

Abstract P12 Table 1. Potential risk factors for Hospital Admission

Variable	Significance
Age	NS
Sex	P = 0.09
Comorbidity score	NS
Stage	NS
Small cell vs. NSCLC	NS
Central vs. Peripheral tumour	NS
Presence or absence of pleural effusion	NS
Presence or absence of metastases	NS

peripheral after review of the diagnostic CT scan. The presence or absence of significant pleural effusion (>1.c.m. depth) and extra-thoracic metastases was noted. Simple non-parametric tests were used to identify any risk factors for HA.

Results 84 patients (mean age 70.3 years, 42 males) were suitable for inclusion, accounting for 98 HAs with median length of stay of 6 days. Of the 59 patients with HA, 63%, 22%, 6% and 9% experienced 1, 2, 3 or ≥4 HAs. The HA: patient ratio fell with time from 1.44 in 2009, 1.23 in 2010 to 0.86 in 2011. Survival figures were 13.1%, 28.6%, 23.8% and 34.5% for <3, 3–6, 6–9 and >9 months respectively. 76% of HAs occurred within 3 months of death.

The primary cause of HA was determined to be infection (33%), breathlessness (16%), neurological (14%), pain (10%), gastrointestinal symptoms (10%), others (17%). No obvious clinical risk factors for HA were found when comparing those patients having HA to those without HA (Table 1).

Conclusions HAs in incurable LC are common but difficult to predict.

Future strategies designed to prevent HA may need to focus more on social factors in addition to providing rapid treatment of infection and symptom palliation in the last 3 months of life.

Epidemiology

P13 IDENTIFYING PATIENTS WHO HAD SURGICAL RESECTION FOR NON-SMALL CELL LUNG CANCER USING LARGE DATASETS

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Introduction Surgical resection rates have become an important indicator of NHS Trust performance and efforts to increase them are on-going with the aim of improving overall survival. The National Lung Cancer Audit (NLCA) has collected data on primary lung cancer since 2004 and has now been linked with Hospital Episode Statistics (HES) for research into inequalities in access to treatment. How well these two large datasets capture surgical data is not known.

Methods We used the NLCA to identify all cases of NSCLC, excluding stage IIIB or IV, diagnosed between January 2004 and March 2010. We calculated the proportion of cases with a procedure date in the NLCA, and the proportion with a code in HES, for potentially curative surgery less than 6 months after or 3 months before diagnosis. We looked at the age, lung function,

performance status, stage and survival according to where surgery was recorded. Given the increase in NLCA case ascertainment from approximately 19% in 2004 to 98% in 2009 we also looked for changes in our results over time.

Abstract P13 Table 1. Features and survival of people according to the database in which records of surgery were present

	Record of surgical procedure			
	Both	HES only	NLCA only	Neither
N= 60,196	n = 8,535 14%	n = 2,568 4%	n = 795 1%	n = 48,298 80%
Mean age (years)	67.4	66.8	67.8	72.6
Mean % predicted FEV1	77.1	74.7	74.2	63.8
Missing FEV1 (% of total)	54.6	77.8	68.7	81.8
Stage (% of non-missing)	67.2	56.4	58.4	36.2
1a or 1b				
2a or 2b	21.9	23.0	21.7	19.6
3a	10.9	20.6	19.9	44.2
Missing stage (% of total)	14.5	60.6	52.0	72.9
Performance status (% of non-missing) 0–1	92.3	86.2	85.5	47.9
2	6.4	10.2	9.0	24.1
3–4	1.2	3.6	5.5	27.9
Missing performance status (% of total)	28.2	58.9	38.2	50.4
Median survival (months)*	62	41	18	7
**Died within 30-days of surgery (%)	2.6	4.4	5.8	N/A
Died within 90-days of surgery (%)	5.3	8.6	16.7	N/A

*Survival is calculated from date of diagnosis not date of procedure; FEV1 Forced expiratory Volume in 1 second; **HES date of procedure unless NLCA only

Results There were 60,196 people in the NLCA who met the inclusion criteria; 8,535 (14%) had a record of surgery in both databases. An additional 2,568 (4%) had a record of surgery in HES and 795 (1%) in the NLCA. The features of people who had surgery in HES only or the NLCA only were similar, however median survival was shorter, and the proportion that died soon after surgery was higher, in the NLCA only group compared with those with surgery records in both databases (table 1). The proportion with HES only records of surgery decreased from 6% (n = 215) in 2004 to 3% (n = 367) in 2009; the patterns of survival each year were similar to the overall results.

Conclusion The proportion of people who had potentially curative surgery differed according to the database used to identify surgical procedures. There are many possible explanations for our results; however use of either database alone is likely to under-estimate the proportion of people who had surgery and this should be taken into account in studies investigating access to surgery.

P14 SMALL-CELL LUNG CANCER IN ENGLAND: TRENDS IN SURVIVAL AND THERAPY

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Background The purpose of this study was to identify trends in survival and chemotherapy use, during the duration of the National Lung Cancer Audit (NLCA), for individuals with small-cell lung cancer (SCLC) in England.

