

# National Lung Cancer Audit

*Past, Present and Future*

Dr Paul Beckett

# Outline

- The past
- The present
- The future

Past

# Measuring Outcomes and Quality

**“In God we trust. All others bring data.”**

*W. E. Deming*



**“We can only be sure to improve what we can actually measure.”**

*Lord Darzi, High Quality Care for All, June 2008*



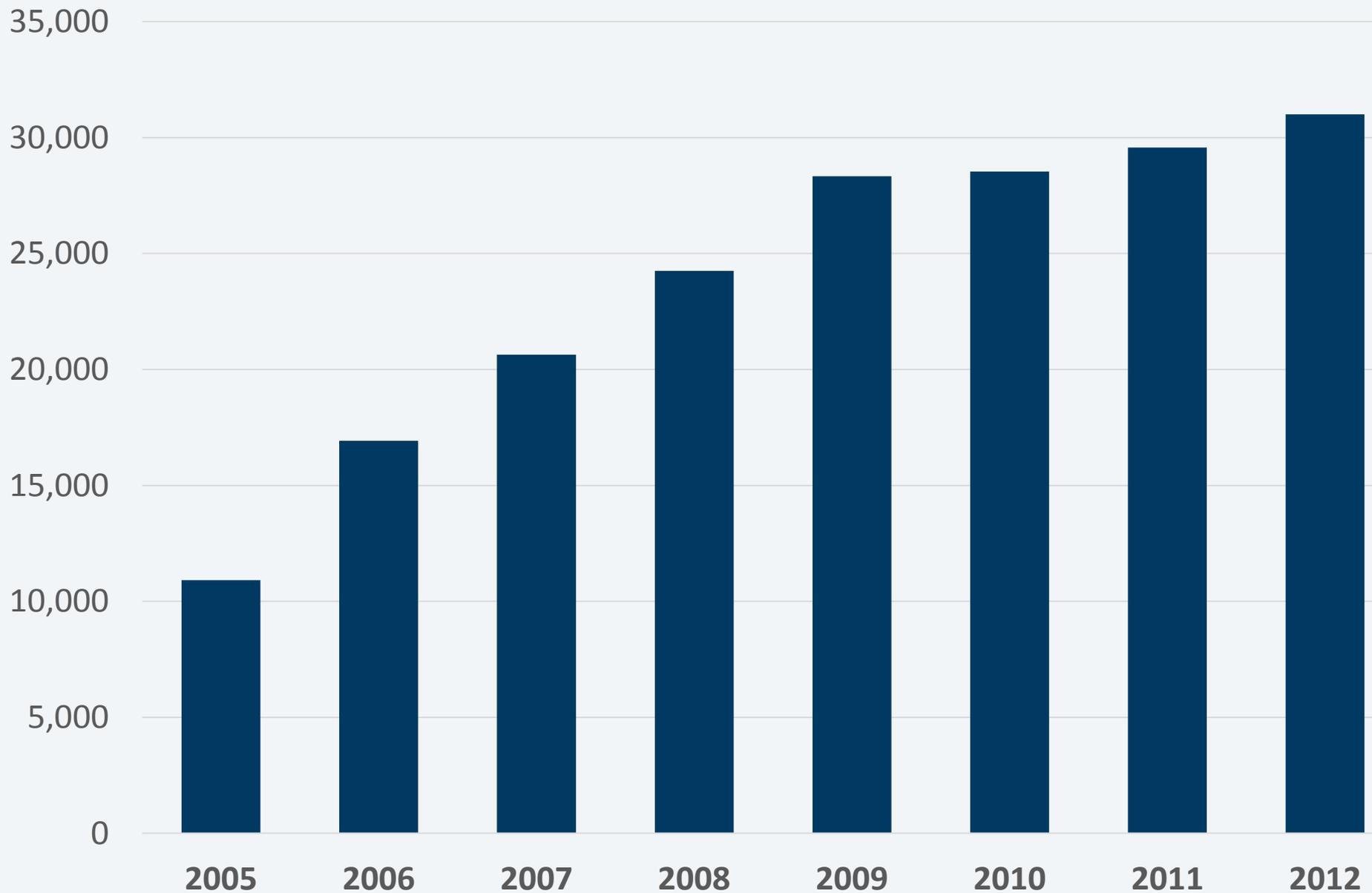
