

Using data to change clinical practice

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What clinicians want from data

- To support the answering of clinically relevant questions
- Clinically credible – though they have to take responsibility
- Ownership
- Timeliness
- Case-mix adjustment
- Reported 'proportionally' and with their knowledge
- Ongoing engagement with those that report data

NCIN core objectives



- Promoting efficient and effective data collection throughout the cancer journey
- Providing a common national repository for cancer datasets
- Producing expert analyses, based on robust methodologies, to monitor patterns of cancer care
- Exploiting information to drive improvements in standards of cancer care and clinical outcomes
- Enabling use of cancer information to support audit and research programmes



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Site-Specific Clinical Reference Groups



- In place since late 2008
- Very varied 'starting points' (e.g. Lung vs CNS tumours)
- Multi-disciplinary membership
- Strong links with professional bodies & NCRI Study Groups
- Work closely with a lead Cancer Registry
- Chairs' Forum meets twice a year
- Each holds annual workshops with Network SSG chairs
- Examples of work to date:
 - Dataset development
 - Review of National Cancer Data Repository
 - Work programmes
 - Production of 'data briefings' & publications
 - Supporting Peer Review (Clinical Lines of Enquiry)

Site-Specific Clinical Reference Groups



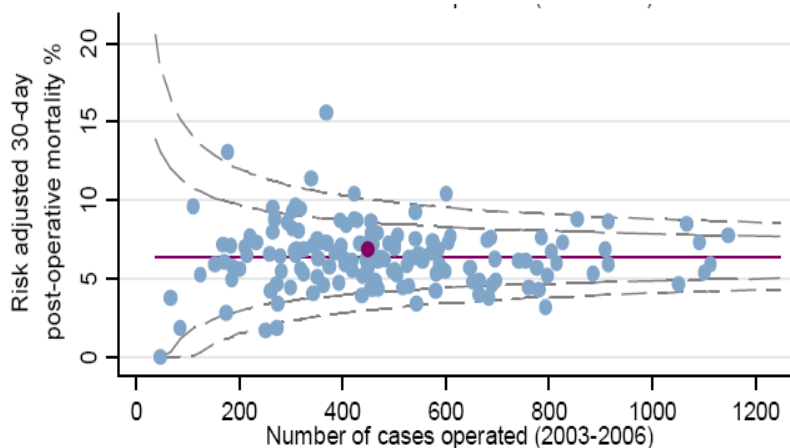
- ☐ > 120 senior clinicians highly engaged in understanding & using cancer data
- ☐ >600 clinicians attending annual workshops
- ☐ wide range of publications, presentations at professional conferences, network meetings, etc.
- ☐ strong emerging links with clinical researchers
- = **A new community of clinical "data champions"**
- Examples of work to date:
 - National Cancer Dataset
 - Review of National Cancer Data Repository
 - Work programmes
 - Production of 'data briefings' & publications
 - Supporting Peer Review (Clinical Lines of Enquiry)

Examples of the clinical value of new data



- Demonstration of variation
- Teasing out the causes of variation
- Demonstrating value of specialisation
- Building data into quality improvement
- Adding outcome data into Peer Review
- Providing robust evidence behind National Guidelines and Quality Standards (NICE)
- Supporting 'intelligent commissioning'

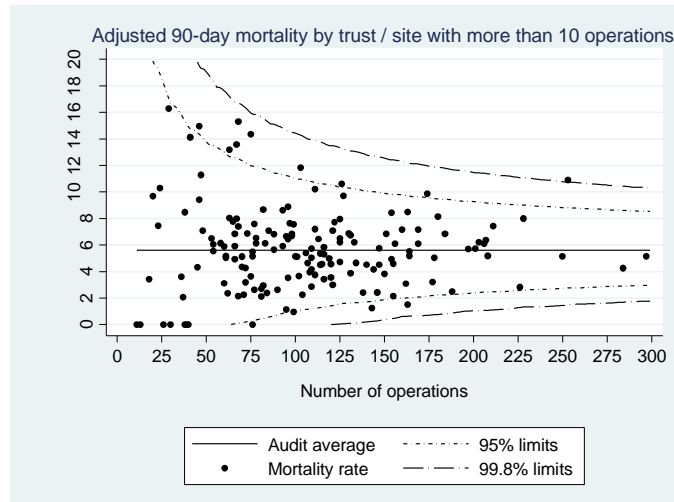
30 day mortality data: Colo-rectal cancer surgery