Methods We used data from the NLCA database to identify people with histologically proven SCLC from 2004 to 2009. We used Hospital Episode Statistics (HES) database and NLCA to identify patients with codes of receiving chemotherapy, while NLCA was used to identify radiotherapy. We calculated the median survival by stage and observed the changing patient features of the cohort. We also looked at the proportions of patients with records of chemotherapy and/or radiotherapy over the years.

Results 11,603 patients were diagnosed with SCLC in our cohort. The median survival was 6 months; 1 year for limited stage and 4 months for extensive stage. 70% received chemotherapy and this proportion did not change overtime. Patient features including sex, age and performance status remained stable throughout the years (χ^2 p-value 0.25, 0.93 & 0.08 respectively). There has been an increase in the proportion of patients that had a record of receiving chemotherapy and radiotherapy each year in both limited and extensive stage disease (from 19% to 36% in limited & from 10% to 17% in extensive stage from 2004 to 2009) (table 1). Patients who had a record for chemotherapy and radiotherapy had better survival in days compared with those who received only chemotherapy or no treatment independent of stage (334 days for chemotherapy & radiotherapy vs. 240 days for chemotherapy alone, 82 days for radiotherapy alone & 25 days for no treatment).

Conclusion Since 2004, when the NLCA was established, the recorded use of chemotherapy and survival in days has remained static. We have found an increasing trend in patients receiving chemotherapy & radiotherapy which corresponds to better survival compared with other treatments. We were unable to see if these patients received these therapies for palliative or curative purpose; however the new chemotherapy and radiotherapy database soon to be linked with the NLCA would be better suitable to answer these questions.

P15 IDENTIFYING PATIENTS WHO RECEIVE CHEMOTHERAPY FOR SMALL-CELL LUNG CANCER USING LARGE DATASETS

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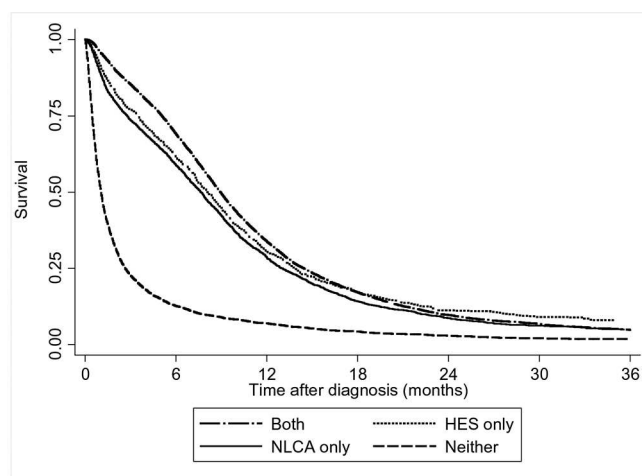
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Introduction The National Lung Cancer Audit (NLCA) has collected data on primary lung cancer in England since 2004, and has now been linked with Hospital Episodes Statistics (HES) for research into inequalities in access to treatment. How well these two large datasets capture chemotherapy for small cell lung cancer (SCLC) is not known.

Methods We identified all cases of SCLC in the NLCA diagnosed between January 2004 and March 2012. We calculated the proportion of patients with a HES code for chemotherapy, and the proportion with a start date for chemotherapy in the NLCA, within 6 months of diagnosis. We inspected survival curves for people with a chemotherapy record in HES only or the NLCA only, people who had records of chemotherapy in both databases (who we could be reasonably sure had chemotherapy), and those with no record of chemotherapy. We assessed whether the results

changed over time as case ascertainment in the NLCA increased from 19% to 98% between 2004 and 2009.

Results We identified 18,398 cases of histologically confirmed SCLC; 9,484 (52%) had chemotherapy records in both databases and 5,100 (28%) had no record of chemotherapy in either. 737 patients (4%) had chemotherapy recorded only in HES and 2,539 (14%) only in the NLCA. For people with a record of chemotherapy in a single database (NLCA only or HES only) survival was similar to that of people with records of chemotherapy in both datasets (figure 1); the average age, stage and performance status was also very similar for people in these three groups. Survival patterns were the same when we analysed the data by year of diagnosis however the proportions with chemotherapy records in HES only or the NLCA only decreased to 3% and 12% respectively in 2011.



Abstract P15 Figure 1. Survival after diagnosis for people with SCLC according to records of chemotherapy

Conclusion Our results suggest that it is best to identify people who received chemotherapy using data in the NLCA and HES combined. A record of chemotherapy in either database appears to be a valid means of determining who received chemotherapy but if a single database is used the proportion treated is likely to be an under-estimate.

P16 SEVERITY AND BURDEN OF ASTHMA IN SCOTLAND—A FULL POPULATION STUDY USING THE PRESCRIBING INFORMATION SYSTEM

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In contrast to many epidemiological studies of asthma that have been limited to samples assumed to be representative of the national population from which they are drawn we have used routinely collected drug dispensing data for the whole Scottish population. Our aim was to use NHS Scotland's Prescribing Information System (PIS) to describe asthma prevalence, asthma severity (BTS treatment steps) and asthma control (exacerbations, hospital / A&E episodes) in children and young adults. Methods For >95% of dispensed prescriptions in primary care between December 2009 and December 2012 a valid patient identifier is available including some socio-demographical characteristics (age-group, sex, socioeconomic status). Data were also linked to hospital admission and A&E event data to identify