**224,120**

**case records**  
on the NLCA database  
from England alone

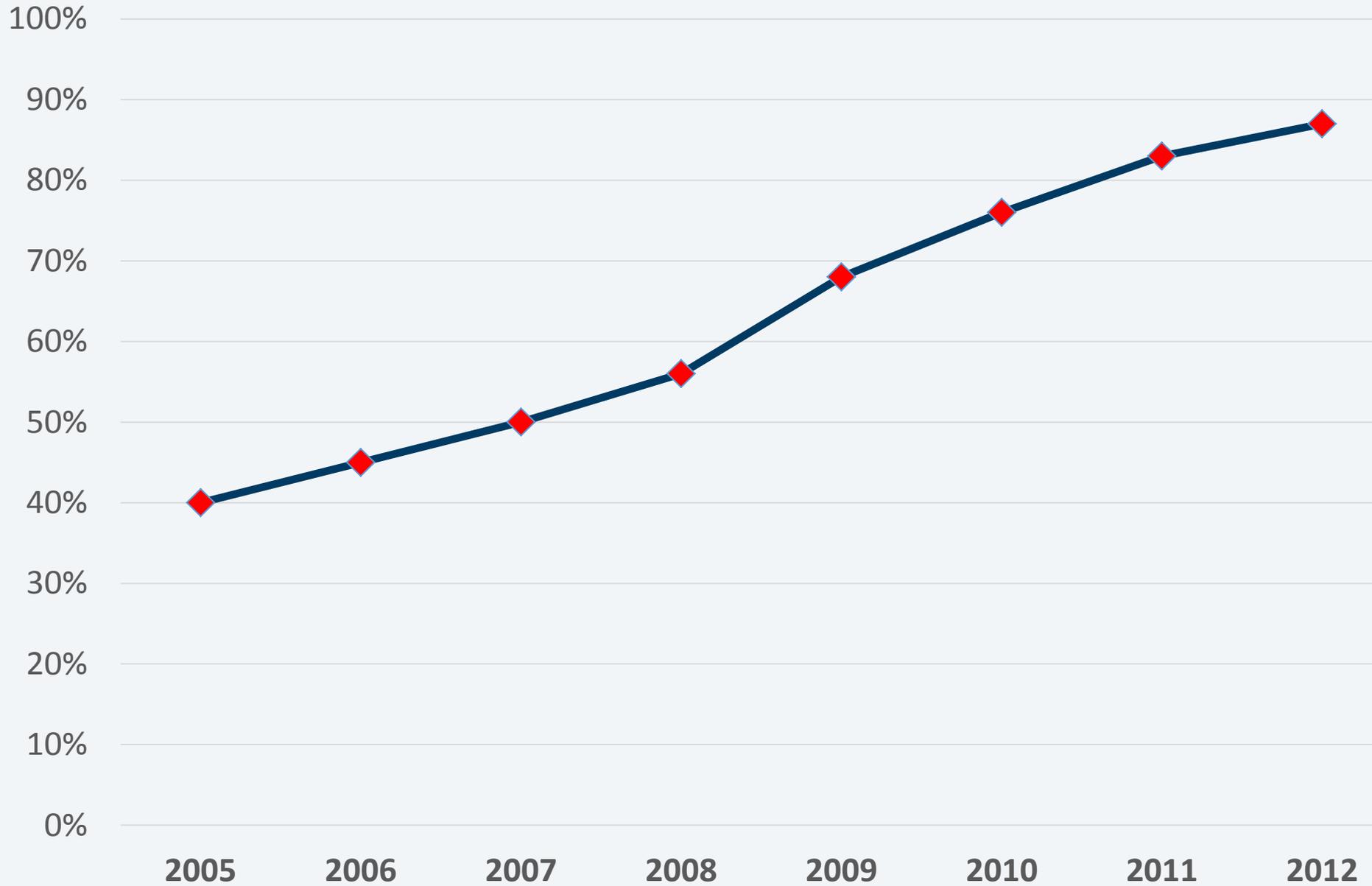
**100%**

of secondary care  
trusts in England,  
Scotland and Wales

# Lung Cancer - Cases from 2005-2012



# Recording of Stage and PS



## Radiotherapy



2008	2012
25%	30%

↑ 5%

## Surgery



2008	2012
10%	15%

↑ 5%

## Chemotherapy



2008	2012
27%	32%

↑ 5%

