Further studies would be beneficial to ascertain the role of bronchoscopy in the investigative pathway of lung cancer in patients with normal CT scan.

Abstract P166 Table 1 Cross-Tabulation of CT and bronchoscopy results

	Normal CT scan	Non diagnostic CT scan
	75	24
Bronchoscopy results		
Neoplasia	0	0
Benign	12	10

P167 PATHOLOGICAL CONFIRMATION RATE OF LUNG CANCER IN ENGLAND USING THE NLCA DATABASE

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[1]A Khakwani, [2]AL Rich, [1]LJ Tata, [3]HA Powell, [4]RA Stanley, [2]DR Baldwin, [1]RB Hubbard. *[1]Division of Epidemiology and Public Health, University of Nottingham, Nottingham, United Kingdom; [2]Department of Respiratory Medicine, Nottingham University Hospital, Nottingham, United Kingdom; [3]Nottingham Respiratory Research Unit, University of Nottingham, Nottingham, United Kingdom; [4]Clinical Audit Support Unit, Health and Social Care Information Centre, Leeds, United Kingdom*

Introduction The majority of people with lung cancer should have pathological confirmation of their diagnosis. The National Lung Cancer Audit (NLCA) recommends that NHS trusts obtain pathology (histology or cytology) for 75% of their lung cancer patients, however this figure was arbitrarily chosen and the optimal pathological confirmation rate is unknown.

The Aims of this study were to provide a simple means of benchmarking appropriate pathological confirmation rates by stratifying patients into groups, and whether obtaining pathology based on those groups is associated with a survival benefit.

Methods Using the NLCA database, we calculated the proportion of patients with non-small cell and small cell lung cancer, first seen between 1st January 2004 and 31st December 2010, who had pathological confirmation of their diagnosis. Using bivariate analysis, we identified the features which were most strongly associated with having pathology. We stratified our cohort according to these features and developed 4 groups (Table 1) based on the percentage of pathology obtained by the majority of NHS trusts during the study period.

Results We analysed data on 136,993 individuals. The median age at diagnosis was 72 years (*IQR 64–79 years*). Performance status (PS) and age were the features most strongly associated with having a pathological diagnosis. Pathological confirmation was associated with a survival benefit at 6 months for patients in groups 1–3 and at 1 year for patients in group 1 & 2 having adjusted for confounders (HR 0.93 & 0.89 respectively). This survival benefit was removed when adjusted for treatment with chemotherapy (Table 2).

Discussion Stratifying by age and PS, is a simple means of benchmarking pathological confirmation rates which is more appropriate than current recommendations. We have shown better survival at six months and one year for patients who had pathological confirmation of lung cancer in groups 1 and 2 (younger patients with better PS), even after adjusting for confounders. Much of this survival advantage was accounted for by adjusting for the use of chemotherapy. We would suggest, therefore, that clinicians should aim to achieve a pathologically confirmed diagnosis in every patient in groups 1 & 2.

Abstract P167 Table 1 Sub groups of patients stratified by age and performance status

Group 1	PS 0/1 & age<65, PS 0/1 & age 65–75, PS 2 & age<65
Group 2	PS 0/1 & age>75, PS 2 & age 65–75
Group 3	PS 2 & age>75, PS 3 & age<65, PS 3 & age 65–75
Group 4	PS 3 & age>75, PS 4 & age<65, PS 4 & age 65–75, PS 4 & age>75

Abstract P167 Table 2 Survival within 6 months and 1 year for patients with pathological confirmation of lung cancer.

Survival Time	Groups	Unadjusted HR (95% CI)	Adjusted HR (95% CI)‡	
6 months following diagnosis	1	0.81 (0.77 – 0.86)	0.81 (0.77 – 0.86)	1.09 (1.03 – 1.16)
	2	0.86 (0.82 – 0.90)	0.84 (0.79 – 0.88)	1.01 (0.96 – 1.07)
	3	1.04 (1.00 – 1.08)	0.93 (0.89 – 0.96)	1.05 (1.01 – 1.09)
	4	1.14 (1.10 – 1.18)	0.98 (0.95 – 1.02)	1.05 (1.01 – 1.09)
1 year following diagnosis	1	0.96 (0.92 – 1.01)	0.93 (0.88 – 0.97)	1.10 (1.05 – 1.16)
	2	0.93 (0.89 – 0.97)	0.89 (0.85 – 0.93)	1.02 (0.97 – 1.06)
	3	1.10 (1.06 – 1.14)	0.99 (0.95 – 1.02)	1.10 (1.06 – 1.14)
	4	1.17 (1.12 – 1.21)	1.02 (0.98 – 1.05)	1.07 (1.03 – 1.12)