Source: Morris et al, Gut; 2011

2011 National Bowel Cancer Audit

Performance monitoring



Main findings from the 2011 Audit

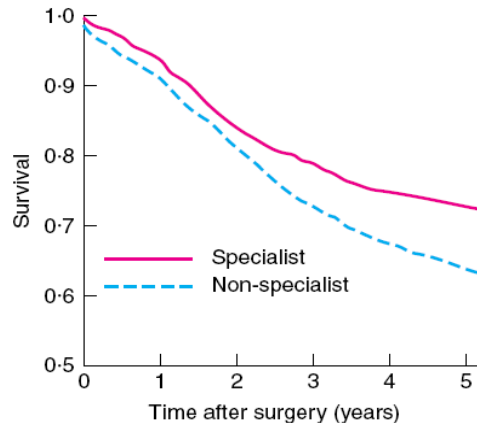
Performance monitoring

Getting closer to the reasons for postoperative mortality

- Return to theatre
- variation across trusts
 - reasons for return to theatre

Mortality amongst patients who return to theatre – “failure to rescue”

Volume vs outcome: Colo-rectal surgery



McArdle & Hole, Br J Surgery, 2004;91:610-617

Use of data in a 'Change Management' Programme




Cancer Care Ontario (John Srigley)*:

Impact of the introduction of proforma-based electronic pathology reports on colo-rectal surgery:


- Improved quality of pathology reports
- Increase in proportion of patients with >12 nodes resected from 76% to 87%
- Positive resection margin rate fell from 50% to 10%