**12**

**Peer-reviewed  
publications**

Using NLCA data

**50**

**National/International  
abstracts**

Presented by the project team

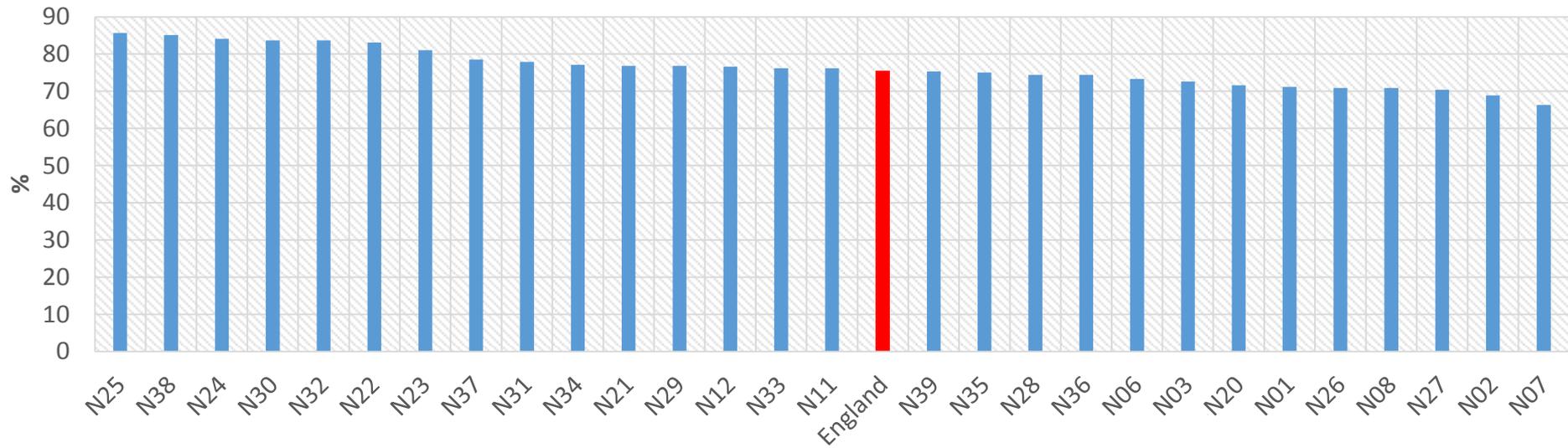
**100** **s**

**Service improvement  
projects**

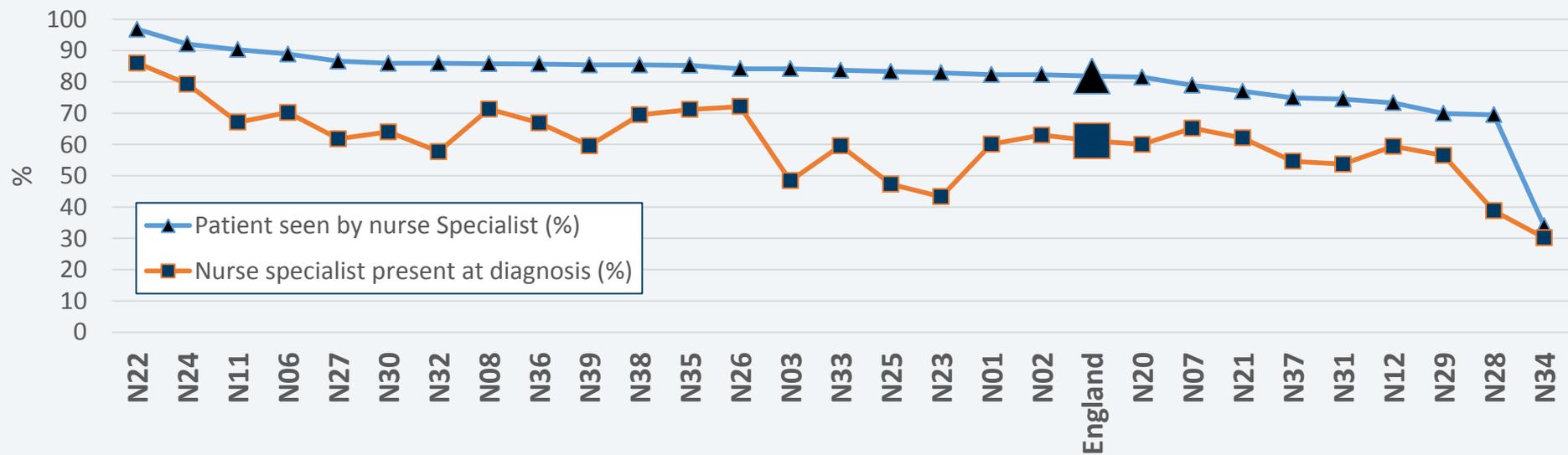
Based on NLCA results

Present

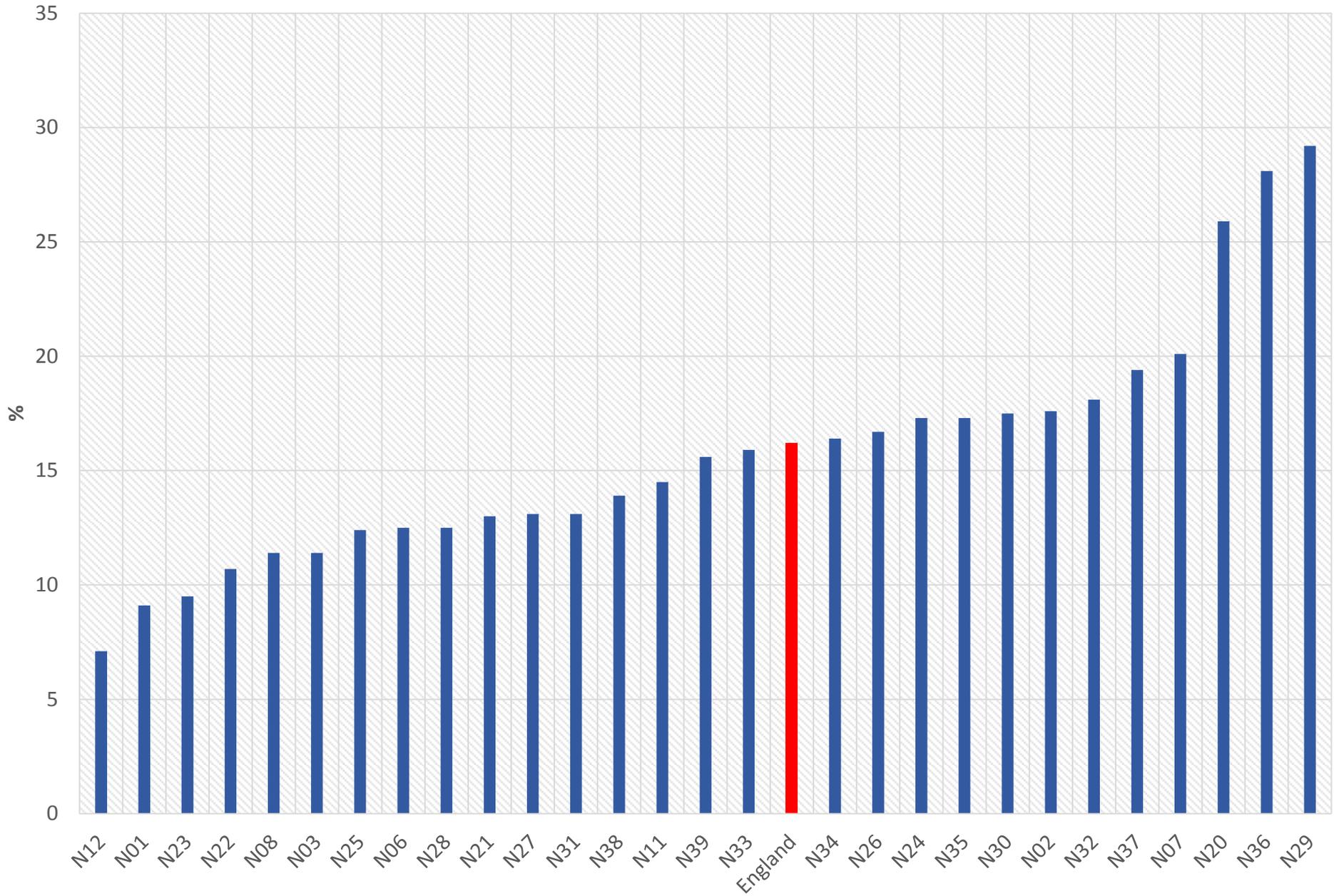
# Histo-cytological Confirmation Rate by Network (2012)



