

Recent evidence regarding resection rate, specialism and survival in lung cancer in the UK

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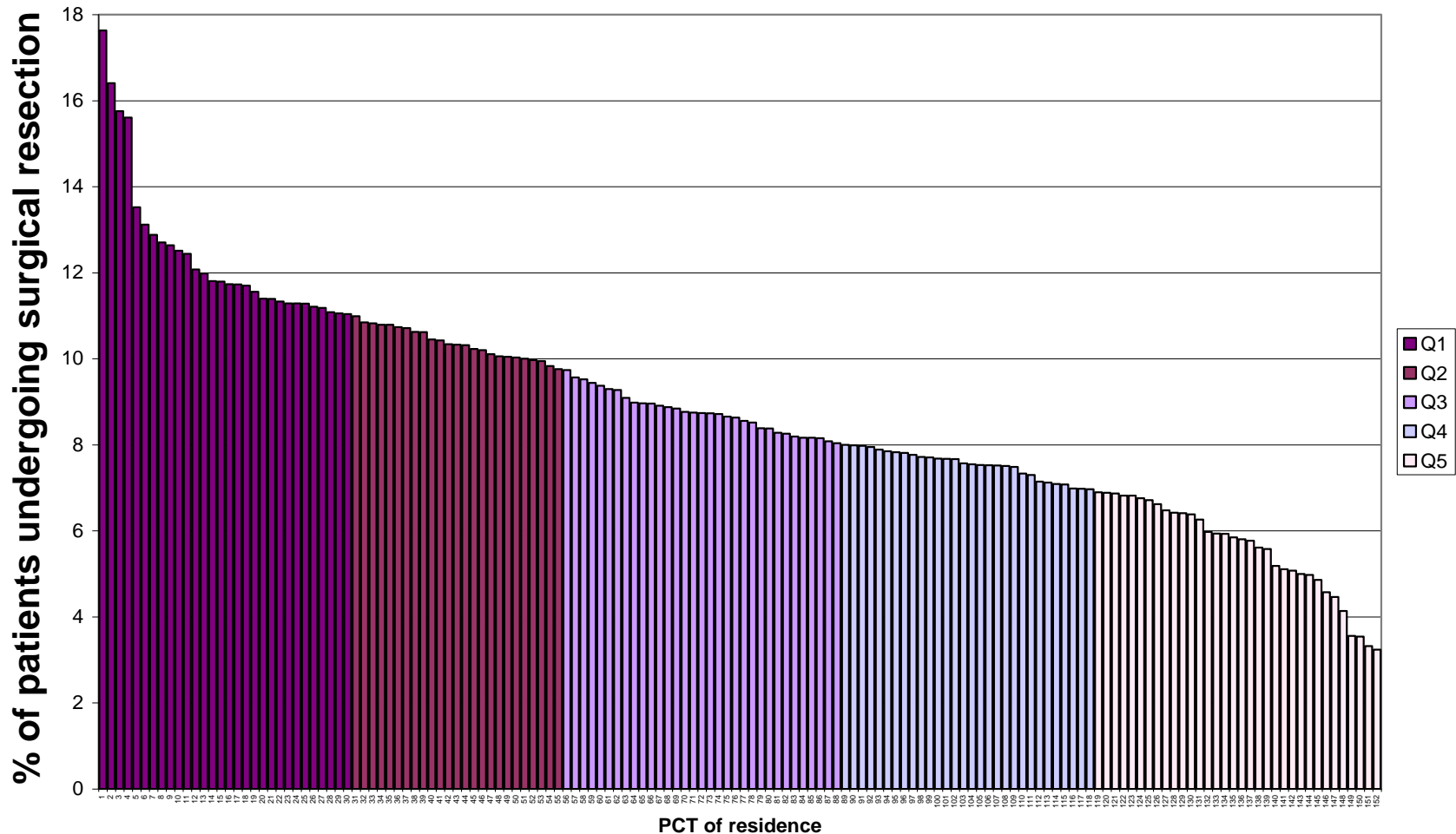
& National Lung Cancer Audit

National Clinical Lead, NHS Cancer Improvement

'New' data

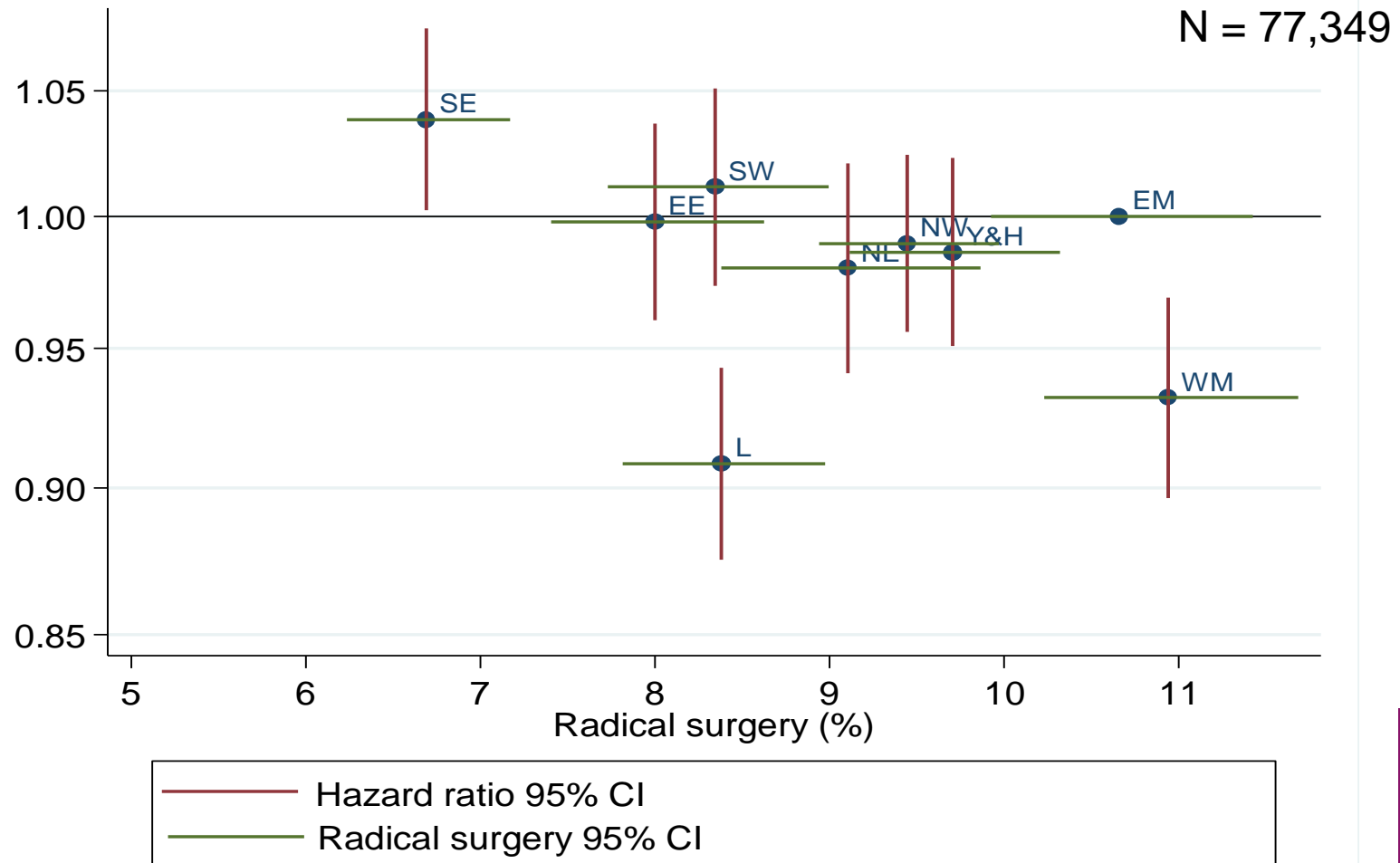
- Link between resection rate & survival (*Riaz S et al. Eur J Cancer 2012;48:54-60*)
- Rising, but variable resection rate (*National Lung Cancer Audit, SCTS audit, Riaz et al., in press*)
- Evidence of a strong link between specialisation (and MDT attendance by surgeons) and resection rate (*Rich et al, Thorax 2011;66:1078-1084; Lau et al, WCLC Amsterdam & paper in preparation*)
- Increase in resection rate after introduction of thoracic surgeon (*Martin-Ucar et al. Lung Cancer. 2004; 46:227-232*)
- Improved quality of surgical practice (SCTS audit)
- Increase in total number of thoracic surgeons
- Emerging evidence of stage-for-stage lower survival rates in UK (*International cancer Benchmarking Partnership*)

Resection rate by PCT 2004-6*



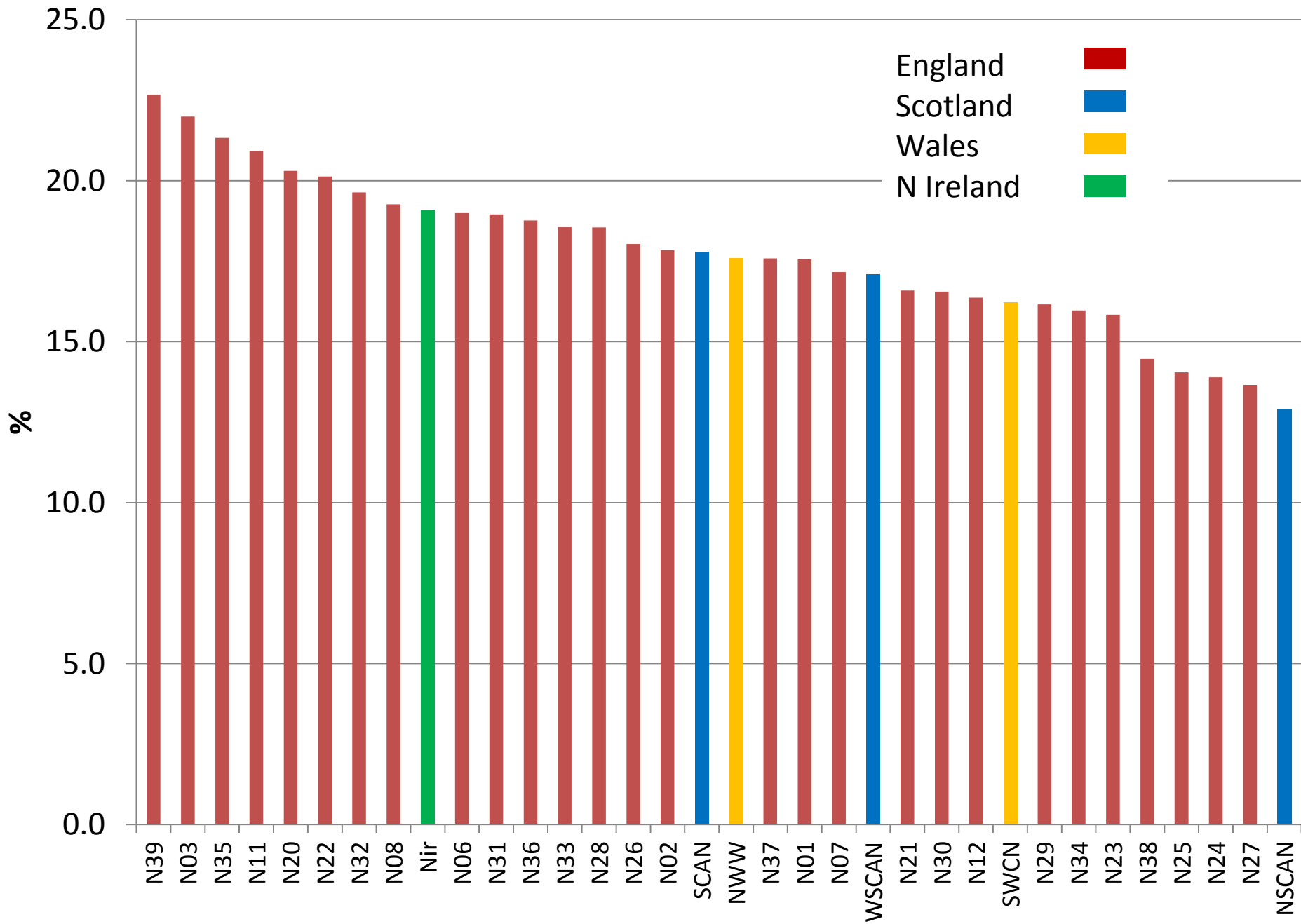
Source: Riaz S et al. Eur J Cancer 2012;48:54-60