*thanks to Lynn Hirschowitz




Royal College
of Physicians
Setting higher medical standards


The National Lung Cancer Audit



The
Information
Centre
for health and social care

National
Lung
Cancer
Audit
Report
2011






HQIP
Healthcare Quality
Improvement Partnership

National Lung Cancer Audit

www.ic.nhs.uk



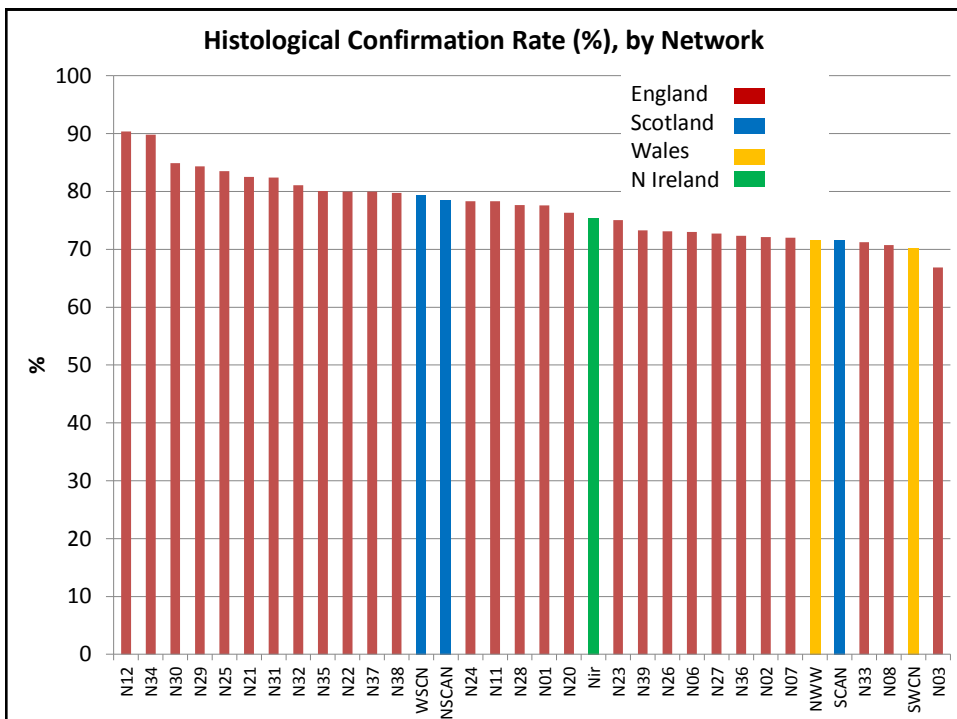
FOR HEALTH AND SOCIAL CARE

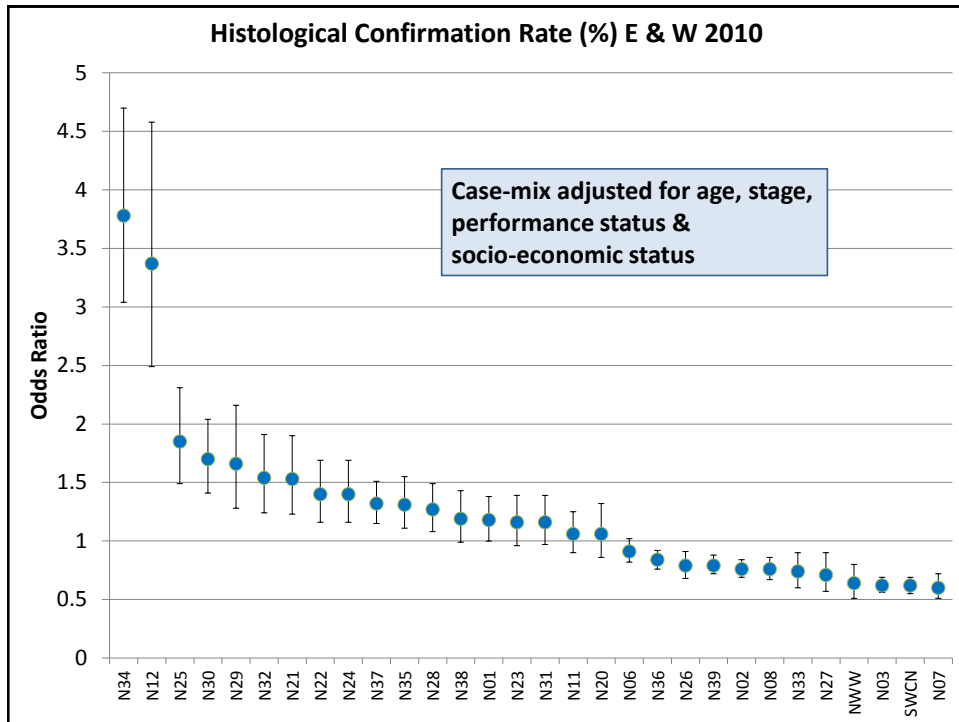
National Lung Cancer Audit (England & Wales) Case ascertainment and data completeness

	2005*	2006	2007	2008	2009	2010
% of hospital trusts submitting data	77	93	96.5	98.1	100	100
Number of cases	Approaching 200,000 cases on English database alone					32,347
Case ascertainment (%)						40
Data completeness (%)						
Stage	51	55	59	78	81.8	85.6
Performance status	66	77	63	87	79.4	84.7
Treatment	66	72	79	82	88.7	88.7

*England only

Cancer network variation (2010)

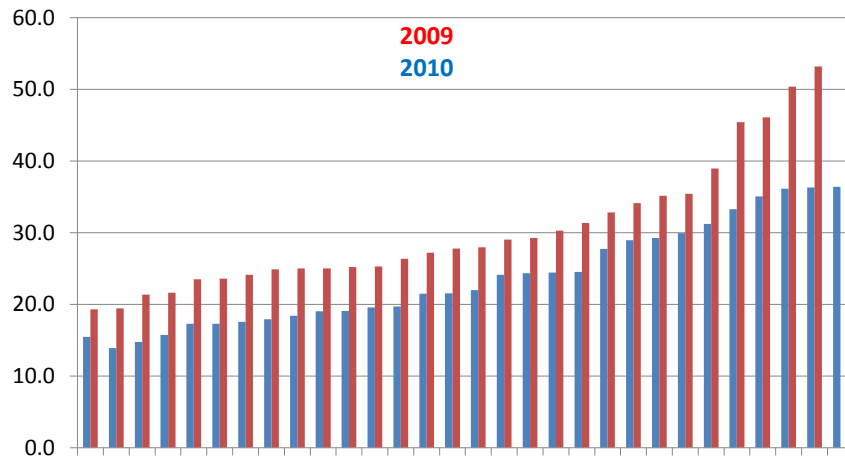




Non-Small Cell Lung Cancer 'Not Otherwise Specified' rate (England)

Year	NOS Rate
2006	36%
2007	31.8%
2008	33.6%
2009	30.28%
2010	24.2%

NSCLC 'Not Otherwise Specified' Rate (%) by Cancer Network (E & W) 2009-2010



Peer pressure!