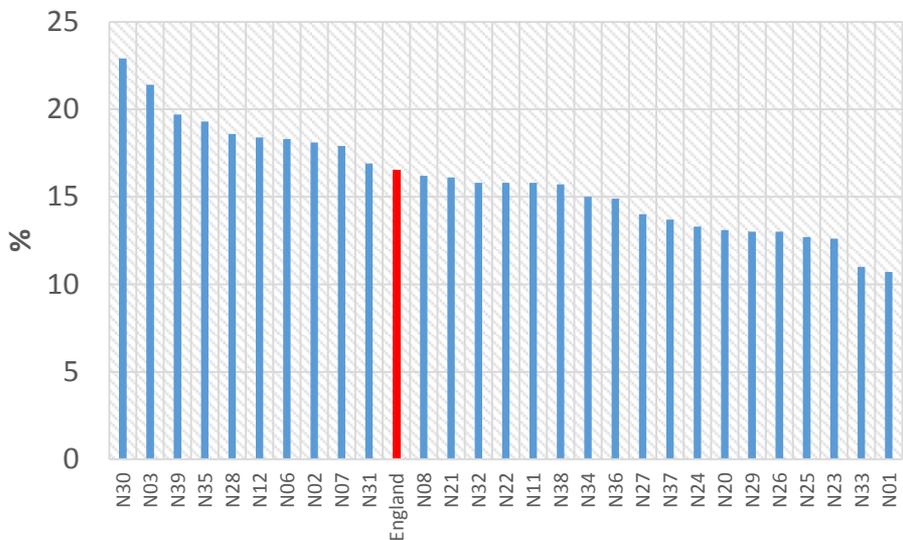
# Lung Cancer Specialist Nurse Input by Network (2012)



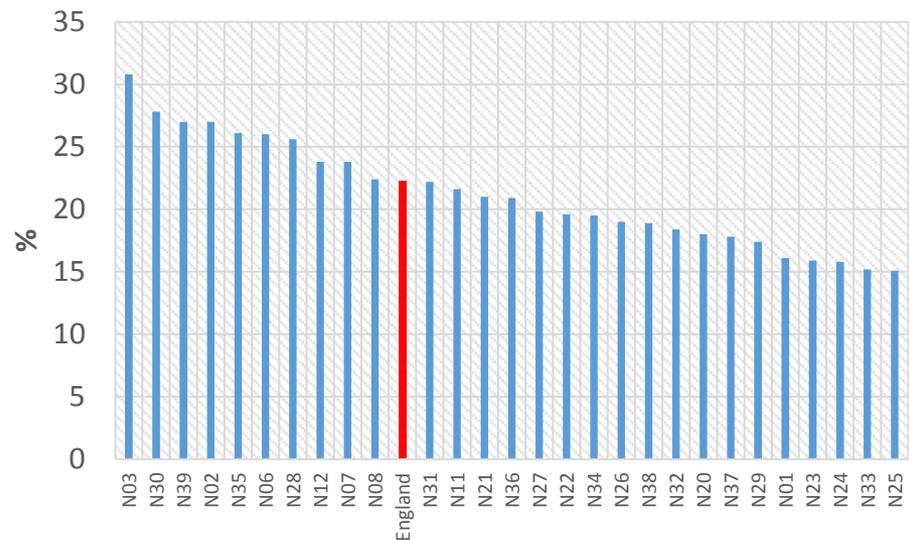
# NSCLC 'NOS' Rate by Network (2012)



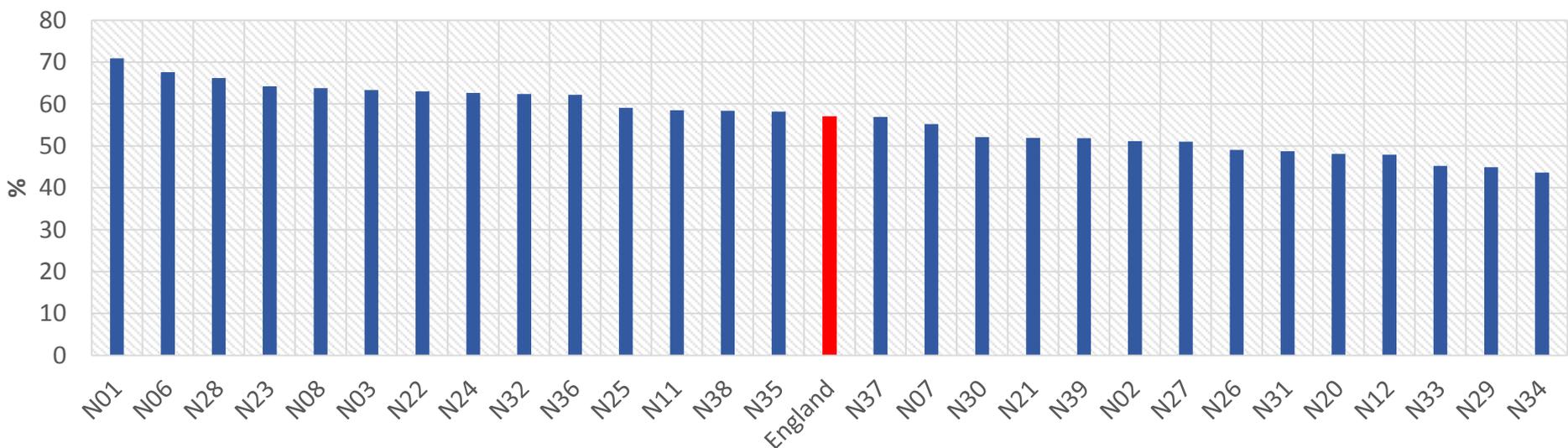
NSCLC Having Surgery by Network (2012)



