

National variation in lung cancer survival - effects of case-mix adjustment & active treatment

I Woolhouse¹, P Beckett¹, RA Stanley², MD Peake¹

¹Royal College of Physicians

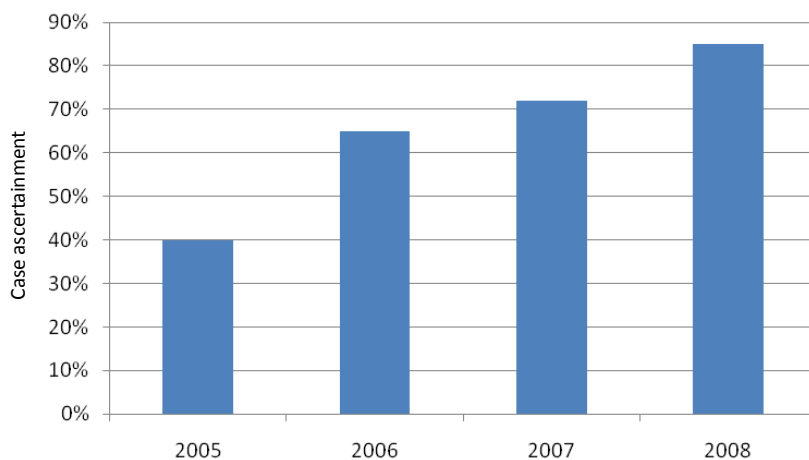
²NHS Information centre for Health and Social Care



Background

- Lung cancer is the commonest cause of cancer death in the western world
- Over 33,000 deaths per annum in England and Wales
- Four-fold difference in 5 yr survival between health authorities in England 1991-1995

National lung cancer audit



National lung cancer audit outputs

- Key process and outcome measures
 - Histological confirmation
 - MDT discussion
 - Seen by CNS
 - Treatments
 - Survival
- Annual reports & on line data packs

Methods

Patient population

- NHS Trusts England & Wales
- All lung cancers (incl. mesothelioma)
- First seen 2008
- ≤ 10 cases or $\leq 20\%$ expected excluded

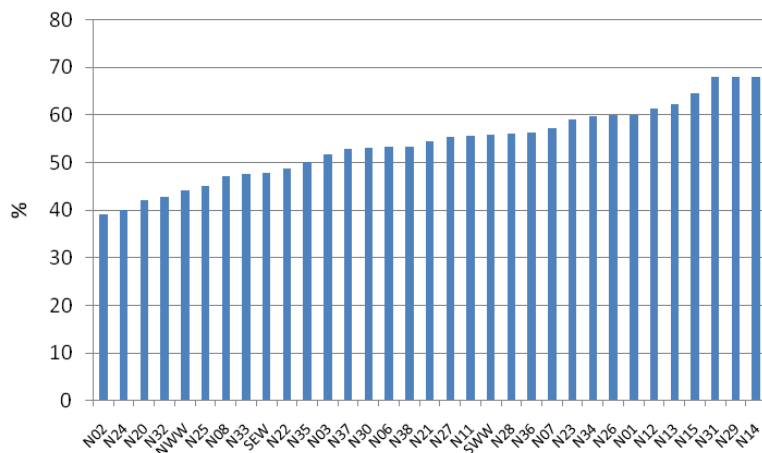
Case-mix adjustment

- Logistic regression model:
 - Age & sex
 - Stage
 - Performance status
 - Socioeconomic status
- Compared with population average
- Odds/hazard ratios

Results

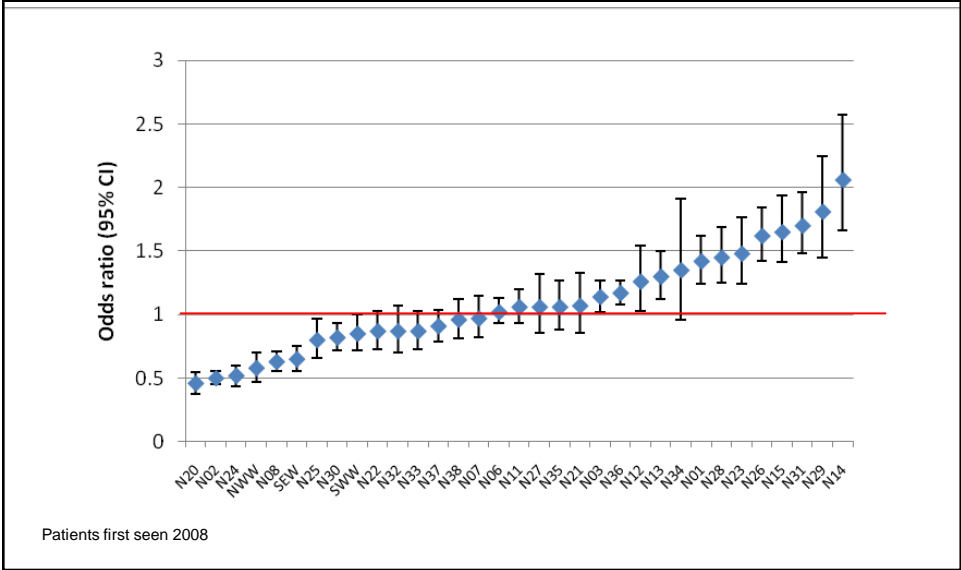
- 27,815 patients from 168 Trusts
- 84% expected number of cases
- 10 (6%) excluded due to low numbers