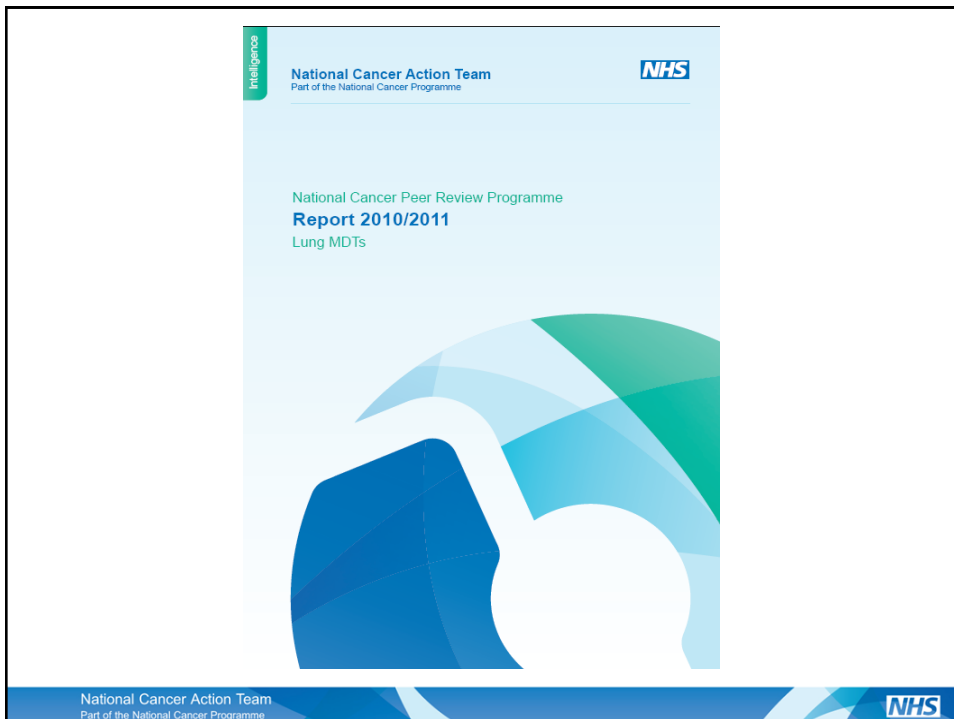
Reporting and using data



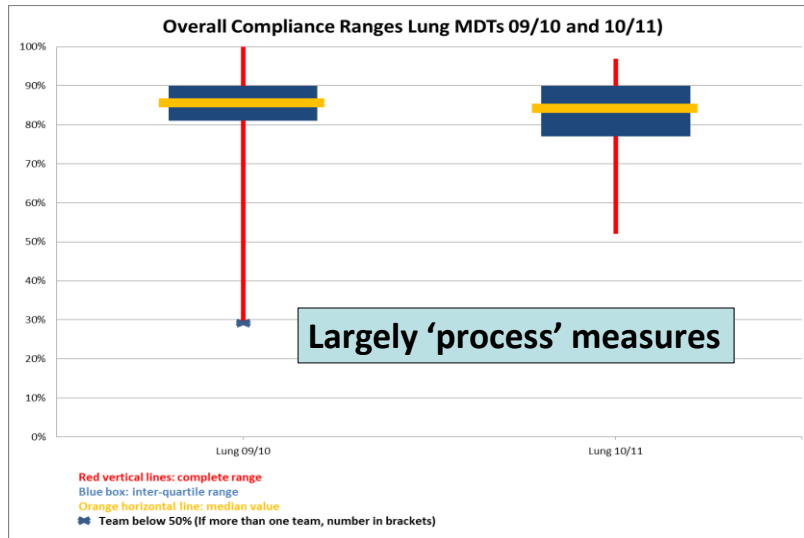
- On line, 'real time' reports
- Help-line & interaction with project manager
- Quarterly reports to networks
- Annual reports + on line access to spreadsheets (development of interactive electronic tools)
- Local Action Plans
- Meetings: National, Regional & Local
- Improving Lung Cancer Outcomes Project

National Lung Cancer Audit

FOR HEALTH AND SOCIAL CARE



Overall compliance for Lung Cancer MDTs 2009/10 & 2010/11



National Cancer Action Team
Part of the National Cancer Programme



Peer Review: 'Clinical Lines of Enquiry': Lung

- The % of expected cases on whom data is recorded
- The % Histological Confirmation Rate
- The % Having active treatment
- The percentage undergoing surgical resection (all cases excluding Mesothelioma & confirmed Small Cell Lung Cancer)
- The % small cell receiving chemotherapy