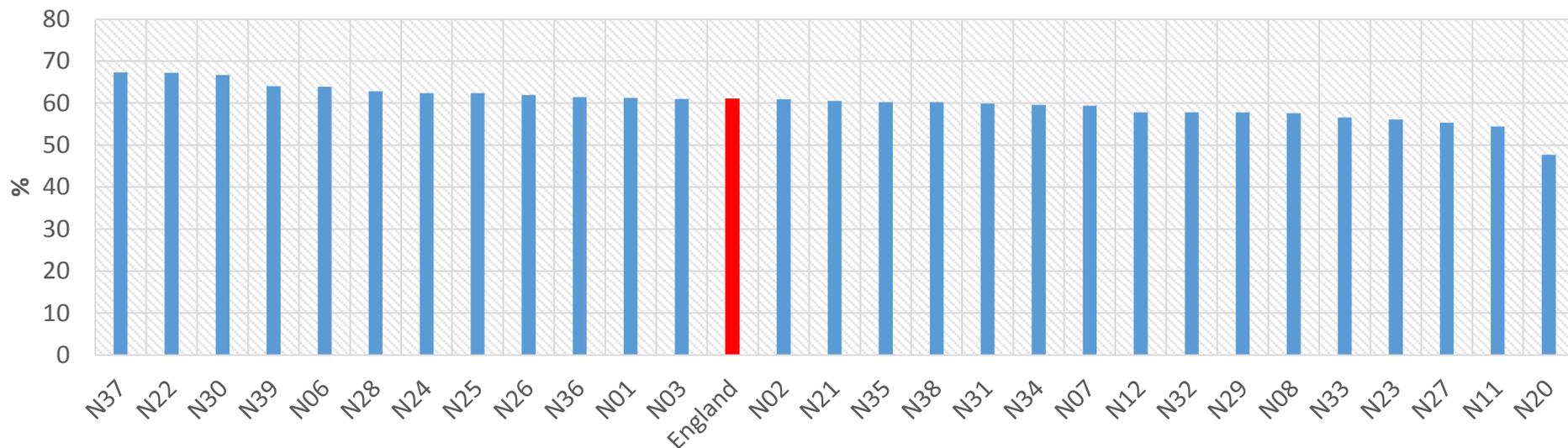
Confirmed NSCLC Having Surgery by Network (2012)



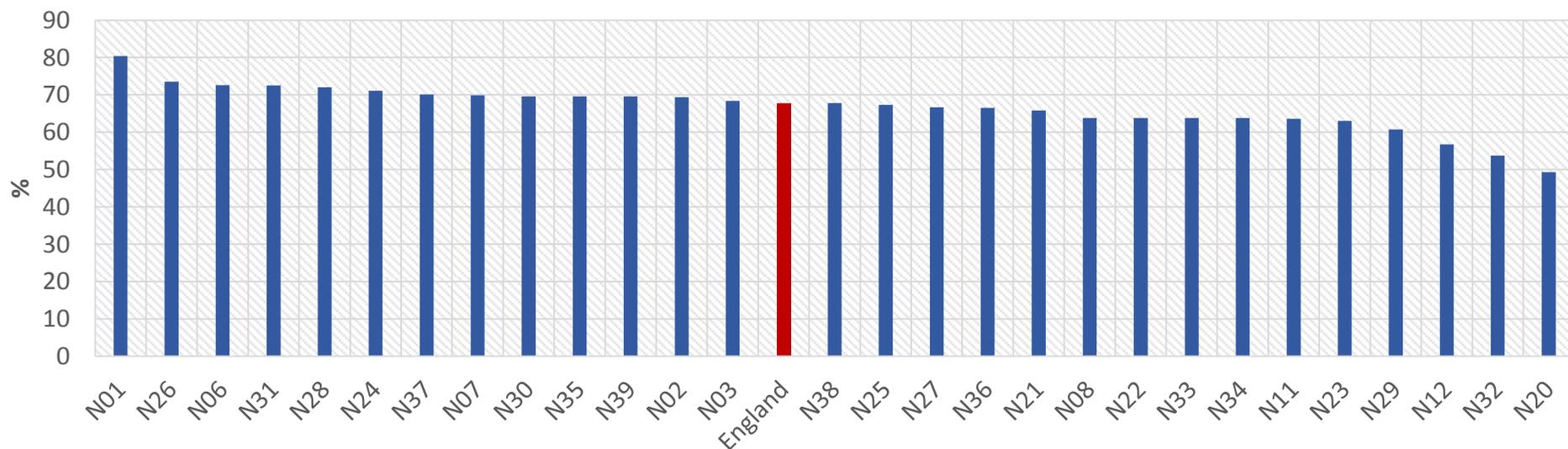
Use of Chemotherapy in IIIB/IV PS 0-1 NSCLC by Network (2012)