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

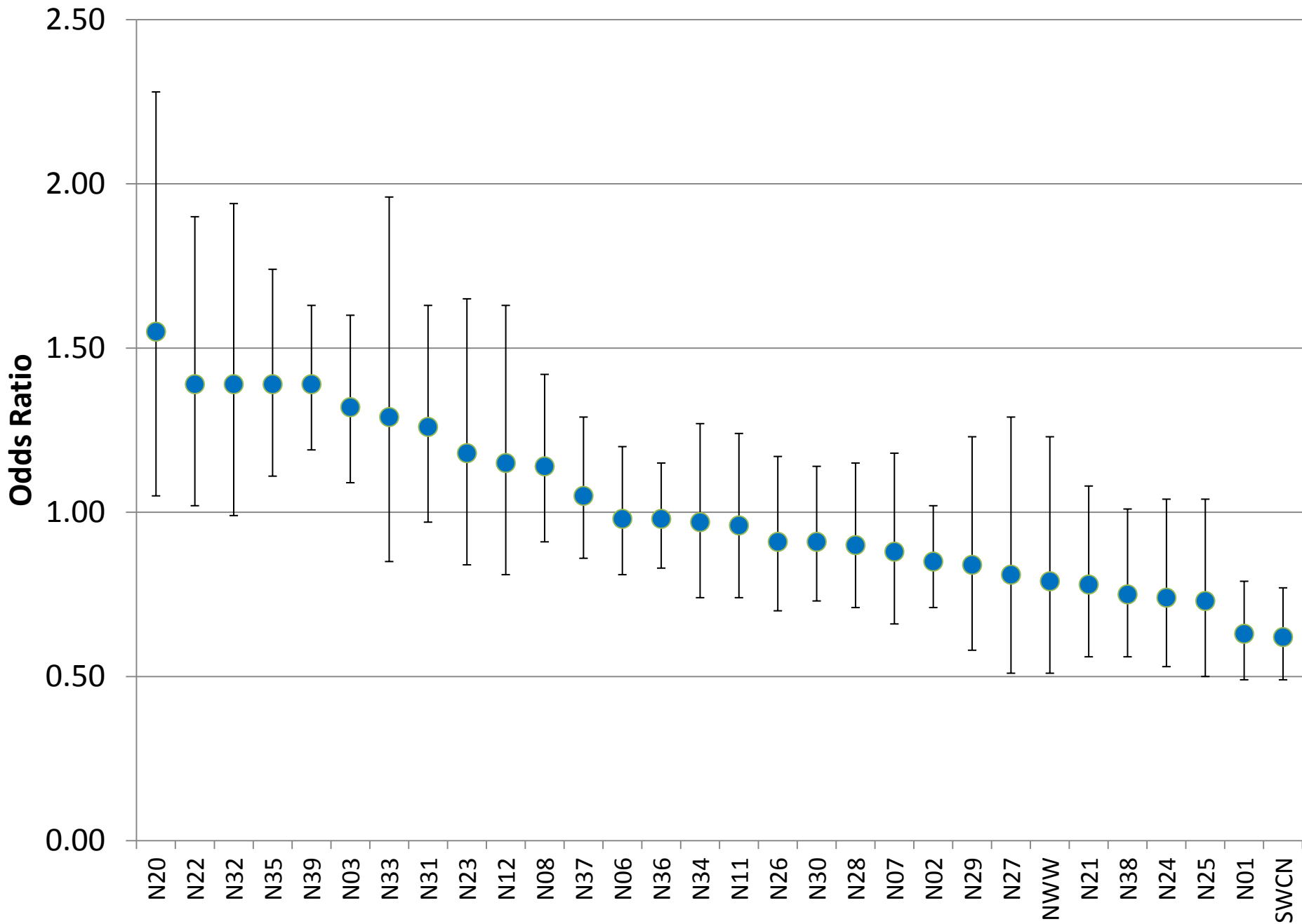


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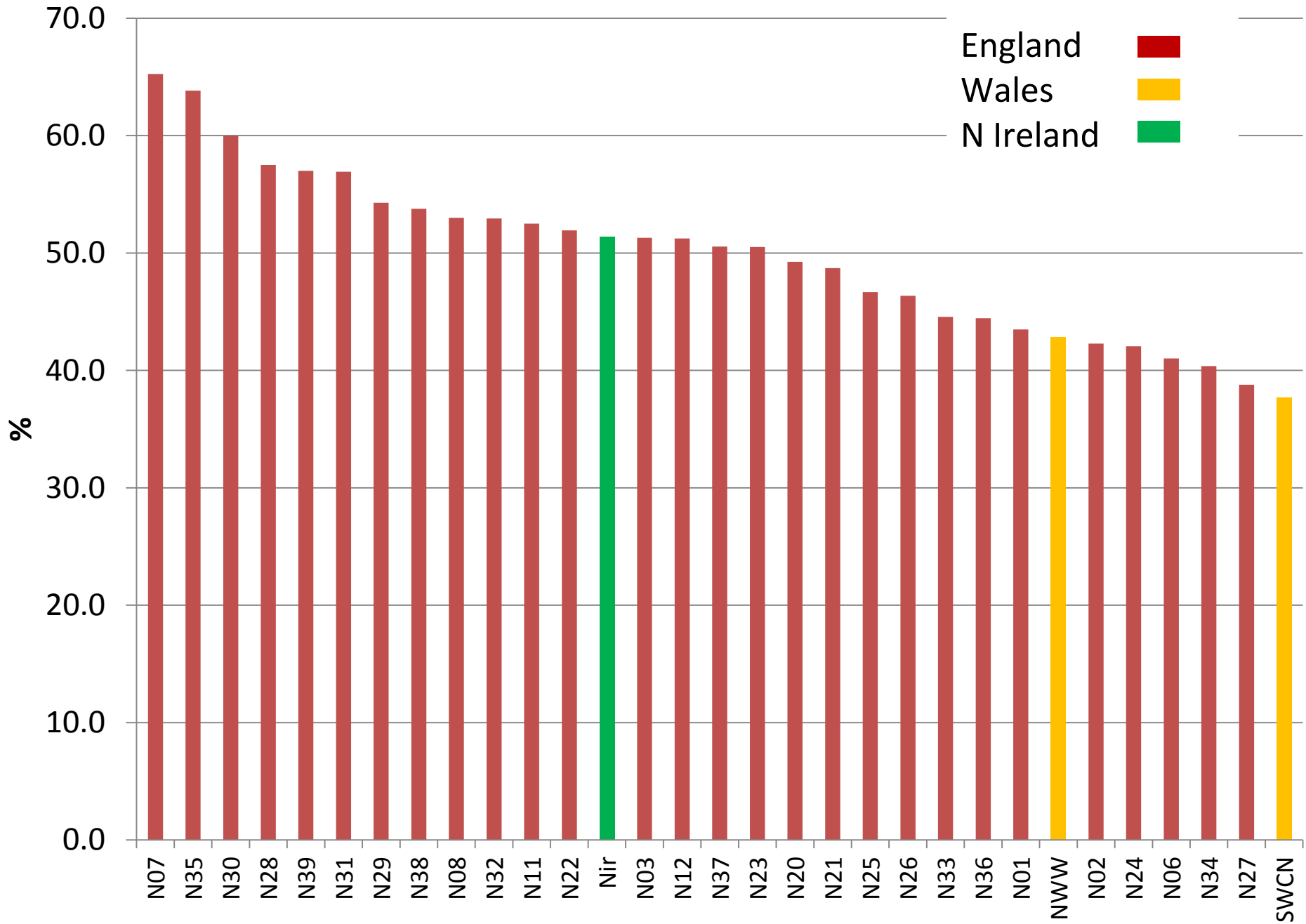
Surgery in confirmed NSCLC (%)



Surgery in confirmed NSCLC (% , England & Wales only)



Surgery in Stage I/II NSCLC (%)

