Introduction Smoking is a risk factor for postoperative pulmonary complications (PPCs) following curative-intent surgery for lung cancer. Risk modification is via smoking cessation; the role that electronic cigarettes (e-cigarettes) have in preoperative tobacco replacement is a debated topic.

Aims Investigate the impact of smoking on postoperative outcome including long-term survival. Assess current smoking habits and attitudes towards preoperative smoking cessation, with emphasis on e-cigarette use.

Methods A prospective observational study was carried out on all patients following curative-intent lung cancer resection in a regional thoracic centre over 4 years. Preoperative smoking status was self-reported by all patients. PPCs were assessed daily in hospital using the Melbourne group scale.[1] Other data included patient demographics, hospital length of stay (LOS), intensive treatment unit (ITU) admission and mortality data. To assess smoking habits, a questionnaire was given to 105 patients attending the preoperative assessment unit.

Results Of 460 patients, 24% were current smokers, 12% ex-smokers 6 weeks duration, and 11% never smoked Compared to never smokers, current smokers had significantly longer hospital LOS in days (9, CI 7–11 vs. 6, CI 4–8; p < 0.001), higher frequency of PPCs (22% vs 2%, p = 0.001) and ITU admissions (14% vs. 0%; p < 0.005). Compared to never smokers, the trend was for reduced survival in current smokers from 1–3 years, but the survival lines converged after this (median follow-up 30 vs. 31 months; p = 0.31). The questionnaire found 24/105 patients were smokers, of these 80% patients had previously tried to quit but only 38% had been specifically approached by health-care professionals about smoking cessation. When asked if they would consider stopping smoking immediately if supplied an e-cigarette, 54% said yes.

Conclusions Preoperatively, 1 in 4 patients continue to smoke; the majority have attempted to quit and failed. Current smokers have higher postoperative morbidity with no significant survival difference within our follow-up period. Current methods of preoperative smoking cessation in this population are ineffective; patients appear willing to use e-cigarettes. Further research in this field is urgently needed.

REFERENCE
1   Agostini P, *et al*. *Thorax* 2010;**65**:815–18

| P165 | RESULTS OF THE NORTHUMBRIA DIRECT ACCESS CXR PROJECT |

M Weatherhead. *Wansbeck Hospital, Ashington, UK*

Northumbria Healthcare (NHCT) traditionally had a low number of patients presenting with early stage lung cancer leading to low resection rates. In addition a high number of patients presented through the emergency route rather than through target clinics.

A local initiative was developed to try to improve the local presentation and diagnosis rates. The Northumbria initiative utilised primary care education, a social marketing project and a direct access CXR project which ran for 12 months.

The assessment criteria for direct access CXR were based on NICE guidance and patients meeting these criteria could self-present for a CXR.

- Is the patient over 50
- Has the patient had a chest x-ray in the last 3/52
- Has the patient developed a new and persistent cough for more than 3/52
- Has the patient had persistent chest pain for more than 3/52
- Has the patient had blood in their phlegm

Results Over 12 months 768 CXR examinations were carried out. 751 people presented a cough, 192 with chest pain and 33 with haemoptysis.

18 CT`s were requested due to a suspicious CXR and 52 people had a follow up CXR. 19 of these 70 were reviewed in a chest clinic.

4 lung cancers were detected, 2 of which were early stage and the patients had radical treatment. 5 pulmonary nodules were identified, for which interval follow-up was planned.

Conclusion The Northumbria Walk-in project proved successful in terms of delivering a campaign message to the local population. The trust communications team won a regional award for the best "low budget" campaign for this project.

The detection rate for lung cancer was not higher than one would expect from performing CXR`s on a population of similar age with a smoking history and on current evidence did not provide evidence for continuing the walk in CXR programme.

However, over the 2 years while this project was being developed and awareness of cancer was targeted there was a 6% rise in the rate of early stage lung cancer locally suggesting that the combined awareness raising approach both locally and nationally has had some effect on presentation rate.

| P166 | THE FREQUENCY OF CHEST RADIOGRAPHS PRIOR TO THE ONSET OF LUNG CANCER SYMPTOMS |

MPT Kennedy, O Walkowiak, MEJ Callister. *Leeds Teaching Hospitals NHS Trust, Leeds, UK*

Introduction Previous data has shown wide variation in the frequency of CXRs requested by GPs that is not explained by case mix factors. The relationship between threshold for CXR request and lung cancer characteristics at diagnosis is unknown.