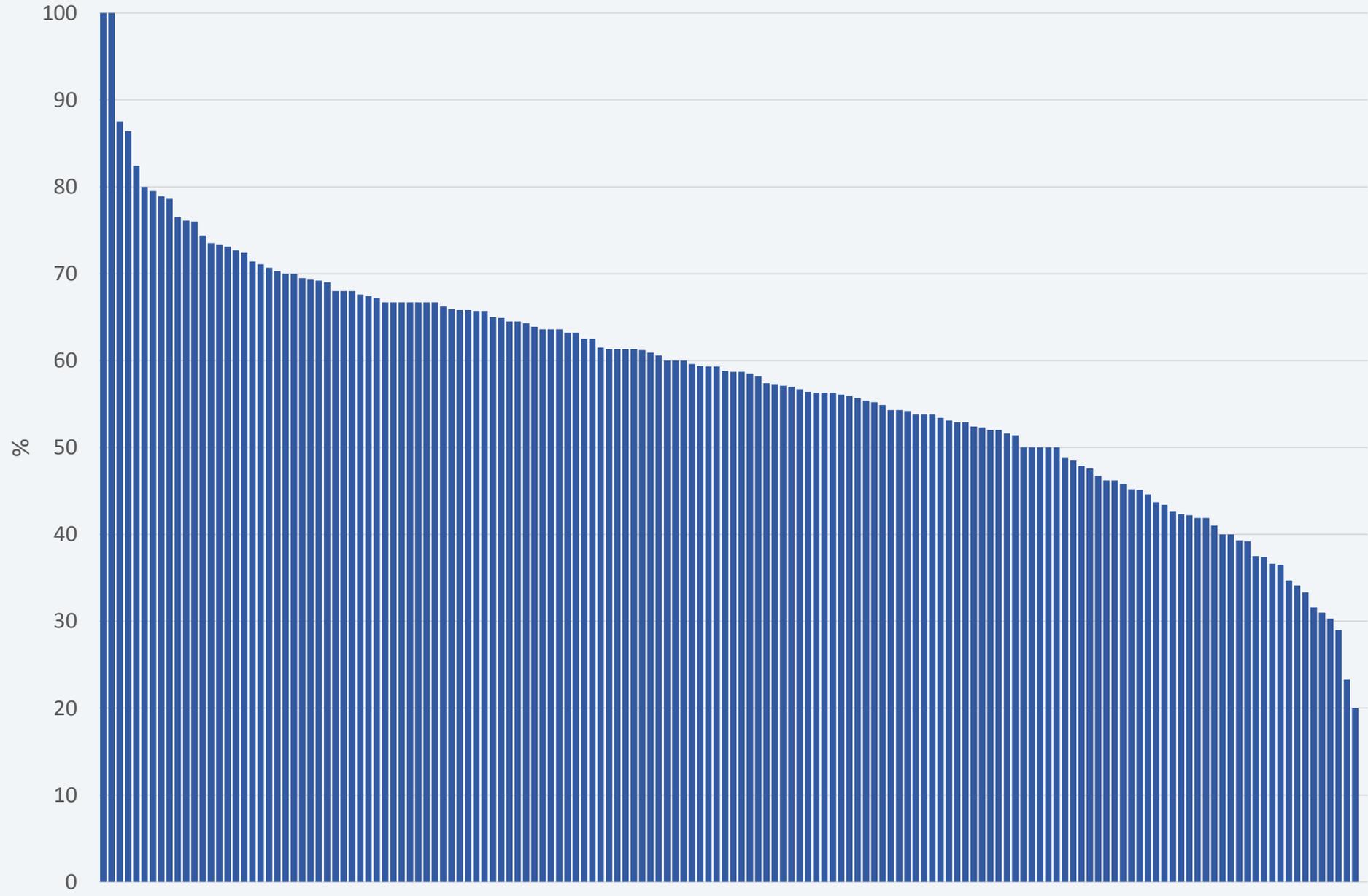
## NSCLC Having Anti-Cancer Treatment by Network (2012)