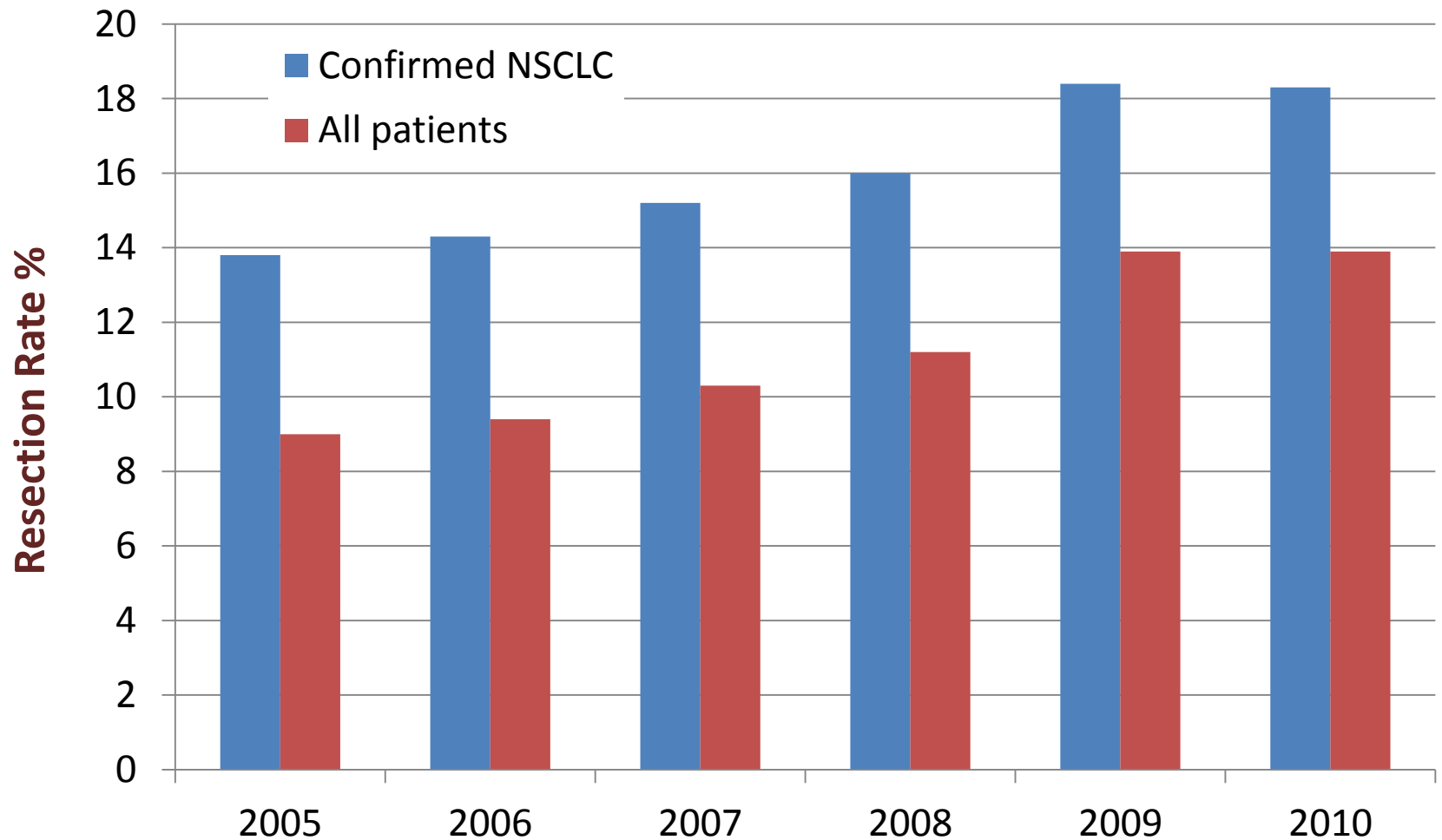


National Lung Cancer Audit (England)

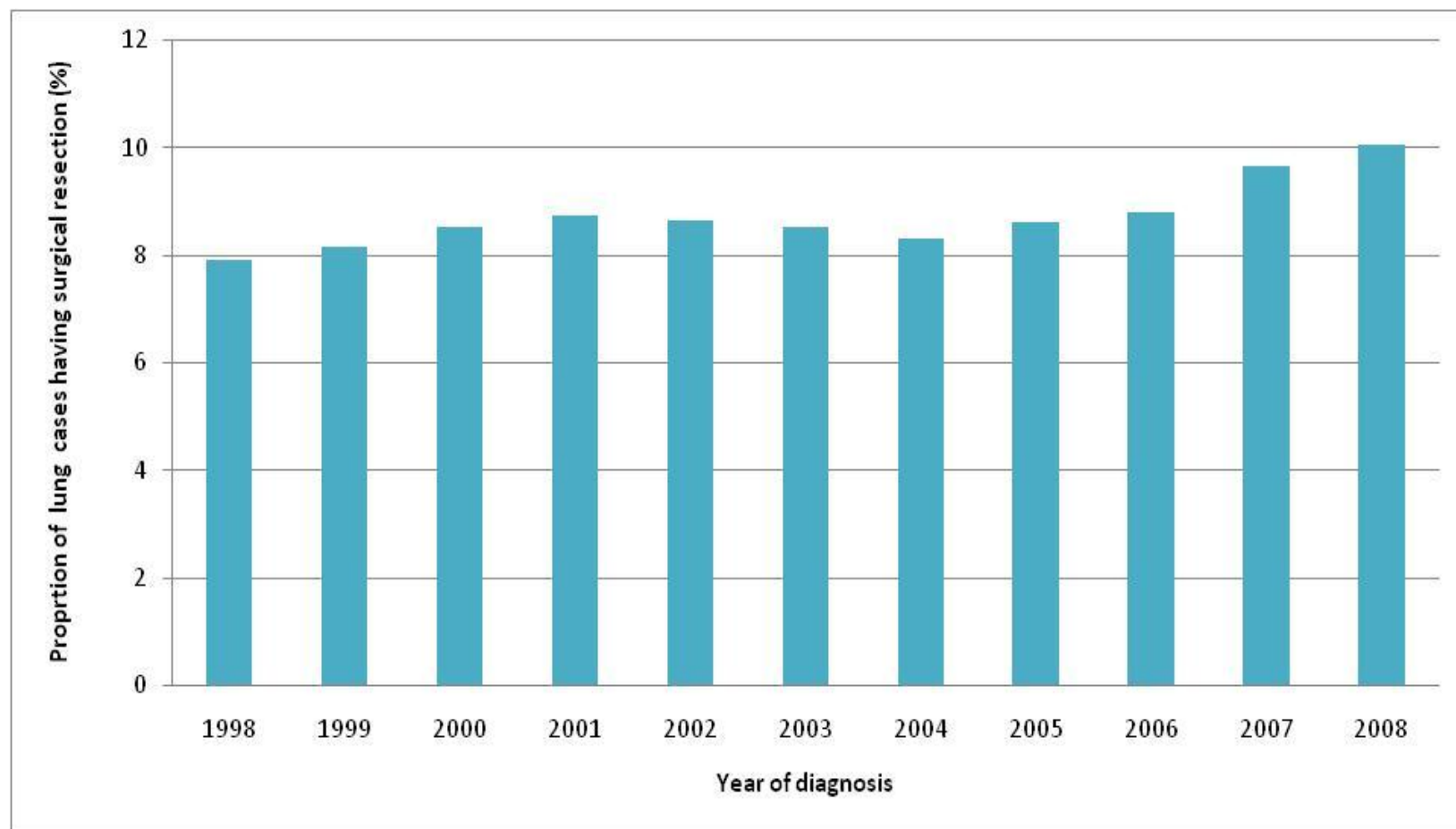
Headline indicators over time

	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	96.1
Tissue confirmation rate (%)	68	66	65	66.7	75.9	76.5
Overall surgical resection rate (%)	9	9.4	10.3	11.2	13.9	13.9
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
Small Cell chemotherapy rate (%)	57.7	61.7	64.5	63.0	65.4	65

