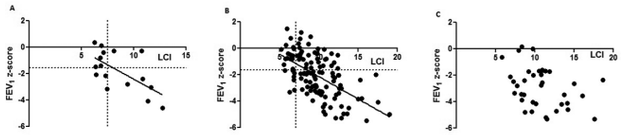

Abstract S67 Figure 1 Correlation between LCI and FEV_1 in children with non-CF, non-PCD bronchiectasis (A), CF (B) and PCD (C)

r=-0.6) but not in PCD (Figure). In non-CF bronchiectasis LCI was more significantly correlated with HRCT (extent and severity of bronchiectasis (p = 0.002, r = 0.8 and p = 0.01, r = 0.7 respectively), airway wall thickening (p = 0.01, r = 0.7) and air trapping (p = 0.0006, r = 0.8)) than was spirometry (only correlation with air trapping (p = 0.03, r=-0.6)). As shown previously, there were good correlations between HRCT and LCI in CF, but in PCD only air trapping correlated with LCI, and there were no correlations with FEV_1.

Conclusions LCI is a good marker of structural lung disease in children with non-CF bronchiectasis and is more sensitive to HRCT abnormalities than spirometry, similar to adults, and CF at all ages. This suggests the different relationships seen in PCD result from the effects of primary versus secondary ciliary dyskinesia rather than CFTR versus non-CFTR lung disease. LCI may be useful in monitoring children with non-CF bronchiectasis, but this needs to be confirmed longitudinally. The results illustrate the importance of not extrapolating between different airway diseases.

S68 THE HI-FLO STUDY: A PROSPECTIVE OPEN RANDOMISED CONTROLLED TRIAL OF HIGH FLOW NASAL CANNULA OXYGEN THERAPY AGAINST STANDARD CARE IN BRONCHIOLITIS

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Introduction High flow nasal cannula (HFNC) oxygen therapy is increasingly used as a form of respiratory support with limited evidence to support its use. Data from retrospective studies suggest that HFNC reduces rates of intubation and respiratory parameters in infants with bronchiolitis. It is well-tolerated, easy to use, and has very few adverse effects.

Objective To determine if HFNC therapy reduces work of breathing, oxygen requirement and time to resolution of respiratory distress more quickly than standard care in bronchiolitis.

Methods We conducted a prospective open randomised controlled trial to compare HFNC oxygen therapy with standard care for children with bronchiolitis in ward environments in a tertiary referral children's hospital over a two-year study period. Patients under 18 months of age with a clinical diagnosis of bronchiolitis were eligible. Subjects were randomised to standard supportive care with low flow oxygen (up to 2 litres/minute) or HFNC oxygen at 8 litres/minute. Fractional inspired concentration of oxygen was titrated to maintain saturations >92%. A validated composite clinical score (modified Tal) was measured every 3 h. [1]

Results 72 patients were recruited, 36 in each treatment arm. The mean age of subjects was 4 months, range 0.5–12.9 months. 42% were male, and all but two were born at term. 79% were RSV positive. 3 patients in the control group, and 4 in the intervention group required admission to intensive care. There was no improvement in time to resolution of respiratory distress or oxygen requirement in patients receiving HFNC oxygen therapy. There was a trend towards lower clinical scores in the first 3 h following initiation of treatment in the intervention group. There were no adverse effects from HFNC therapy, and it was found to be safe in a ward environment.

Conclusion HFNC oxygen therapy may improve clinical parameters during the first hours of treatment, but it did not significantly reduce time to resolution of respiratory distress or oxygen requirement.

REFERENCE

1 McCallum G, *et al*. Severity scoring systems: are they internally valid, reliable and predictive of oxygen use in children with acute bronchiolitis? *Pediatric Pulmonology* 2013;48(8):797–803

Lung cancer: how are we doing and what's next?

S69 RISING STANDARDS OF CARE CONTINUE IN YEAR 9 OF THE NATIONAL LUNG CANCER AUDIT

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Introduction The National Lung Cancer Audit, now in its 9th year, is run jointly by the Royal College of Physicians and The Information Centre for Health and Social Care (HSCIC), and commissioned by the Healthcare Quality Improvement Partnership (HQIP). Over this period, the rich data of increasing quality has charted improving standards of care for patients, as well as persistent variation across organisations which in most cases is independent of case-mix.

Methods Although several other countries also submit data to the audit, this abstract presents provisional results for England only for patients first seen in 2013.

Results 30,508 patient records were submitted with more than 93% having performance status and the same number having disease stage recorded (see **Table 1**). Spirometry is available for 65% of Stage I-II/PS 0–1 NSCLC patients, allowing more detailed risk-adjustment to be carried out in future. The histological confirmation rate remains steady at 75%, and the proportion with non-subtyped NSCLC continues to fall. There has been a small but incremental rise in the resection rate in histologically-confirmed NSCLC which now stands at 23%, and in the proportions of patients with SCLC receiving chemotherapy (70%). Patient access to specialist nurses appears to have improved but demonstrates a continuing unmet need. The proportion having CT scan before bronchoscopy continues to rise (91%) as does the proportion having chemotherapy for locally advanced NSCLC with good PS (60%).

Variation in practice still exists – for example, the resection rate in Stage I-II NSCLC varies from 46% to 66% across the cancer networks, although the range is narrower than the previous year (35% to 62%).