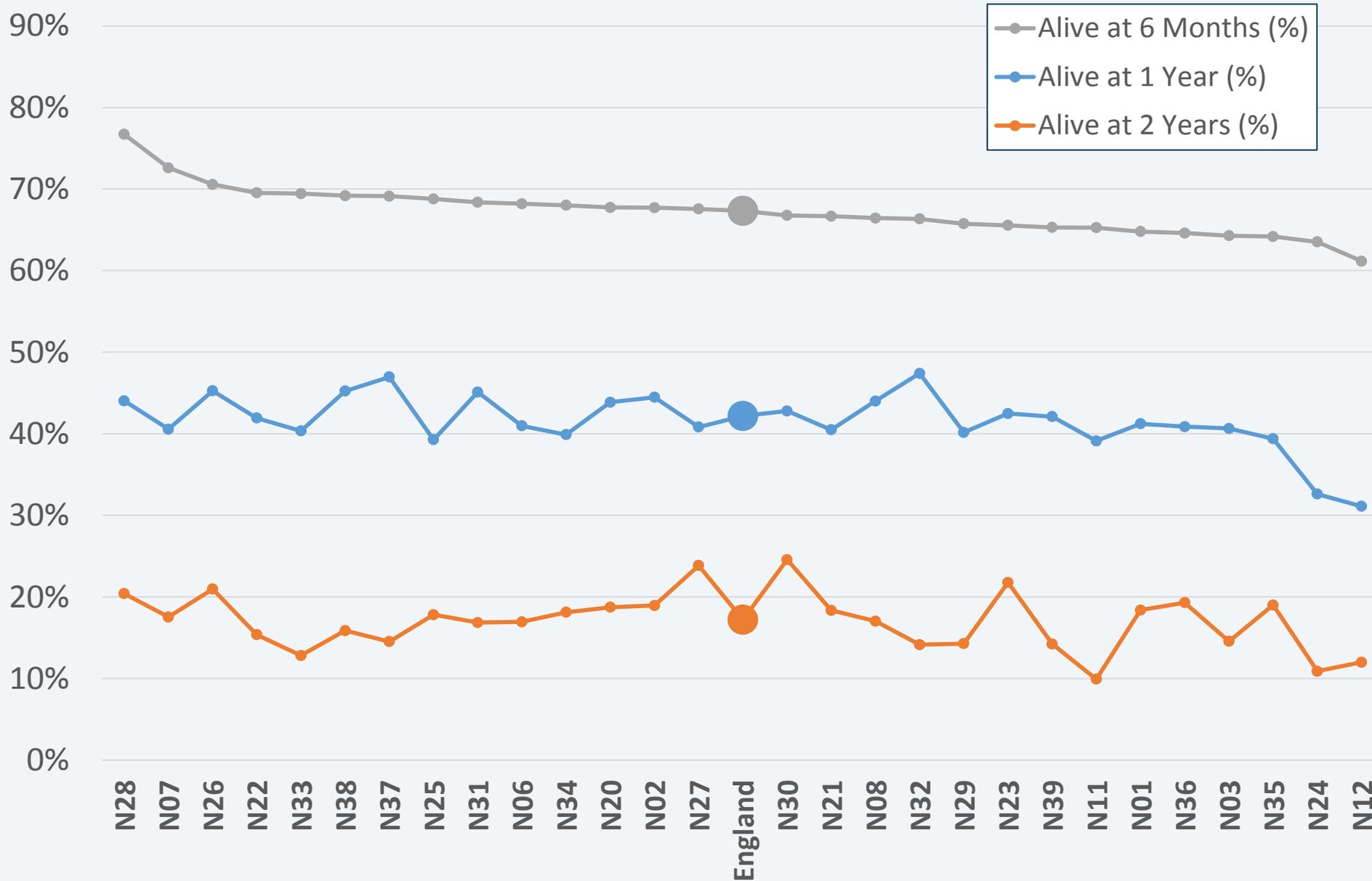
## Use of Chemotherapy in SCLC by Network (2012)



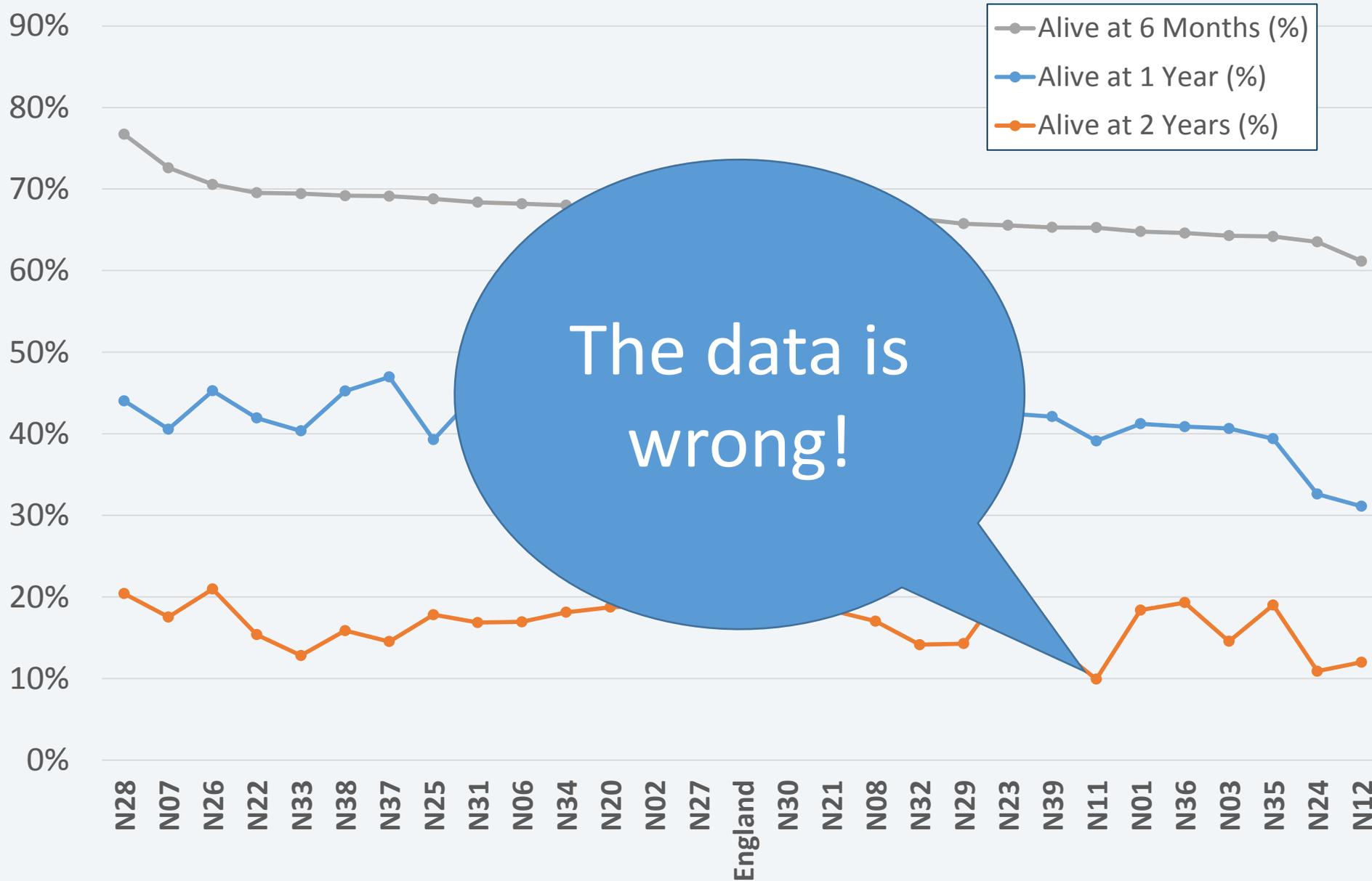
# Use of Chemotherapy in IIIB/IV PS 0-1 NSCLC by Trust (2012)