Resection rate (England & Wales): National Lung Cancer Audit

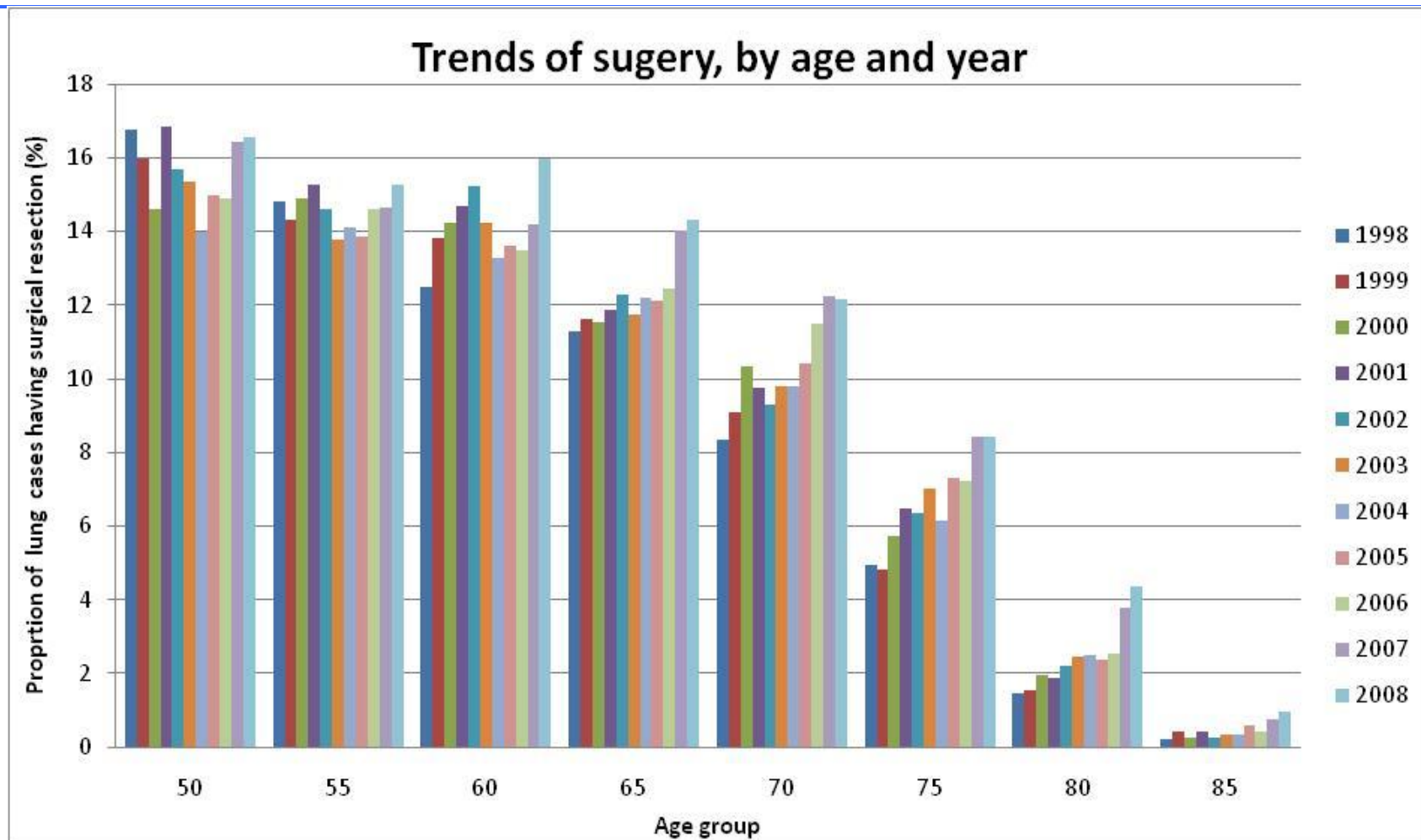


Resection rate: trend by year

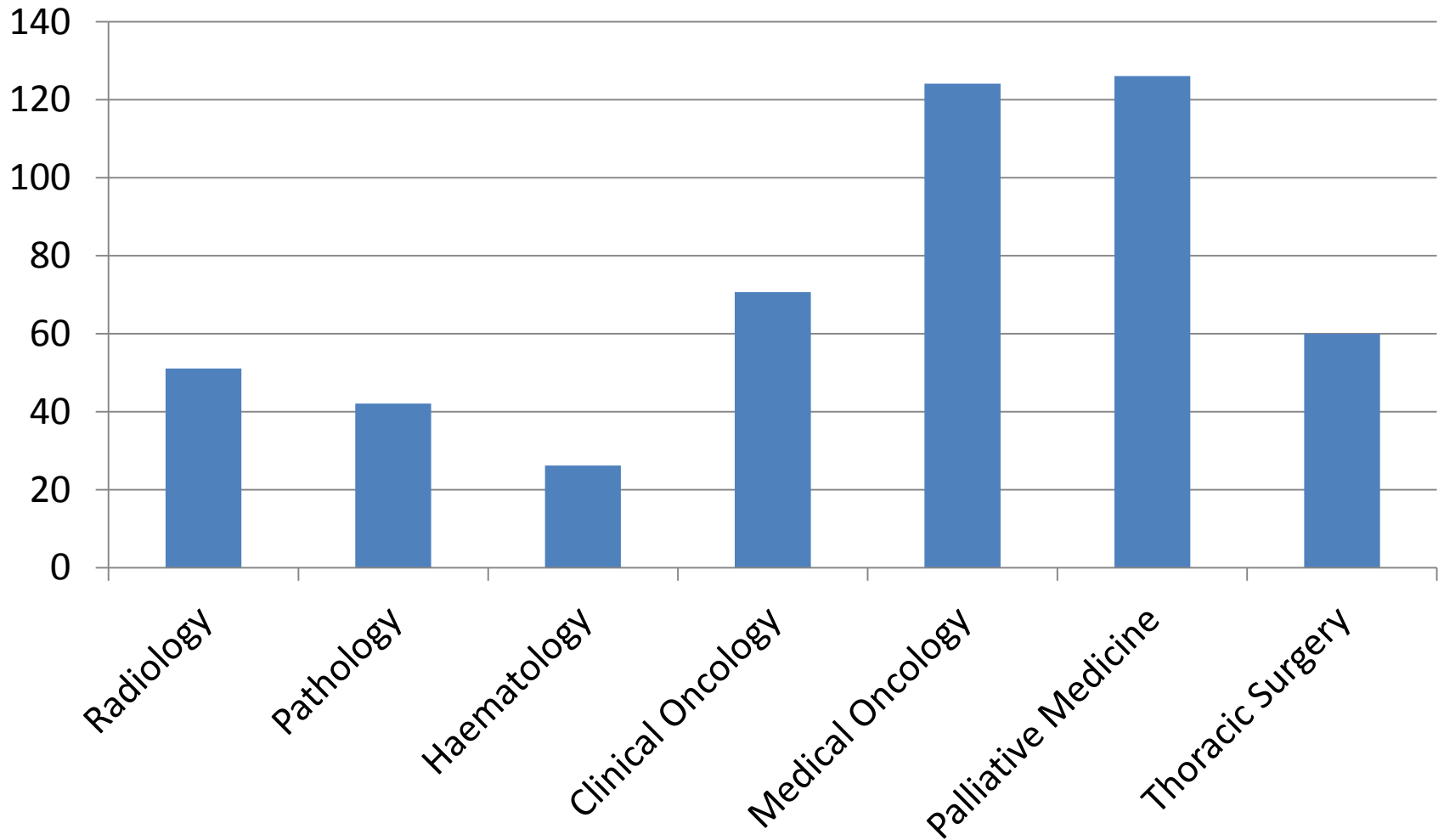


Source: Riaz et al, Thorax; in press

Resection rate: trend by age



% Change in consultant numbers between 2000 and 2010



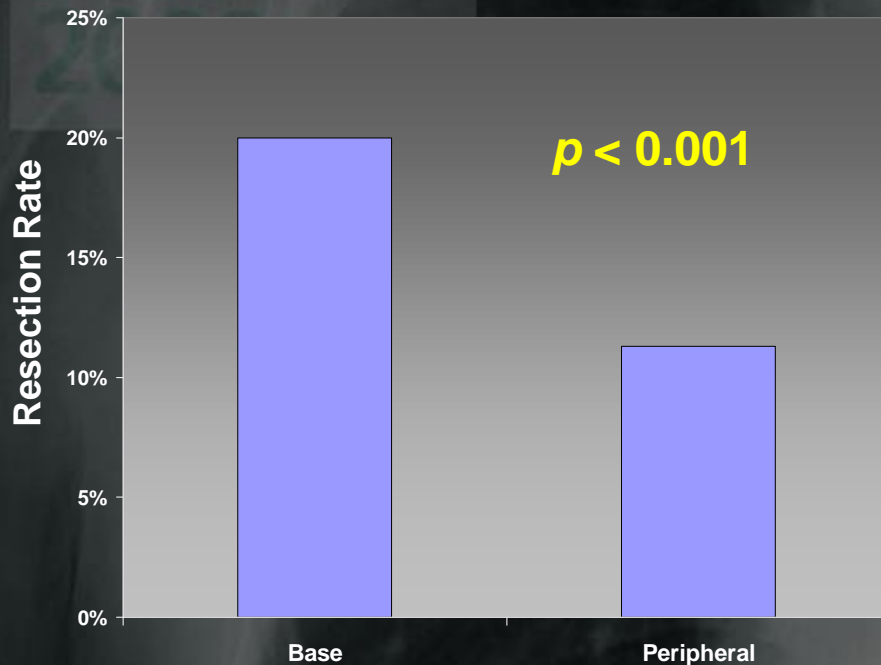
Resection rate for patients with tissue confirmation of NSCLC (2004-2008:England)

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

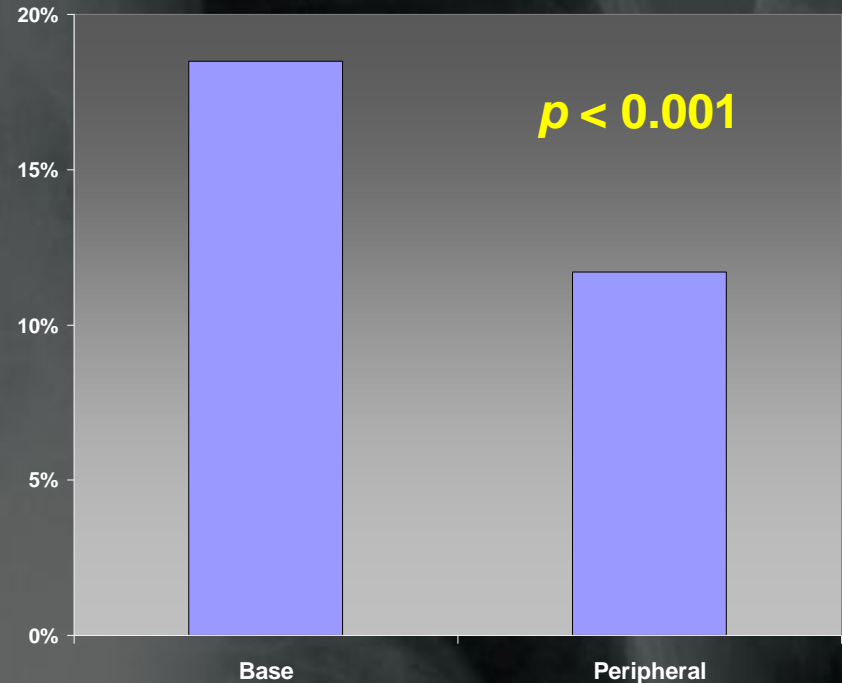
*adjusted for sex, age, PS, stage, deprivation index and Charlson co-morbidity index

