISON	09.12.1962	ADDENBROOKES HOSPITAL	SMITH AR	C1415000	1023981	<a href="#">Edit</a>
456 694 0128	CLARK	TINA	10.10.1956	HINCHINGBROOKE HOSPITAL	SMITH AR	C1415000	1023982	<a href="#">Edit</a>
456 841 1009	FAKE	JANET	24.06.1956	ADDENBROOKES HOSPITAL	SMITH AR	C1415000	90238	<a href="#">Edit</a>

If you encounter any problems, please phone the BCCOM team on [TODO-phone-number] between [times-and-days-of-operation] or email [wmciu.bccom@nhs.net](mailto:wmciu.bccom@nhs.net)



For a description of each field, hover or click on the [i](#) after the field name, or [see all field descriptions](#) (opens in a new tab).

### Patient details

Surname	<input type="text" value="FAKE"/>	Forename	<input type="text" value="JANET"/>	
NHS number	<input type="text" value="4568411009"/>	Date of birth	<input type="text" value="24.06.1956"/>	Sex <input type="text" value="Female"/>
NHSBSP screen detected	<input type="text" value="Unknown"/>	Date of death	<input type="text"/>	Age at death
Assigned hospital	<input type="text" value="ADDENBROOKES HOSPITAL"/>	(X = unknown, blank = alive)		
Treating surgeon name	<input type="text" value="SMITH AR"/>	GMC code	<input type="text" value="C1415000"/>	
Surgeon's number of 3 symptomatic cases		Screen detected cases	<input type="text" value="0"/>	

### Tumour characteristics

Laterality	<input type="text" value="Left"/>	Diagnosis date	<input type="text" value="13.10.2008"/>	Age at diagnosis	<input type="text" value="52"/>
Basis of diagnosis <a href="#">i</a>	<input type="text" value="Histology of primary"/>	Pre-operative diagnosis	<input type="text" value="Yes"/>		

### Surgery details

Final therapeutic breast surgery	<input type="text" value="Conservation"/>	Final surgery date	<input type="text" value="10.11.2008"/>	Any sentinel node procedure (SNLB)?	<input type="text" value="Unknown"/>
----------------------------------	---	--------------------	---	-------------------------------------	--------------------------------------

### Pathology details

Invasive status	<input type="text" value="Non invasive"/>	Vascular or lymphatic invasion	<input type="text" value="No"/>		
ICD-O morphology code	<input type="text" value="8500/2: INTRADUCTAL CA NON INFILTRATING"/>				
BCCOM morphology code	<input type="text" value="DCIS = Ductal carcinoma in situ"/>				
Grade of differentiation (invasive tumour)	<input type="text" value="Grade cannot be assessed"/>	Nuclear grade (non-invasive tumour)	<input type="text" value="Unknown"/>		
Invasive size (mm)	<input type="text"/>	Whole tumour size (mm)	<input type="text"/>		
Excision margins	<input type="text" value="Unknown"/>	Local/regional nodes examined	<input type="text"/>	Nodes positive	<input type="text"/>
NPI <a href="#">i</a>	<input type="text"/>	VNPI	<input type="text"/>	Calculated NPI	

### Receptor status details

ER status	<input type="text" value="Unknown"/>	PgR status	<input type="text" value="Unknown"/>	HER-2 status	<input type="text" value="Positive"/>
-----------	--------------------------------------	------------	--------------------------------------	--------------	---------------------------------------

### Radiotherapy treatment details

Radiotherapy	<input type="text" value="No"/>	Start date	<input type="text"/>	Hospital	<input type="text"/>
--------------	---------------------------------	------------	----------------------	----------	----------------------



## BCCOM Missing Patients Summary

Thank you for reporting 3 patients missing from your BCCOM audit list.

Here is a summary of their status:

- 2 : Unknown patient. We will make further enquiries, and contact you within a month about this.
- 1 : Not a valid NHS number - either the wrong length or with an invalid check digit.

NHS number	Status
1234567881	Unknown patient
1234567989	Unknown patient
1111111111	Not a valid NHS number

The BCCOM team has been informed, and will contact you after further investigation.

[Create 2 unknown patients](#)

[Edit and resubmit invalid NHS numbers](#)

[Return to patient list](#)

If you encounter any problems, please phone the BCCOM team on [TODO-phone-number] between [times-and-days-of-operation] or email [wmciu.bccom@nhs.net](mailto:wmciu.bccom@nhs.net)





## BCCOM Audit Completion

### (Breast Cancer Clinical Outcome Measures Project)

This is to certify that

**SMITH AR (GMC number 1415000)**

contributed to the 2011 BCCOM audit of primary breast cancers diagnosed in 2008.

In this year's audit, you reviewed 13 patients.

Number of patients	Review status
12	Unchecked but happy to include
1	Partially checked

Thank you for your help,  
The BCCOM Team

Certificate issued: 10.02.2011 11:38

If you encounter any problems, please phone the BCCOM team on [TODO-phone-number] between [times-and-days-of-operation] or email [wmciu.bccom@nhs.net](mailto:wmciu.bccom@nhs.net)

[Print certificate](#), [Logout](#) or [Return to patient list](#)



# Thankyou

## WMCIU

Olive Kearins  
Shan Cheung  
Catherine Lagord  
Jasmin Sidhu  
Nicola Rogers

Breast Screening QARCs  
Breast Screening Units  
BCCOM Steering Group  
Cancer Registries  
Breast Surgeons