National Cancer Action Team
Part of the National Cancer Programme



Improving Lung Cancer Outcomes Project

Ian Woolhouse et al



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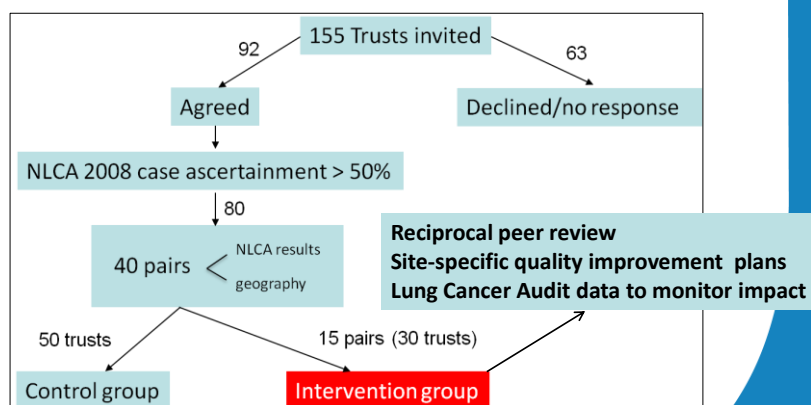


The
Health
Foundation

Setting higher standards

ILCOP methods

Multicentre randomised control trial

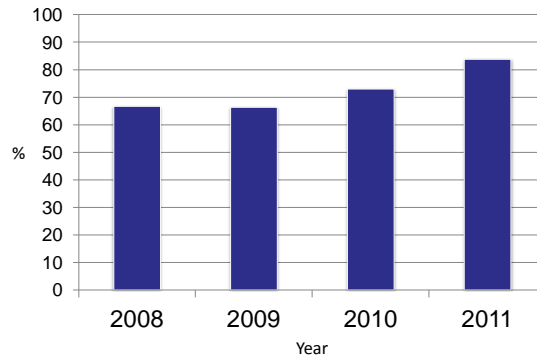


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Setting higher standards

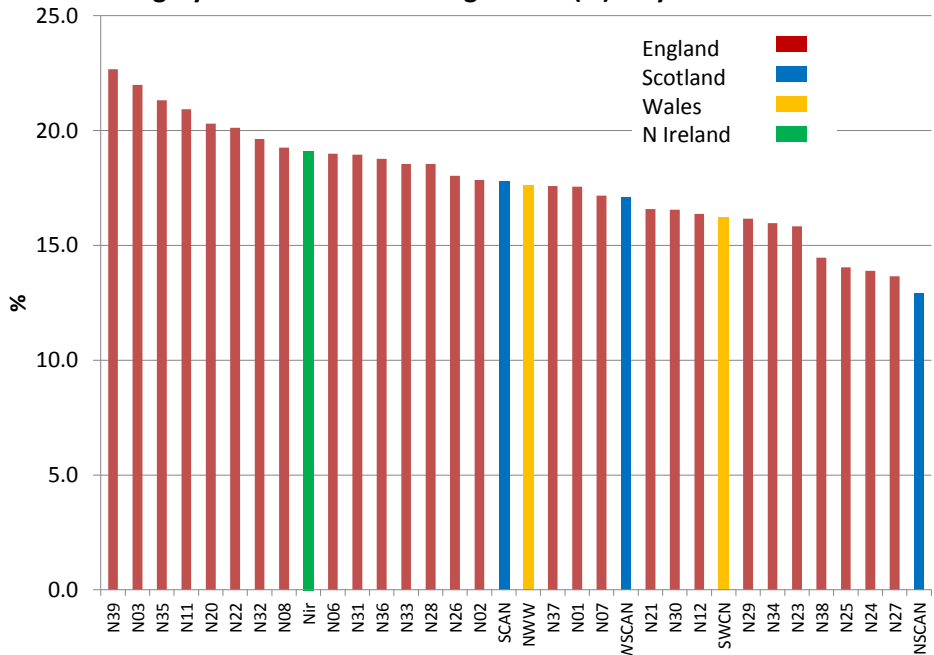
Sherwood Forest NHS Foundation Trust

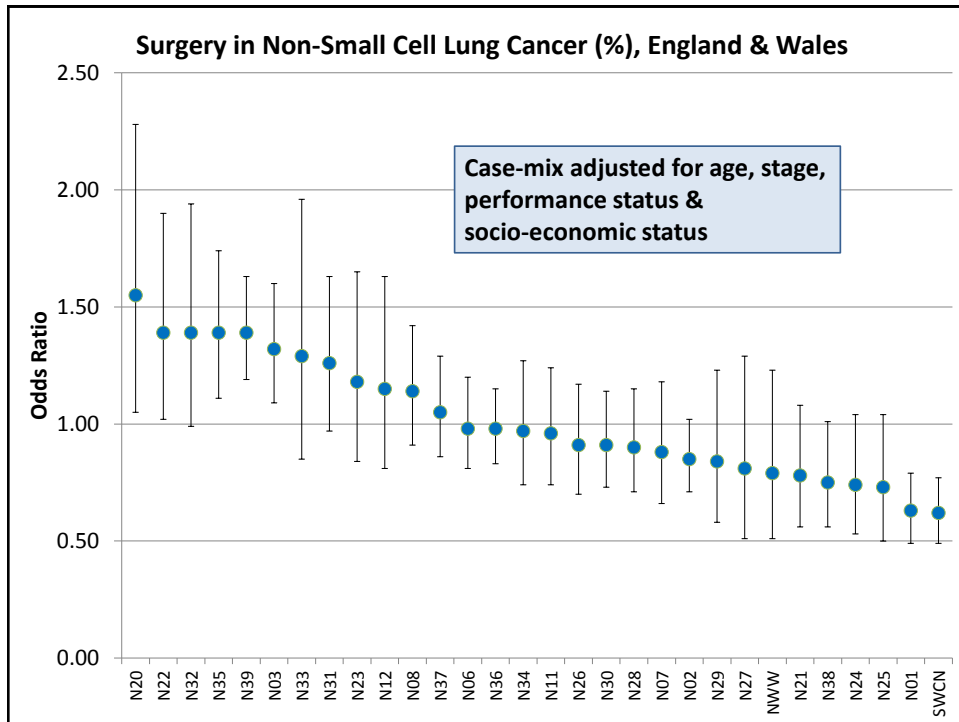
Histological Confirmation Rate