Resection rates are higher in base than in referring centres

Across the UK

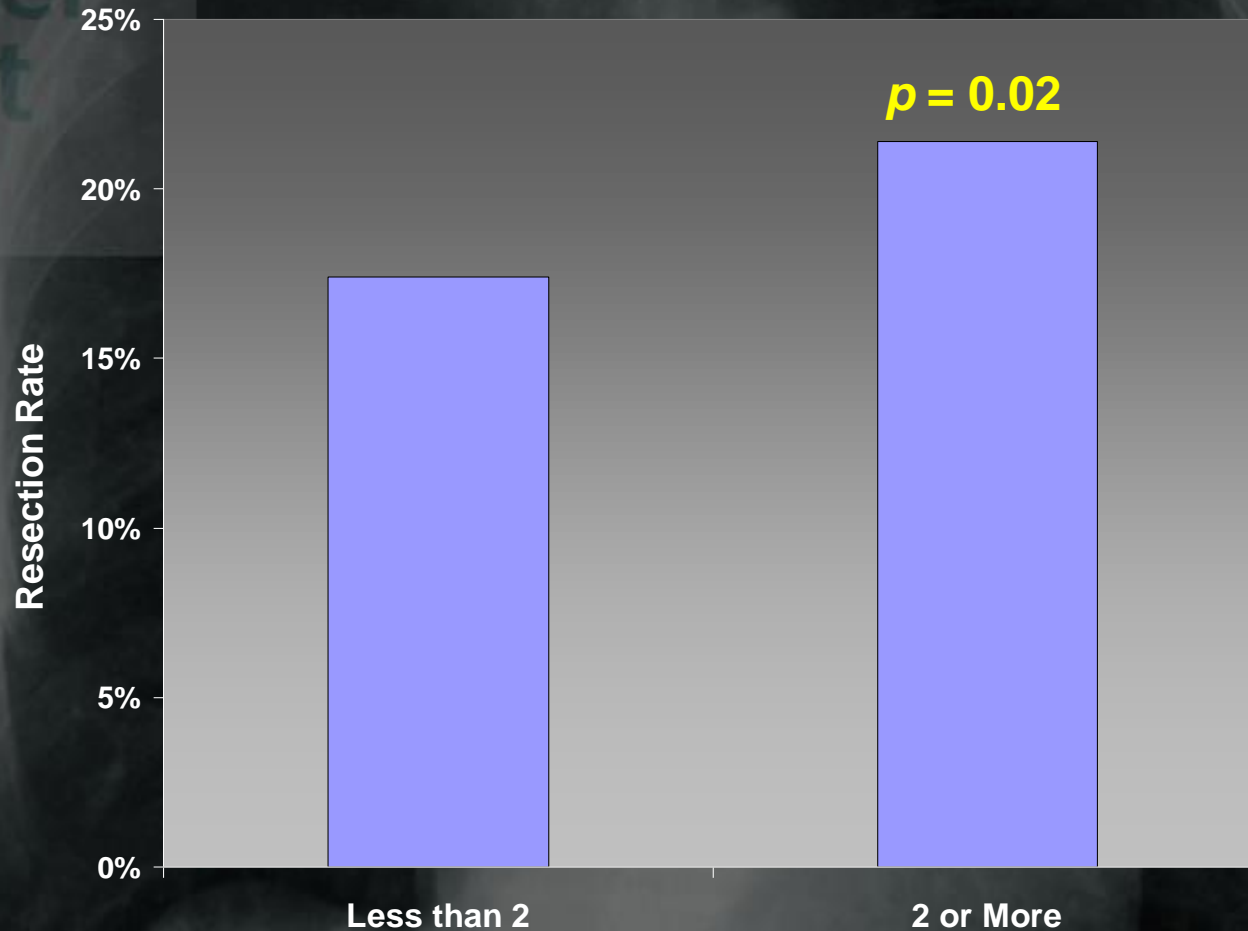


Within each Cancer Network



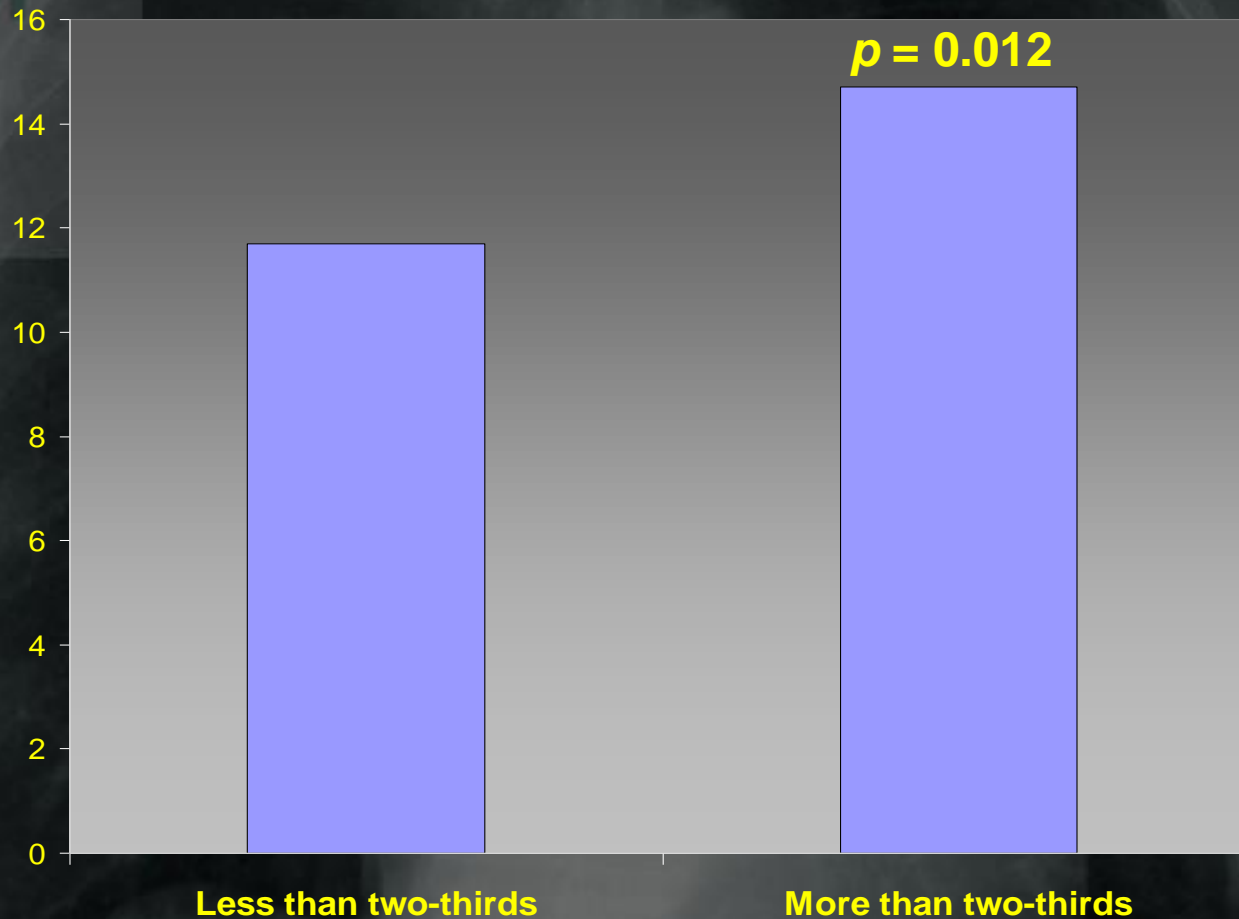
Source: Lau et al; J Thor Onc, 2011:(abstract)

Resection rates are higher in centres with 2 or more specialist thoracic surgeons



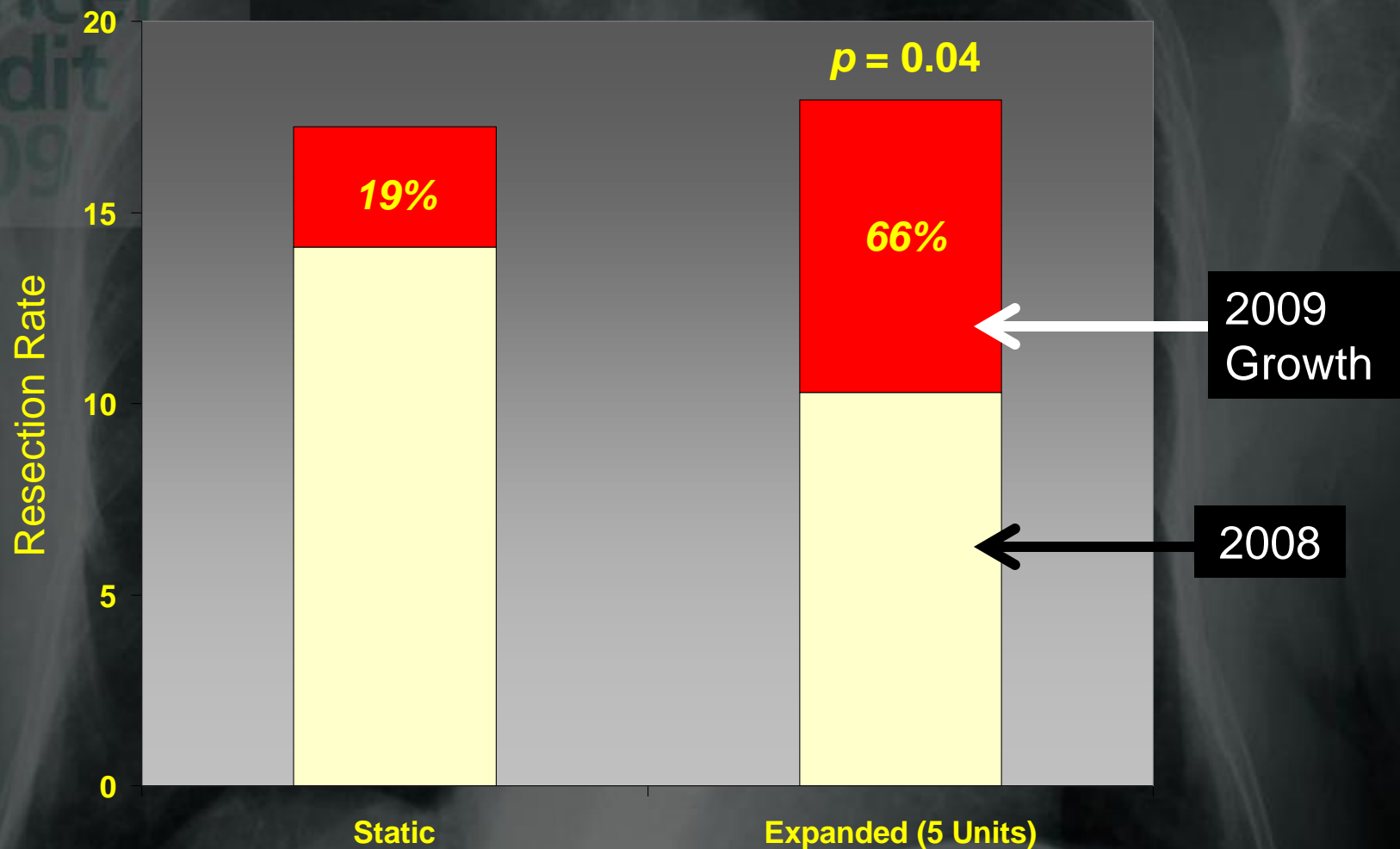
Source: Lau et al; J Thor Onc, 2011:(abstract)

Resection rates are higher when surgeons attend preoperative MDTs



Source: Lau et al; J Thor Onc, 2011:(abstract)

The increase in resection rate was greatest in those units who employed new thoracic surgeons



Source: Lau et al; J Thor Onc, 2011:(abstract)

Surgical Resection Rate - Leicester

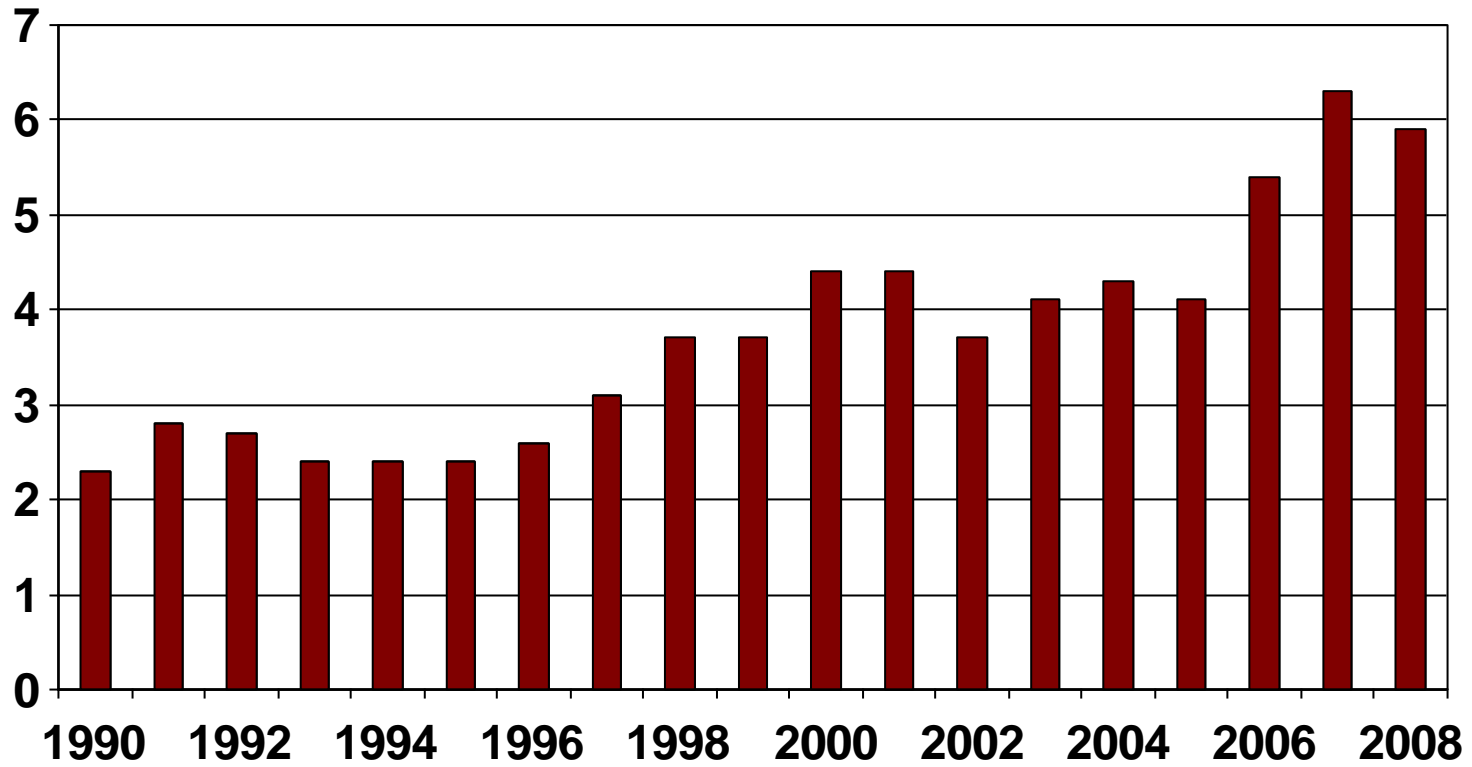
	Surgical Numbers	Resection Rate for confirmed NSCLC	Resection Rate for all Lung Cancers
1994-1996*	65	12.2	4.5
1997-1999*	175	23.4	12.0
2002	45	19.9	12.7
2003	58	21.0	13.8
2004	60	20.8	13.5
2005	89	30.4	20.6
2006	94	31.1	19.3
2007		23.5	17.4
2008		33.3	22.2
2009		22.7	15.8
2010		23.7	16.3