‡Adjusted for sex, stage, socioeconomic status, Charlson Index, ethnicity, source of referral
Adjusted for chemotherapy in addition to other variables

P168 FACTORS ASSOCIATED WITH ADVANCED STAGE LUNG CANCER AT DIAGNOSIS – A RETROSPECTIVE COHORT STUDY

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E Ghorani, B O'Leary, K Asif, S Hafiz, AK Reinhardt. *Whipps Cross Hospital, London, UK*

Introduction Lung cancer is a major cause of mortality in the UK, with survival related to stage of disease at presentation. Better understanding of factors contributing to presentation delay might aid earlier identification and assessment of patients. Here we set out to characterise demographic features of the late presenting population at an East London hospital.

Methods Local lung cancer diagnoses between June 2005 and November 2011 (n=554) were retrospectively determined from the National Lung Cancer Audit database. Cases for whom staging information at diagnosis was available, were selected for study (n=460) and divided into those with early (stage I-IIIA, n=135) and late (stage IIIB-IV, n=325) disease. Socioeconomic quintiles based on patients' postcodes were defined using the Income domain of the Index of Multiple Deprivation 2010. Data were analysed by logistic regression in SPSS.

Results We found increasing age (ORs 0.95, 0.55, 0.58 for age groups <60, 60–69, 70–79 and ≥80 years respectively, p=0.027) to be associated with decreased risk of late presentation.

Male gender (OR=1.59, 95% CI 1.06–2.38, p=0.016) and emergency presentation as opposed to community based referral to services (OR=1.92, 95% CI 1.19–3.10, p=0.008) were associated with advanced stage disease at diagnosis.

Socioeconomic group was not found to contribute significantly to stage of disease at presentation.

Conclusion We report that age, gender but not socioeconomic status are risk factors for late stage of lung cancer at diagnosis. These findings are in line with a recent large study of the East of England cancer registry (*BJC* 2012; 106:1068–1075). We extend that work to show a relationship between mode of presentation and disease stage at diagnosis, in keeping with national data indicating that emergency presentation is associated with poorer survival outcomes (NCIN 2010).

In summary, this study adds to the increasing evidence that patient factors are associated with potentially avoidable late stage presentations of lung cancer, reiterating the need for targeted health promotion activities to engage at risk patient groups.

Abstract P168 Table 1 Associations of age, gender, mode of referral and socioeconomic group with advanced stage of disease at diagnosis

	Late stage disease (N)	Early stage disease (N)	OR (95% CI)	P
Age group (years)				
<60	42	11	Reference	0.027
60–69	98	27	0.95 (0.43–2.09)	
70–79	104	51	0.55 (0.33–0.92)	
>80	81	46	0.58 (0.36–0.92)	
Gender				
Male	196	66	1.59 (1.06–2.38)	0.016
Female	129	69	Reference	
Mode of referral				
Emergency	111	32	1.92 (1.19–3.10)	0.008
Community	141	78	Reference	
Deprivation quintile				
Most affluent	67	25	Reference	0.72
2	65	24	1.01 (0.52–1.95)	
3	60	32	0.70 (0.41–1.19)	
4	60	28	0.90 (0.53–1.51)	
Most deprived	65	25	1.11 (0.67–1.87)	

P169 INVESTIGATING THE IMPACT OF SOCIAL DEPRIVATION IN LUNG CANCER PATIENTS IN NORTH GLASGOW

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[1]C Tweed, [2]J Farley, [1]J Van Der Horst, [3]S Bicknell, [1]J Maclay, [2]R Milroy. *[1]Glasgow Royal Infirmary, Glasgow, UK; [2]Stobhill Hospital, Glasgow, UK; [3]Gartnavel General Hospital, Glasgow, UK*

Introduction Lung cancer incidence and mortality rates are highest in the most deprived regions of Scotland. Glasgow has the highest incidence rate for lung cancer in Scotland at 92.8 people per 100, 000 population and the highest mortality rate at 75.4 people per 100, 000 population. The DEPCAT score is a well-validated index of deprivation unique to Scotland, based on post code. DEPCAT categorises deprivation into groups 1 (most affluent) to 7 (least affluent). We investigated social deprivation in North Glasgow and its relationship to lung cancer presentation, investigation, treatment, and mortality.