LUCADA data (2008-11)



Setting higher standards

Surgery in Non-Small Cell Lung Cancer (%) – by Network





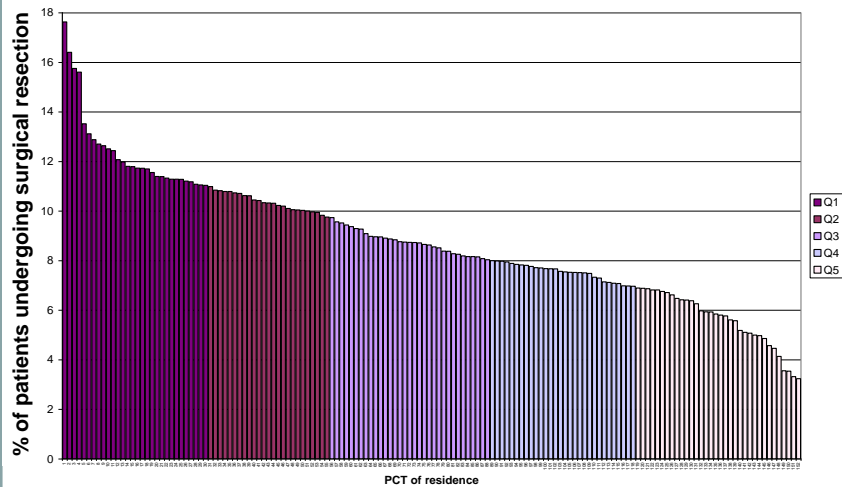
Resection rate for patients with tissue confirmation of NSCLC (2004-2008:England)

First seen in centre with thoracic surgery?	Number With a tissue diagnosis of NSCLC	Number who had surgical resection	% having surgery	Adjusted Odds Ratio for surgery*	P value
No	25,248	2,947	12%	1.00	
Yes	9,265 (27%)	1,538	17%	1.51 (1.16-1.97)	<0.001

*adjusted for sex, age, PS, stage, deprivation index and Charlson co-morbidity index