* A Martin-Ucar et al. Lung Cancer. 2004; 46:227-232

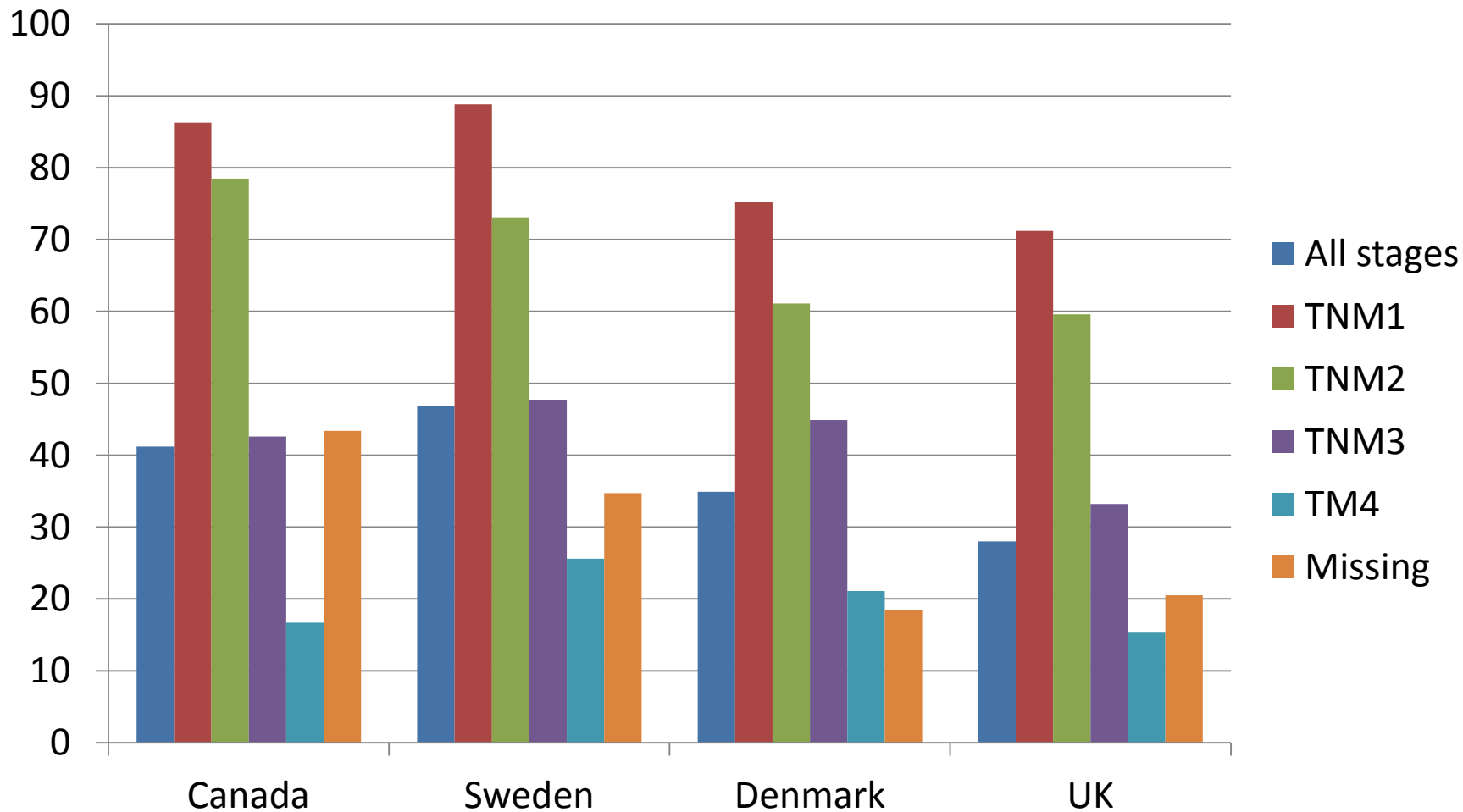
Leicester: Median survival by year of diagnosis

■ MS (months)

P < 0.001

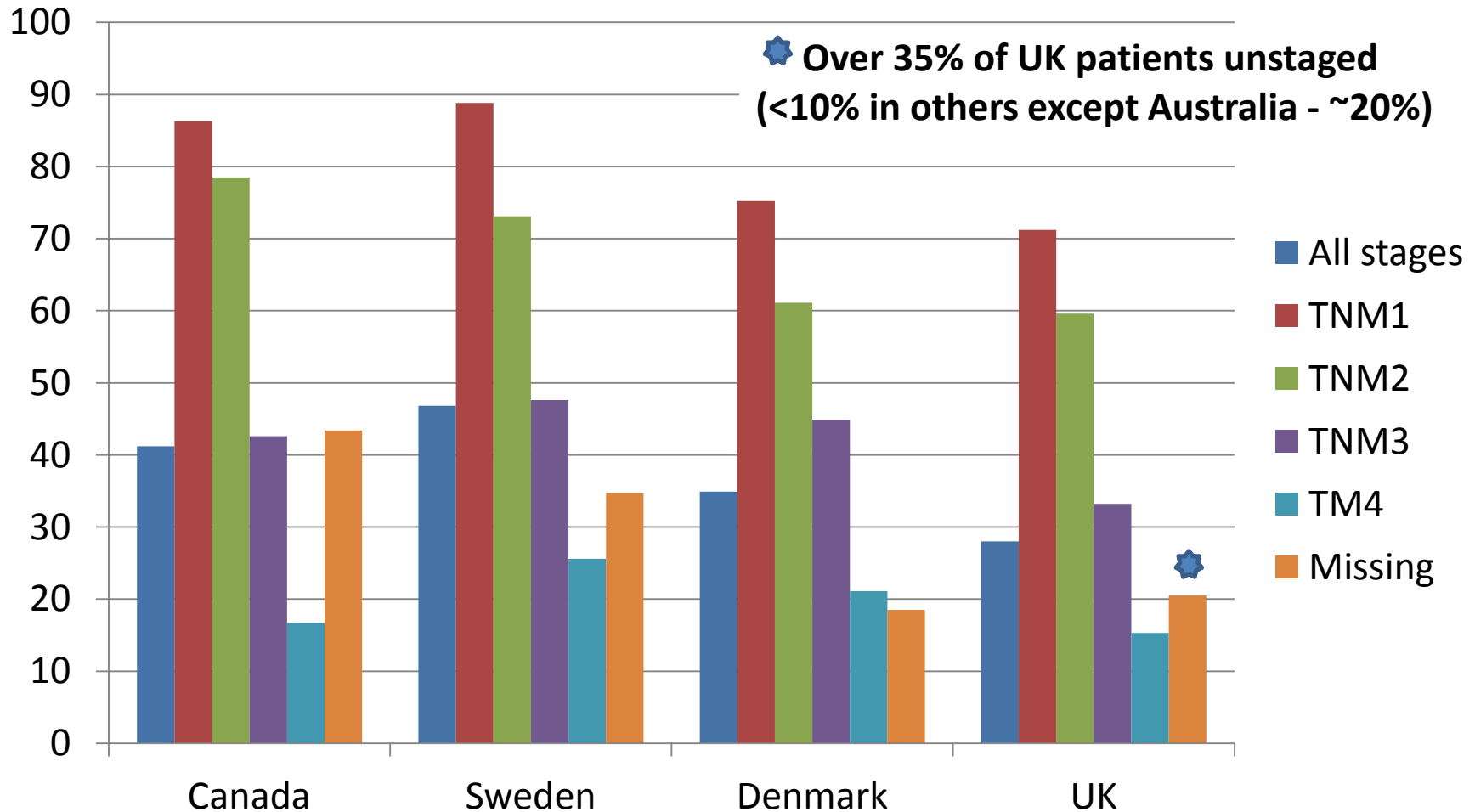


1yr survival in lung cancer patients diagnosed 2000-2007 by stage



Source: International Cancer Benchmarking Partnership:
Walters, Maringe, Rachet, Coleman et al (in preparation)