Active treatment by network

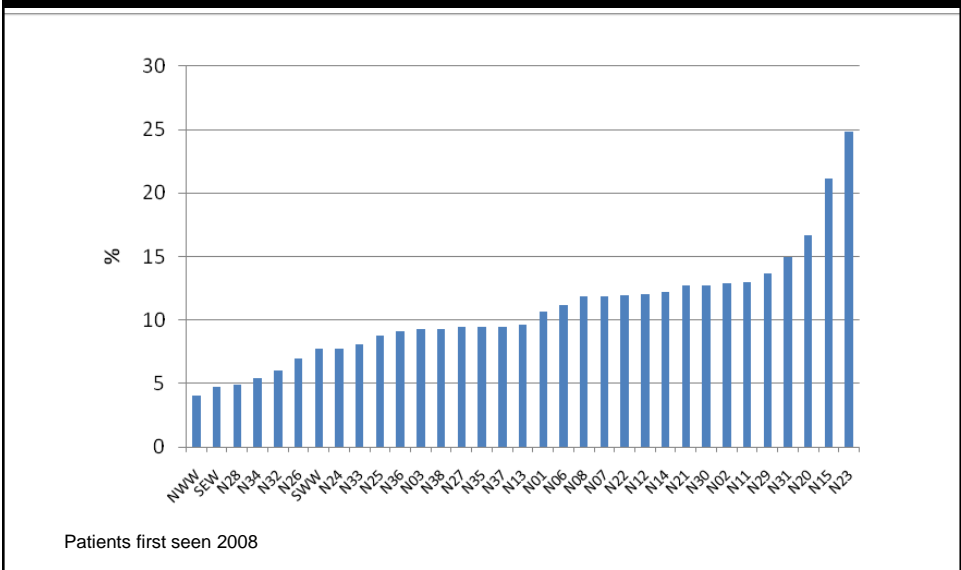


Patients first seen 2008

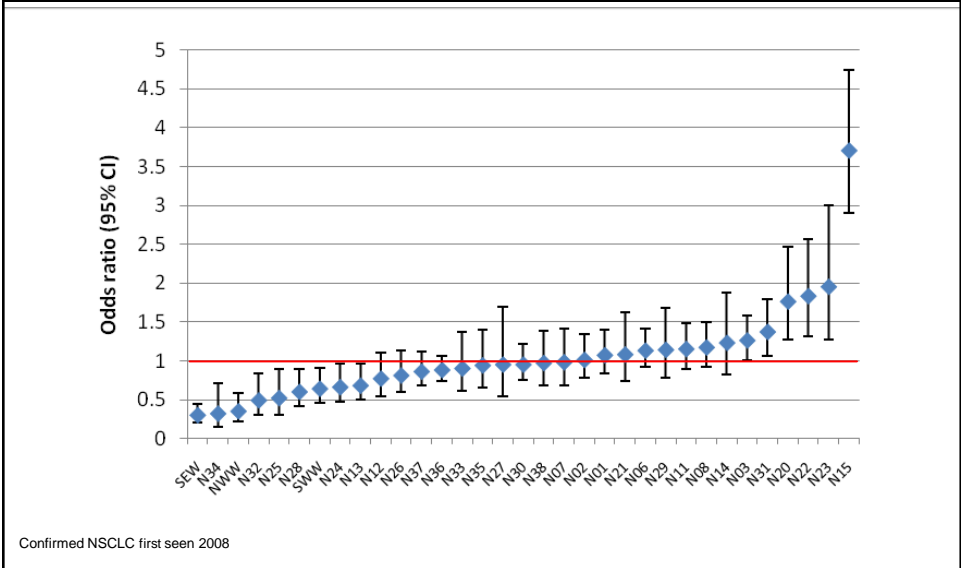
Adjusted active treatment



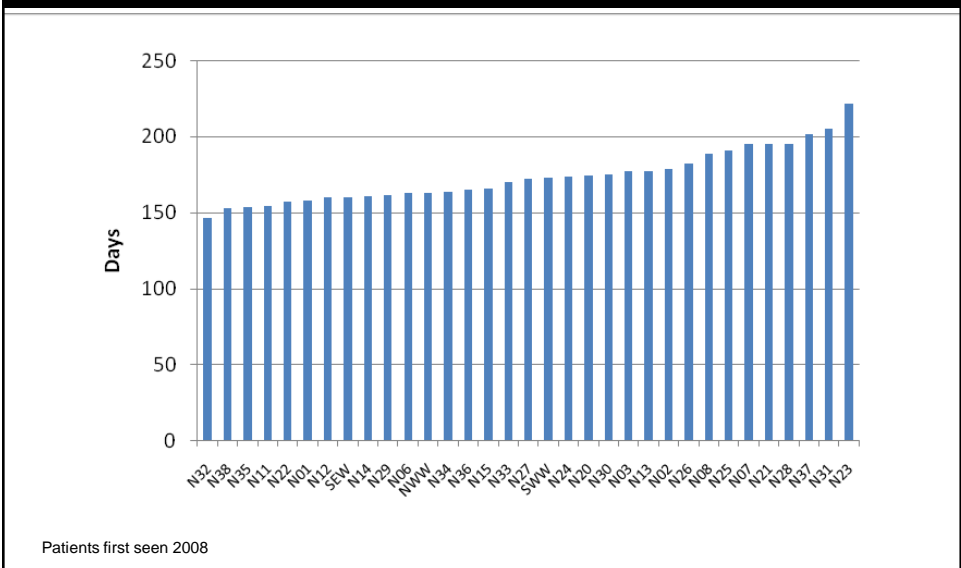
Surgical resection by network



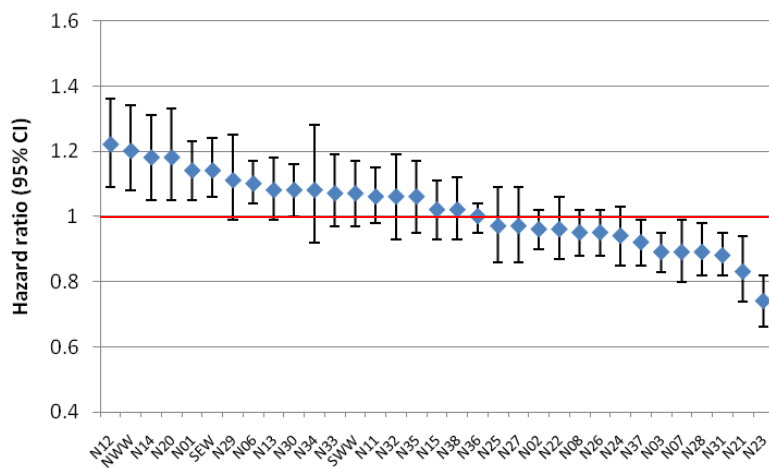
Adjusted surgical resection



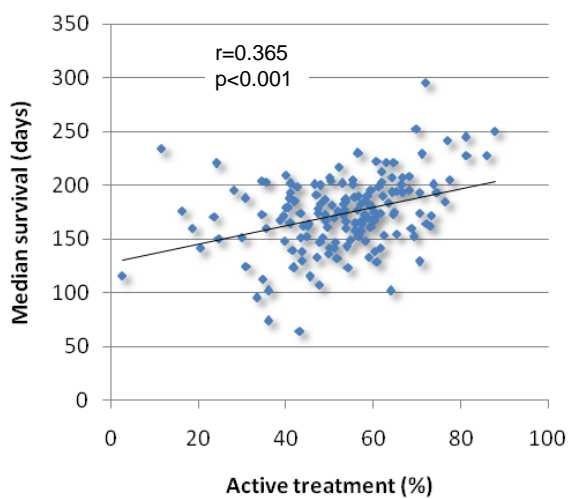
Median survival by network