Our final presentation will contain further analyses of survival across the audit lifespan.

Conclusions In contrast to the early years of the audit where standards of care appeared to improve rapidly and were partly related to improvements in data quality, recent years have shown only small incremental improvements. A reconfiguration of the

Abstract S69 Table 1 Headline data from the national lung cancer audit

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Data Completeness									
Number of cases	10,920	16,922	20,639	25,757	30,158	30,329	31,429	31,003	30,508
PS	66%	77%	80%	87%	88%	84%	89%	91%	93%
Staging	51%	55%	70%	77%	80%	82%	84%	94%	93%
Treatment	66%	72%	79%	82%	89%	89%	91%	91%	92%
Process and Outcomes									
HCR	68%	66%	65%	66.7%	69.5%	76.5%	73.8%	75.5%	75.1%
NSCLC NOS rate	-	36%	32%	33.6%	30%	24%	19%	16%	13%
Discussed at MDT?	79%	84.3%	86.8%	88.6%	93.2%	96.1%	95.9%	95.6%	95.2%
Anti-cancer treatment?	45%	50%	52%	54%	58.9%	58.5%	60.5%	61.0%	60.2%
Overall resection rate	9%	9.4%	10.3%	11.2%	13.9%	13.9%	15.3%	15.5%	15.4%
NSCLC resection rate	13.8%	14.3%	15.2%	16%	19%	18.3%	21%	22%	23%
SCLC chemotherapy rate	57.7%	61.7%	64.5%	63%	66%	65%	68%	68%	70%
Seen by LCNS	-	-	-	50.9%	64.4%	75.5%	79.4%	81.9%	83.9%
LCNS at diagnosis	-	-	-	28.5%	41%	51.9%	58.7%	61.2%	65.3%

HCR=histo-cytological confirmation rate; LCNS=lung cancer specialist nurse; NOS=not otherwise specified

audit as part of a new commissioning process, and the linkage with other developing datasets will allow the project to continue to realise the goal of improved and less variable outcomes and for patients with lung cancer.

S70 RESULTS FROM THE FIRST NATIONAL LUNG CANCER ORGANISATIONAL AUDIT

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Background National Lung Cancer Audit reports consistently demonstrate variation in diagnostic pathways, treatment rates and outcomes which are not wholly explained by case-mix. One possible explanation for this variation is different access to diagnostics and treatment specialists, however little is known about the provision of these services across England and Wales lung cancer services.

Methods An electronic survey was sent to all lung cancer lead clinicians in England and Wales in January 2014. The survey included seven questions for all MDTs on service provision, diagnostic services, staging services, and lung cancer treatment. There were a further 3 questions for treatment centres. Two reminders were sent and the survey closed in May 2014.

Results 128 records were submitted from 176 trusts. After removal of duplicate and empty records 101 were available for analysis. Mean (range) average number of patients discussed per MDT meeting is 26 (5–88) and 29% Trusts have a separate diagnostic meeting. There is considerable variation in the mean (range) number of whole time equivalent (wte) on site lung cancer specialists e.g. thoracic pathologists 1.4 (0–10), lung CNS 2.0 (0.5–10) and respiratory physicians 3.9 (0–20). Most diagnostic and staging procedures are available either on or off site, although medical thoracoscopy is not available at all to 14% Trusts. Chemotherapy, radiotherapy and surgery are available on site in 89%, 33% and 18% of Trusts, respectively. VAT lobectomy, stereotactic radiotherapy and radiofrequency ablation are not available at all to 6%, 5% and 10% of Trusts, respectively. Centres performing thoracic surgery report mean (range) wte number of surgeons at 1.5 (0–6) and thoracic HDU beds at 4 (0–24). Acute oncology services are available to 92% chemotherapy treatment centres and 96% radiotherapy centres.

Conclusion The data provide a moderately representative snapshot of diagnostic and treatment services available for lung cancer patients in England and Wales. There is significant variation in the number of specialists available and some patients do not have access to key treatment modalities e.g. VAT lobectomy. Further work is required to determine how this relates to patient experience and outcomes. All Trusts are encouraged to submit validated data for the next round of organisational audit.

S71 ARE QUALITY STANDARDS AND ACCREDITED CENTRES FOR MEDIASTINAL STAGING WITH EBUS NEEDED? A REPORT FROM THE MANCHESTER CANCER EBUS GROUP

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Introduction Mediastinal staging in lung cancer is a core function of EBUS-TBNA. There has been an explosion of EBUS -TBNA services across the UK over recent years. However, quality standards and adherence to such standards are not widely known. The aim of this study was to describe the current practices of four independent EBUS centres serving a large UK cancer network.

Materials and Methods In 2012, the number of centres providing EBUS-TBNA in this Network increased from one to four. This prompted the development of an EBUS sub-group and service specification that mandates the collection of pre-defined data for all EBUS procedures. Analysis of this prospectively maintained database was undertaken for this report.

Results 741 lung cancer patients underwent EBUS-TBNA in the study period. 56.4% (418/741) were for nodal staging, with the remaining performed for pathological confirmation of lung cancer. The proportion of staging procedures performed at each centre varied significantly (range 4.8% - 80.3%, $p < 0.0001$). In those patients undergoing EBUS for mediastinal staging, the average number of lymph stations sampled per procedure varied from 1.3 to 1.9 across the four centres and the proportion of