Rich et al; Thorax 2011;66:1078-1084

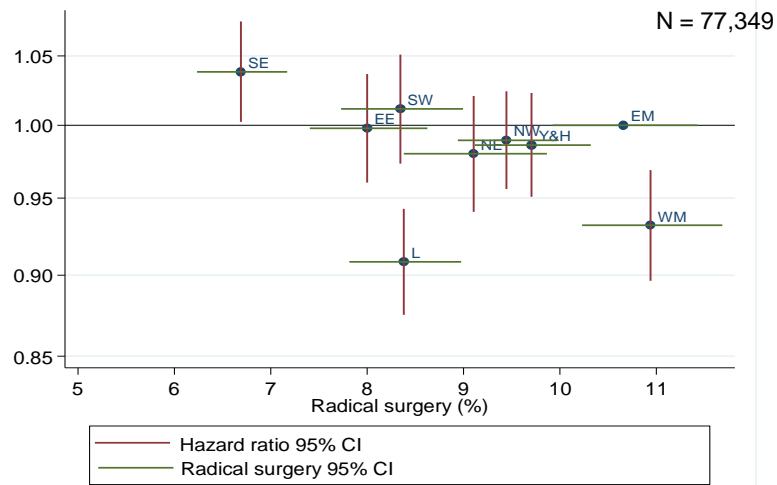
Resection rate by PCT 2004-6



Source: Riaz S et al. Eur J Cancer 2012;48:54-60



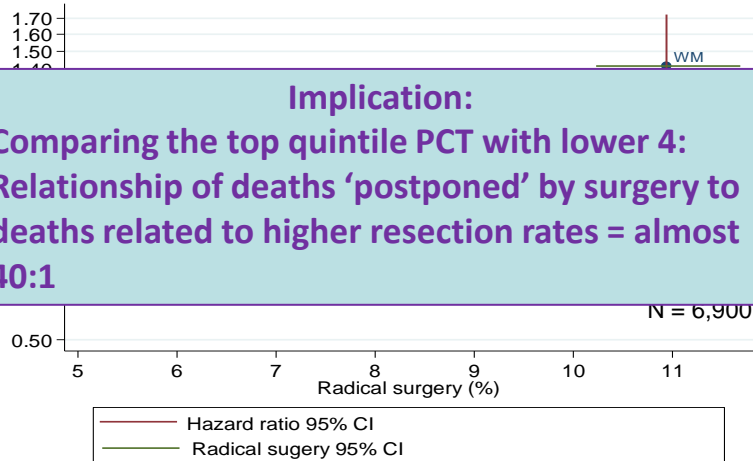
Mortality Hazard Ratios for Lung Cancer Patients in England 2004-6 related to resection rate by government office region



Source: Riaz S et al. Eur J Cancer 2012;48:54-60



Mortality hazard ratios for *resected* patients; England 2004-6 by Government Regional Office



Source: Riaz S et al. Eur J Cancer 2012;48:54-60



Surgical Resection Rate (%) - all patients

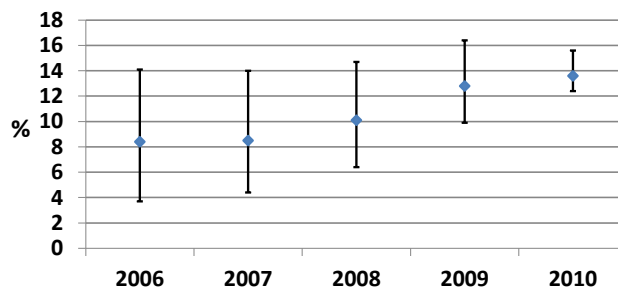
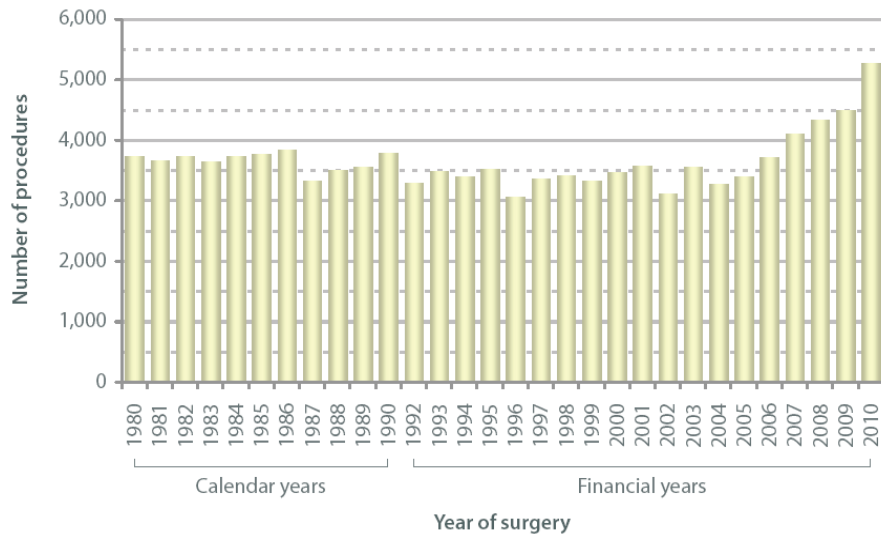


Fig. 1.A.8

Primary lung cancer resections (n=109,388)

Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

National Lung Cancer Audit (England & Wales)