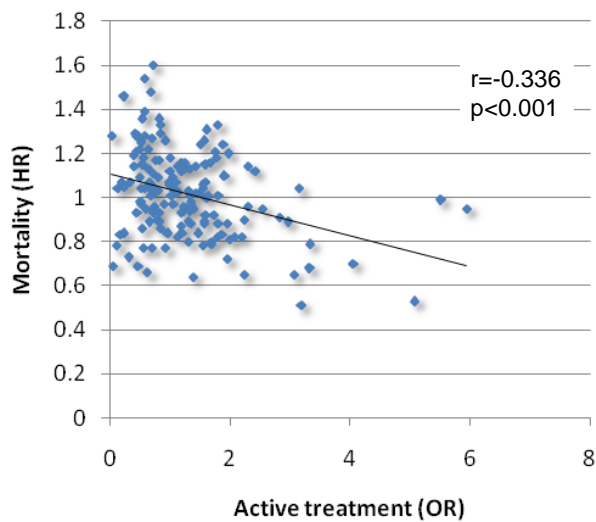
Adjusted mortality



Treatment vs. survival by trust



Adjusted treatment vs. mortality



Conclusions

- Wide variations in treatment & survival
- Not wholly explained by case-mix
- Variations in management may be responsible

Recommendations

- Local action plans to review data
- Review care pathways
- Identify & address problem areas
- Improving lung cancer outcomes project