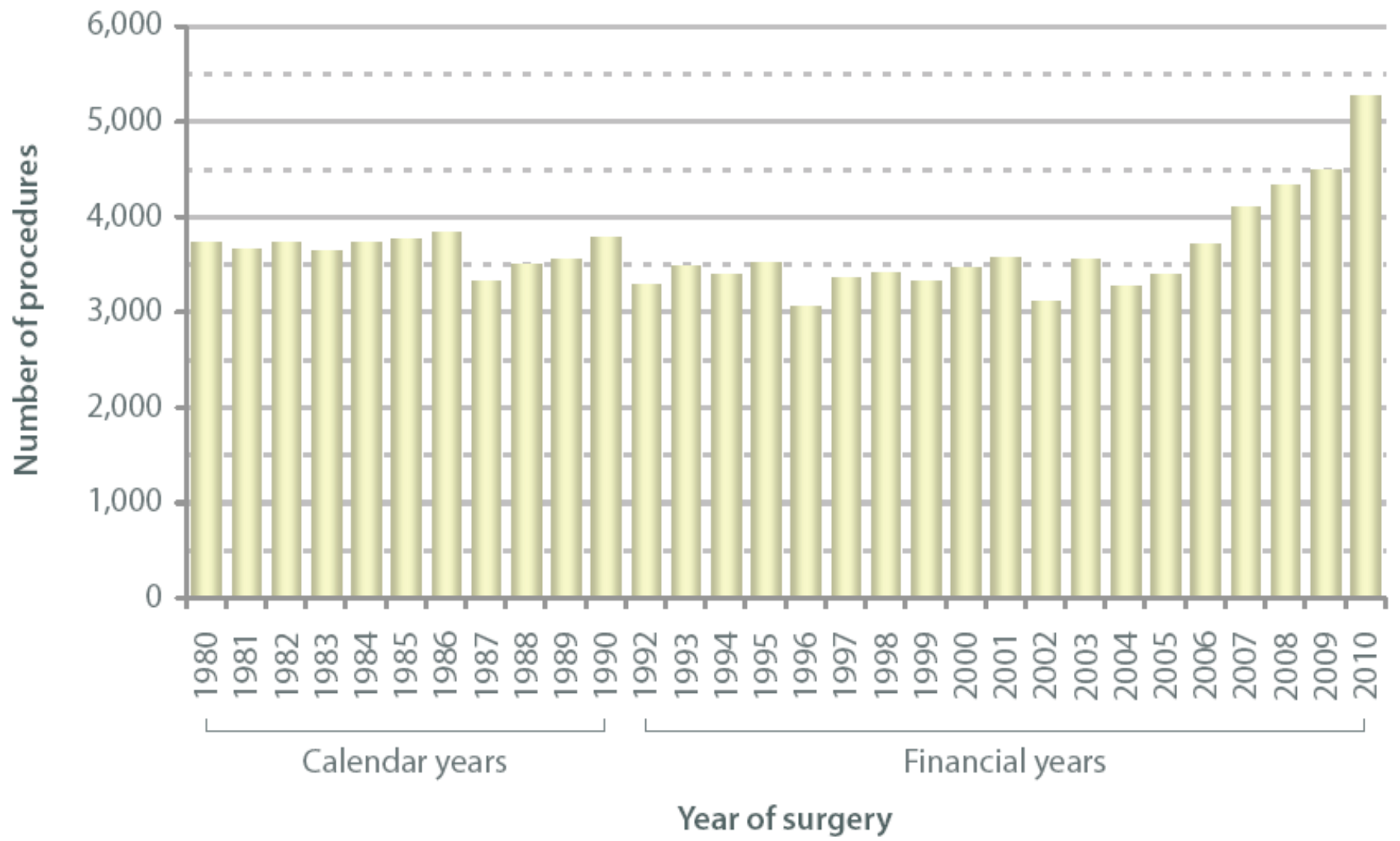
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Fig. 1.A.8

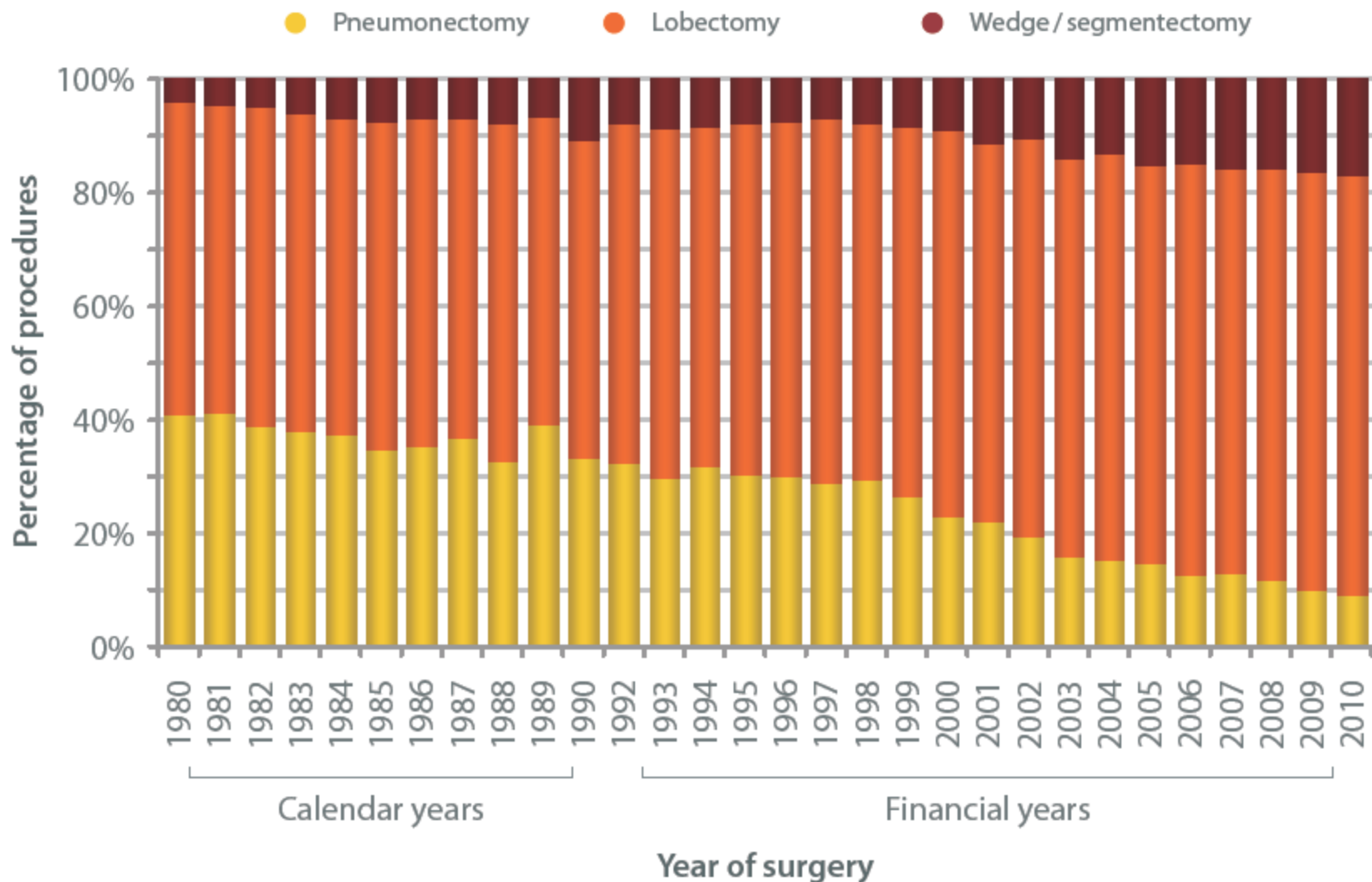
Primary lung cancer resections (n=109,388)



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

Fig. 1.A.10

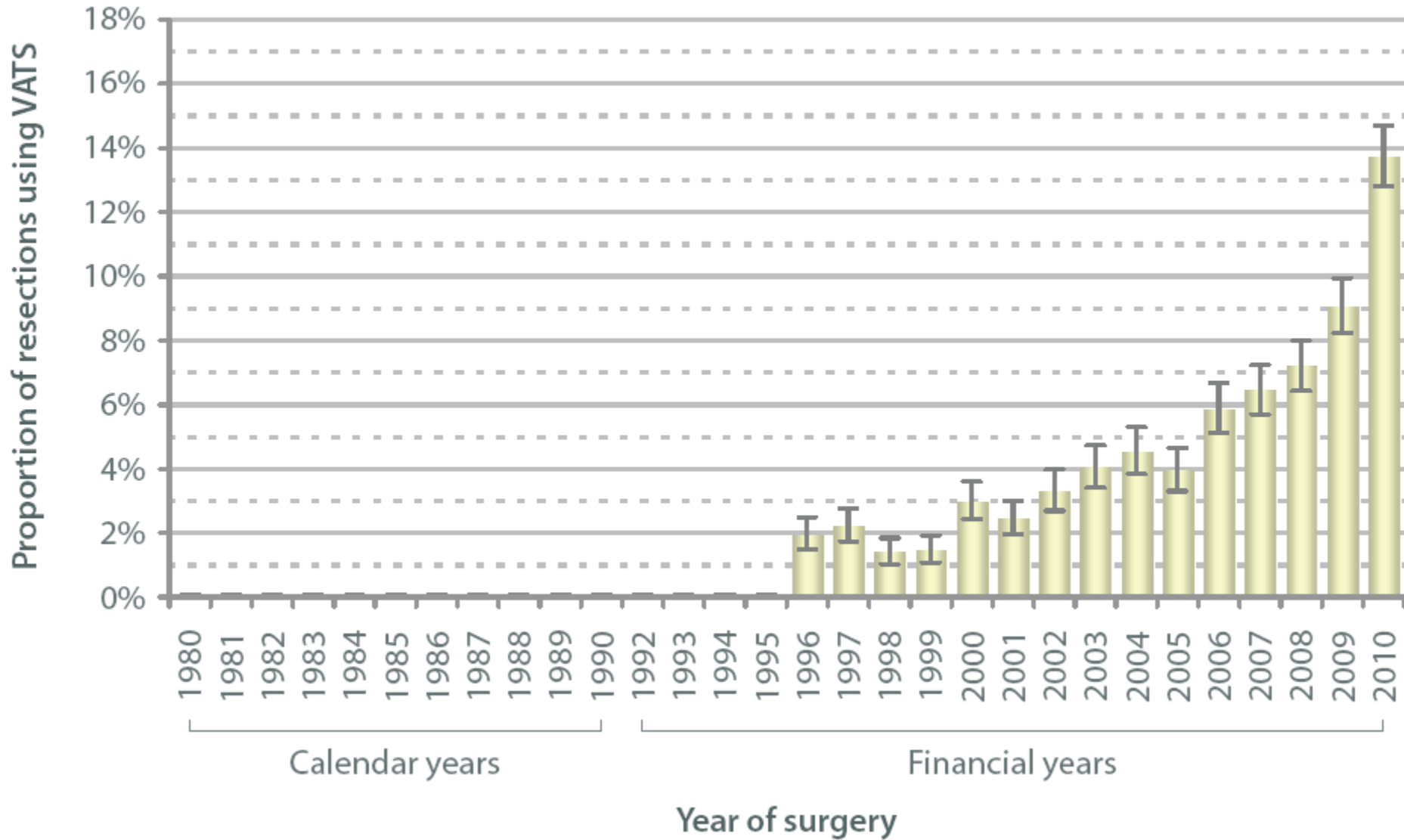
Type of resection for primary lung cancer (n=107,502)