Methods All patients with lung cancer diagnosed in North Glasgow in 2009 and 2010 were prospectively recorded in a registry. We investigated prevalence, stage at presentation, performance status, attempts at tissue diagnosis and treatment administered with the DEPCAT score.

Results 1190 patients were diagnosed with lung cancer in the study period and clinical details were recorded at a multidisciplinary meeting. DEPCAT was available in more than 99% of patients. 61% of patients were from the most deprived categories (6 and 7).

Lung cancer was more prevalent in deprived areas (Table 1). Stage at presentation was not different based on social deprivation, but patients from deprived areas had a poorer performance status at presentation (PS 0–1 DEPCAT1–2: 58% vs DEPCAT 6–7:40%).

While there was no difference in whether tissue diagnosis was attempted, fewer patients from DEPCAT 6–7 underwent surgery or radical radiotherapy and more of this group were treated with best supportive care (Table 1).

There was a trend to better median survival in more affluent groups, but confidence intervals were overlapping.

Conclusions We found that the prevalence of lung cancer was higher in more deprived areas, in keeping with previous studies, and that these patients had a worse performance status at diagnosis despite similar stage of disease at presentation. Although there was no difference in pursuit of tissue diagnosis, fewer patients from more deprived areas underwent curative treatment. These differences in lung cancer diagnosis and management could be attributable to higher rates of co-morbidity in areas of lower socio-economic class.

Abstract P169 Table 1

		1–2	3–5	6–7
n		108	356	718
Male sex, n (%)		56 (51)	180 (51)	357 (50)
Age, mean (SD)		72 (10)	71 (10)	70 (10)
Prevalence (per 1000 patients)		1.2	1.4	2.4
Stage at presentation, n (%)				
	1	20 (19)	45 (13)	100 (14)
	2	6 (6)	34 (10)	55 (8)
	3	33 (31)	98 (28)	214 (30)
	4	49 (45)	179 (50)	349 (49)
Performance status, n (%)				
	0	18 (17)	45 (13)	68 (10)
	1	44 (41)	119 (33)	216 (30)
	2	20 (19)	106 (30)	207 (29)
	3	12 (11)	48 (14)	125 (17)
	4	5 (5)	10 (3)	33 (5)
	Not recorded	9 (8)	28 (8)	69 (10)
Tissue diagnosis attempted, n (%)		92 (85)	298 (84)	597 (83)
Treatment, n (%)				
	Best supportive care	27 (25)	95 (27)	242 (34)
	Palliative XRT	31 (29)	87 (24)	164 (23)
	Chemotherapy	21 (19)	103 (29)	183 (26)
	Surgery/radical radiotherapy	29 (27)	71 (20)	129 (18)
Median survival, median days (95%CI)		210 (124–296)	173 (142–204)	155 (130–180)

P170 CHANGES IN THE EPIDEMIOLOGY OF LUNG CANCER IN A HOSPITAL IN LONDON, UK BETWEEN 2000 AND 2012

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K Ward, D Rao, SS Birring, R Lal, S Desai, S Ahmad, S Pomplun, J Kelly, I Atuchar, RD Barker. *Kings College Hospital, Kings Health Partners, London, United Kingdom*

Background Changes in the epidemiology of lung cancer could have important implications for treatment and prognosis. International studies have suggested adiminishing gap between the incidence of lung cancer in men and women and an increasing proportion of adenocarcinomas.[1] We examined our own cohort of patients from a teaching hospital in south London UK to see whether these observations could be replicated.

Methods All patients with suspected intra-thoracic malignancy were logged in a bespoke database. Relevant parameters were recorded. Data items were defined according to the specifications of the Lucada dataset. Stage was coalesced into "Early" (1–2a), "locally advanced" (3a, 3b) and advanced (4). Analysis was restricted to the major cell types squamous cell, adenocarcinoma, small cell and