Headline indicators over time

	2005	2006	2007	2008	2009	2010
Case ascertainment (%)	40	66	75	92	>97	~100
% discussed at MDT	79	84.3	86.8	88.6	93.8	96.4
Tissue confirmation rate (%)	68	66	65	66.7	75.9	76.0
Overall surgical resection rate (%)	9	9.4	10.3	11.2	13.9	13.7
Resection rate: confirmed NSCLC (%)	13.8	14.3	15.2	16.0	18.4	18.3
Active treatment rate (%)	45	50	52	54	59.2	58.4
Small Cell chemotherapy rate (%)	57.7	61.7	64.5	63.0	65.4	65.1

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Our cancer shame: Survival rates in UK are the worst among leading nations

By JENNY HOPE

THE Sun

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Lung cancer lottery

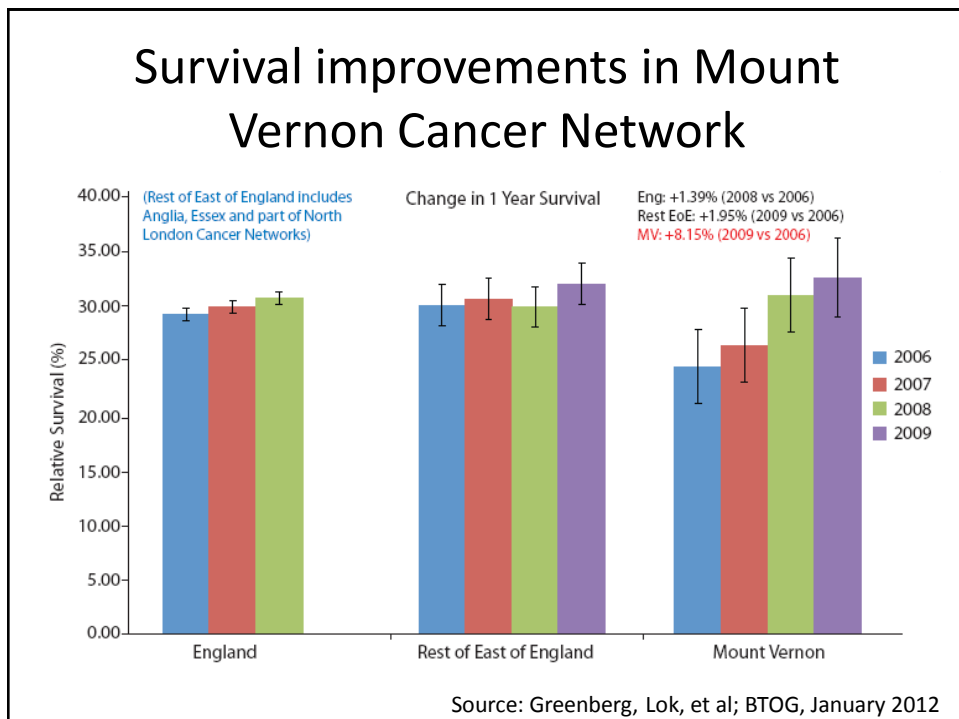
By JANE SYMONS

IT is the most deadly cancer in the UK – and your chance of surviving it could be wrecked by GEOGRAPHY.

HOW THE TREATMENTS COMPARE

BREAST			BOWEL		
	1-yr survival	5-yr survival		1-yr survival	5-yr survival
Australia	96.7%	88.1%	Australia	84.9%	65.9%
Canada	96.3%	86.3%	Canada	83.5%	63.7%
Denmark	95.0%	82.4%	Denmark	77.7%	55.8%
Norway	96.6%	85.5%	Norway	82.4%	62.0%
Sweden	98.0%	88.5%	Sweden	83.8%	62.6%
UK	94.2%	81.6%	UK	74.7%	53.6%

OVARIAN			LUNG		
	1-yr survival	5-yr survival		1-yr survival	5-yr survival
Australia	73.5%	37.5%	Australia	42.8%	17.0%
Canada	75.2%	41.9%	Canada	43.1%	18.4%
Denmark	70.6%	36.1%	Denmark	34.9%	10.9%
Norway	75.2%	39.7%	Norway	39.2%	14.4%
Sweden	n/a	n/a	Sweden	43.6%	16.3%
UK	65.0%	36.4%	UK	29.7%	8.8%



Conclusions



- The quality and range of clinically relevant data on cancer is increasing rapidly
- High quality population-based data can clearly drive clinical behavioural change
- We now have a large and expanding clinical community engaged with cancer data
- Feedback and ongoing interaction with clinicians is an essential part of the process – peer pressure is huge!
- There is scope for improving how information is used at a local level
- The collection and intelligent use of data are at the heart of good clinical practice and commissioning