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

Fig. 1.A.15

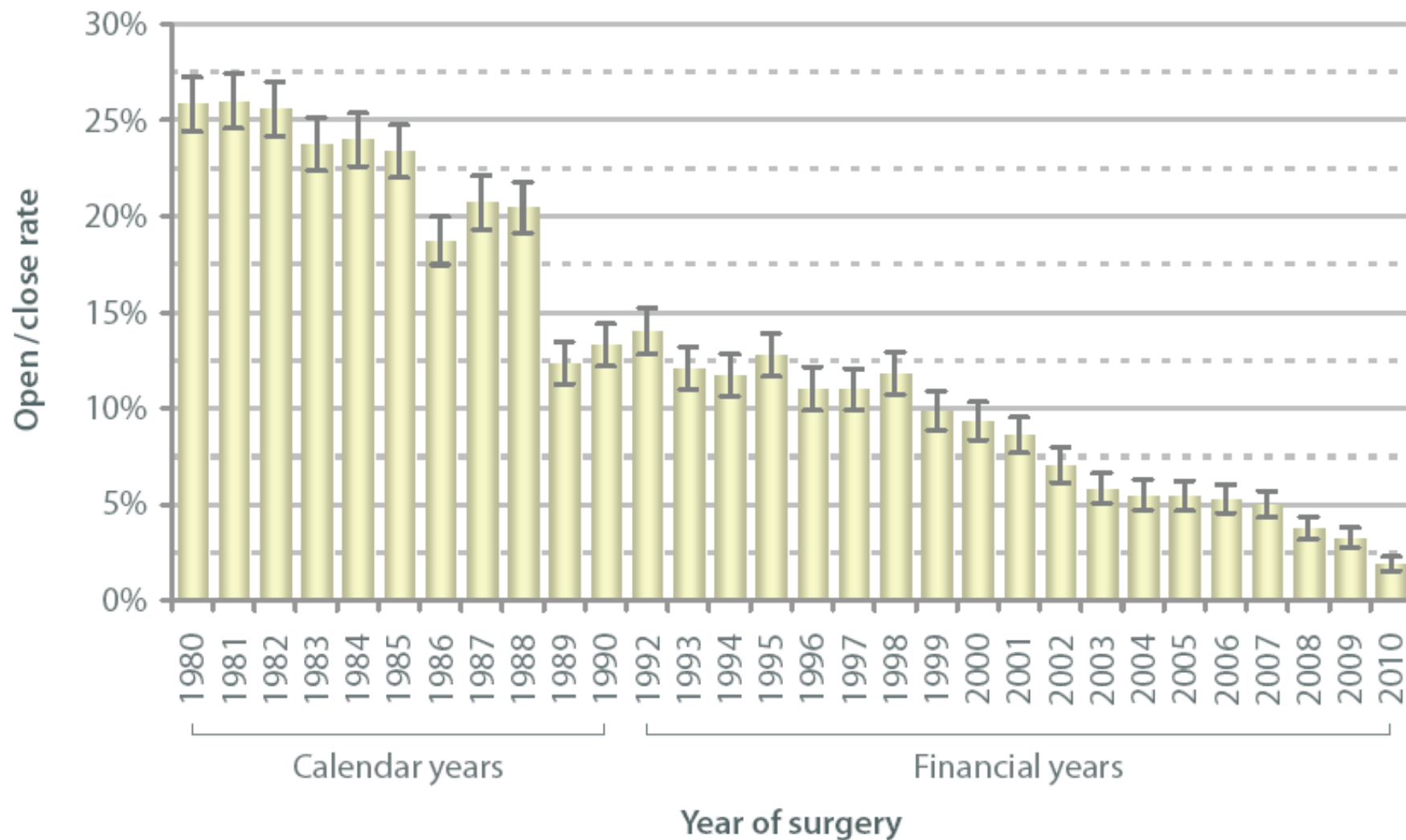
Primary cancer: the use of VATS (n=109,388)



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

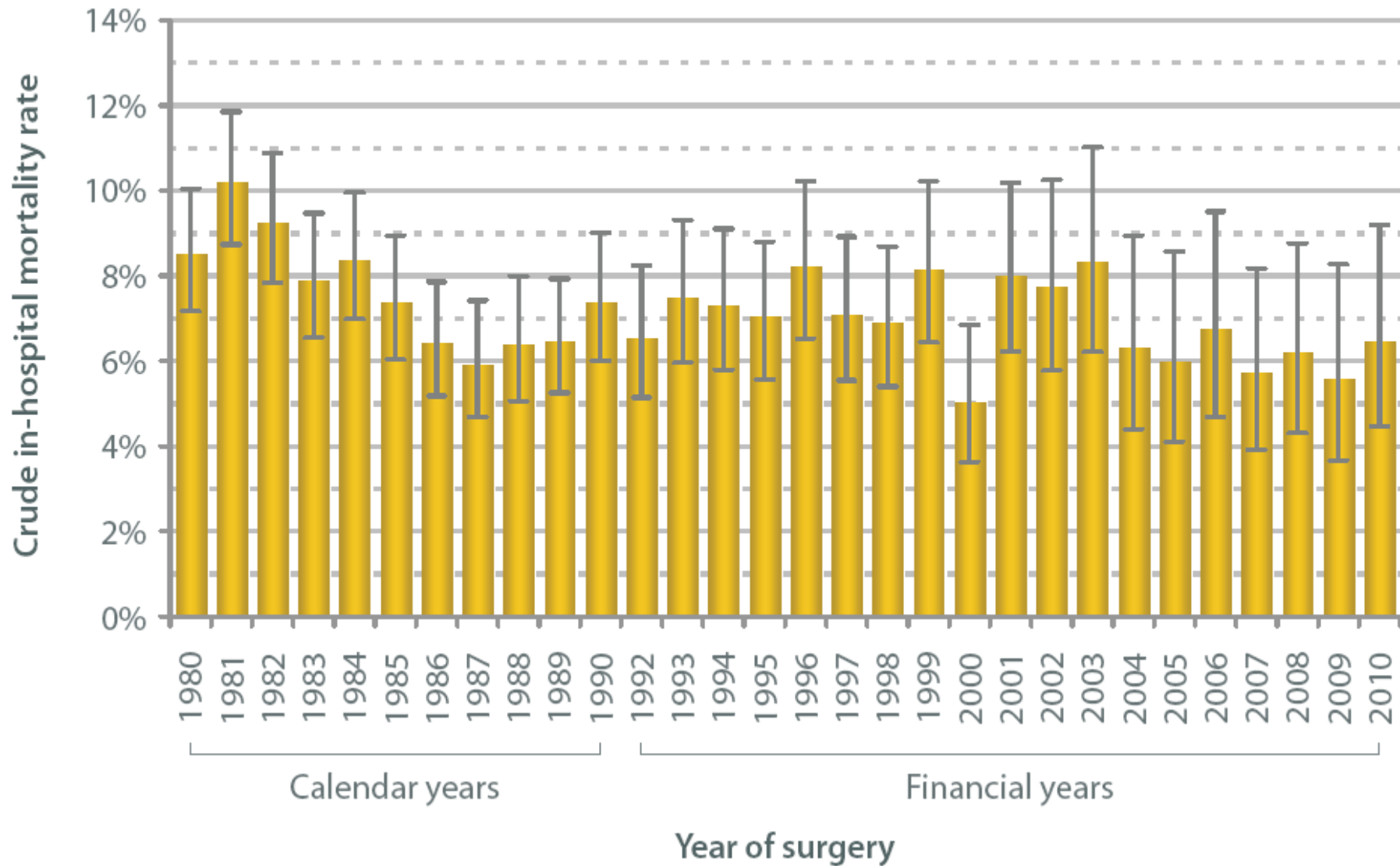
Fig. 1.A.11

Surgery for primary lung cancer: open / close rate (n=109,388)



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

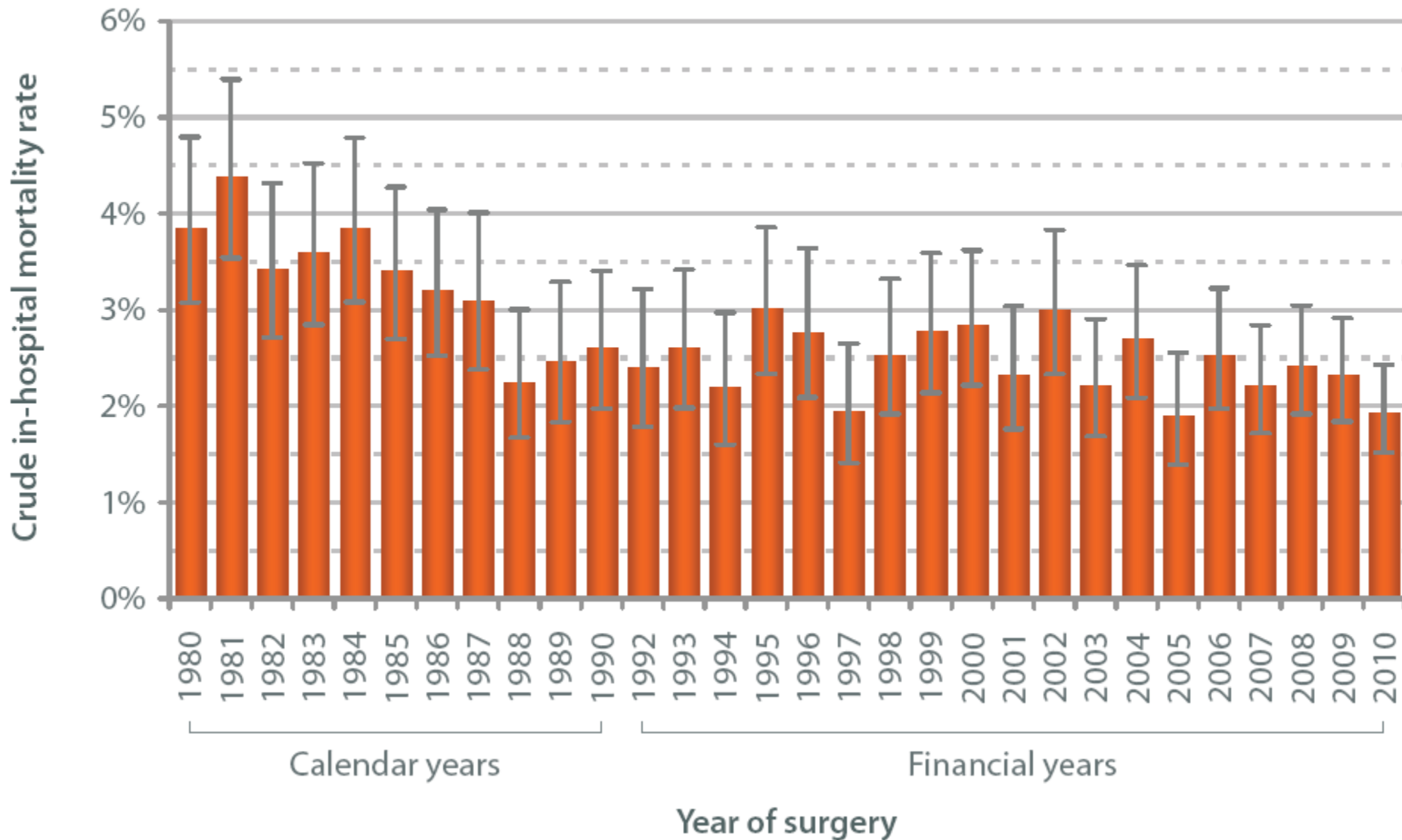
Fig. 1.A.12 **Crude in-hospital mortality rate following pneumonectomy for primary cancer (n=28,733)**



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

Fig. 1.A.13

Crude in-hospital mortality rate following lobectomy for primary cancer (n=68,208)



Source: R Page, Society of Cardiothoracic Surgeons Audit 2011

'New' data

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Conclusions

- Rapid recent increase in availability of data on surgical practice and outcomes
- More work needed on relationship of treatment rates and survival (not only surgery)
- There remains a need for more specialist thoracic surgeons
- Increasing resection rates in older patients prompt questions about patient-reported outcome measures
- We need to use these data in discussions with local service providers and commissioners