# Mesothelioma Survival 2008-2012



# Mesothelioma Survival 2008-2012

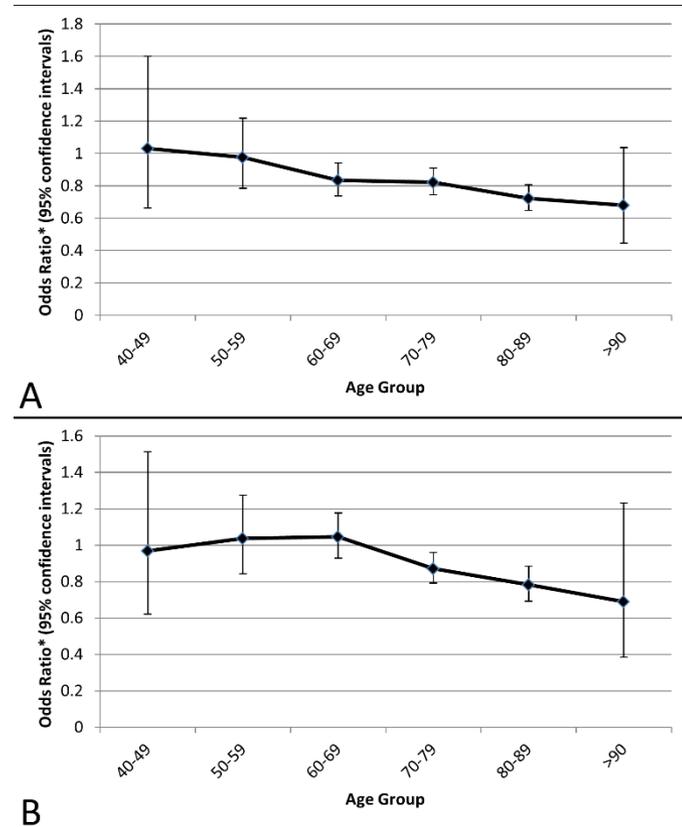


# Service Improvement

- Histo-cytological Diagnosis
  - Locally-available modalities
  - Pathological expertise
  - Speed of pathway
- Chemotherapy
  - Age bias
  - Speed of pathway
  - Communication of benefits
- Surgery
  - Age bias
  - Access to specialist thoracic surgeons
  - Work-up and assessment of co-morbidities

# Clinical management of older people with NSCLC in England

- Data for 25,261 patients with NSCLC.
- Multivariate logistic regression showed the odds of having histo-cytological confirmation and anticancer treatment decreased progressively with age, and was also lower in women.
- It is likely that these results have a multifactorial explanation, and further research into the attitudes of patients, carers and healthcare professionals, and clinical trials of treatment in older populations, are necessary.



\*Odds ratios adjusted for stage, performance status, comorbidity (and histocytological confirmation in the anti-cancer treatment model only)

# Pathological confirmation rate of lung cancer in England using the NLCA

- Assessed the independent influence of patient factors on the likelihood of having histology or cytology, and the overall effect on survival on 136,993 individuals.
- Age and PS were the strongest predictors of pathological confirmation: age  $\geq 85$  odds ratio (OR) 0.20 (95% confidence interval (CI) 0.19-0.22) compared with age  $< 55$ ; PS 4 OR 0.11 (95%CI 0.10-0.12) compared with PS 0.
- Pathological confirmation of diagnosis was associated with a small early survival advantage for younger patients with good PS, even after adjusting for other patient features: hazard ratio (HR) 0.93 & 0.89 respectively.
- Much of the survival advantage was accounted for by adjusting for the use of chemotherapy.
- Stratifying patients by age and performance status is useful and appropriate when benchmarking standards for pathological confirmation of the diagnosis of lung cancer.

# Early mortality after surgical resection for lung cancer

- 10,991 patients operated on between 2004 and 2010.
- 3% died within 30 days & 5.9% within 90 days.
- Age was strongly associated with early postoperative death (adjusted OR within 90 days for 80-84 years vs 70-74 years: 1.46, 95% CI 1.07 to 1.98)
- Significant associations were also observed with PS, lung function, stage and procedure type.
- Developed a predictive score.

Future

# Future Directions and Challenges

- Mesothelioma report
- Dataset changes
- Organisational Audit
- Co-morbidity
- Outlier Policy
- COSD, CAT, ENCORE
- Linkage
- Networks and clinical engagement

# The Wider NHS

*"Place the quality and safety of patient care above all other aims for the NHS"*



*"Engage, empower, and hear patients and carers throughout the entire system, and at all times"*

# Conclusions

- A project that the whole UK lung cancer community should be proud of.
- Significant challenges....huge opportunities

# Acknowledgements

- **Roz Stanley**
- Mick Peake
- Ian Woolhouse
- Arthur Yelland
- Claire Middleton
- All lung cancer teams