Aim To analyse the frequency of CXRs prior to the development of lung cancer symptoms according to stage at presentation.

Method Retrospective review of an electronic database of lung cancer patients, excluding small cell, from 2010–2013. The dates of all CXRs in the three years before the first appointment with the lung cancer team were recorded. The frequency of CXRs was compared using Mann-Whitney U test with normal approximation.

Results 1750 patients were included. 589 had early stage disease (I/II) and 1161 had late stage disease (III/IV). The frequency of CXRs from 36 to 6 months prior to diagnosis is shown in Figure 1 according to stage at diagnosis. Patients subsequently diagnosed with early stage cancer had significantly more CXRs performed during this period compared to late stage patients (1.70 vs 0.92, p < 0.001).
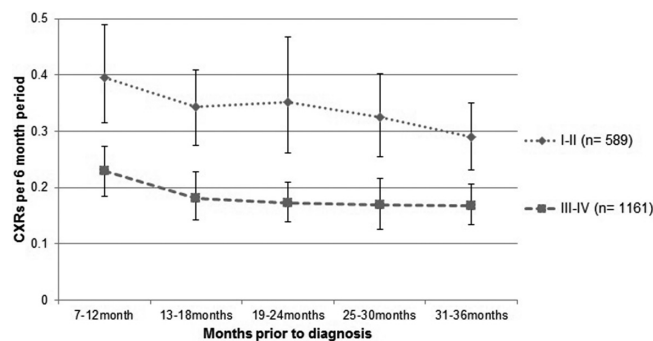
Abstract P166 Figure 1 CXRs per patient 6 month period prior to diagnosis

The number of CXRs performed during the 6 months leading up to diagnosis was much higher for both groups, but remained significantly higher for early vs late stage disease (1.32 vs 1.15, p = 0.009). This will include many CXRs which triggered referral to the lung cancer team.

The number of patients with no CXR in the three years before diagnosis (excluding the six months immediately before diagnosis) was higher in late stage (64.6%) than in early stage (45.0%).

Conclusion Differences are apparent in the frequency of CXRs many months prior to lung cancer diagnosis. We speculate that these changes are seen at a time when symptoms attributable to the lung cancer are unlikely to have been present. Instead, this may reflect differences in patient behaviour (threshold for seeking review for respiratory symptoms) and GP behaviour (threshold for requesting CXR). There may be a degree of incidental detection of more indolent early stage cancers (i.e. length-time bias).

A patient-GP relationship that results in increased frequency of CXR seems to be associated with increased detection of early stage disease.

A 'VIRTUAL' LUNG NODULE CLINIC: A NOVEL APPROACH TO IMPROVE EFFICIENCY AND ACCURACY OF INDETERMINATE LUNG NODULE SURVEILLANCE

J Thomas, S Grundy. *University Hospital Aintree, Liverpool, UK*

Background and objectives With increasing use and fidelity of CT scans the workload relating to surveillance of indeterminate lung nodules is ever increasing and is burdensome in terms of out-patients appointments and/or clinical administrative time. In July 2014 we established a 'virtual nodule clinic' (VNC) for reviewing indeterminate lung nodules. A proforma within our hospital electronic patient record is completed which automatically generates written communication for both the patient and the GP informing of the findings of the latest CT result and any follow-up required. The patients are not seen in clinic unless they request. The clinic template allows review of 40 cases per session.

The objectives of this study are to review the impact of the VNC on concordance with Fleischner guidelines and timeliness of communication of results.

Methods We retrospectively reviewed 50 consecutive nodule follow-up scans performed in November 2013 prior to establishment of VNC and 49 consecutive cases reviewed in VNC in

November 2014. Concordance with Fleischner guidelines and date from CT scan to patient/GP being informed was reviewed.

Results Demographics were similar between groups.

The VNC has improved concordance with Fleischner guidelines in lung nodule surveillance by 40%. Prior to the VNC, 52% of patients had surveillance concordant with Fleischner guidelines. Following the introduction of the VNC, 92% of patients had follow-up concordant with Fleischner guidelines.

Median time from the date of CT scan to the patient/GP being informed of CT results was 5 weeks. None of the cases reviewed in VNC contacted us to request a face to face consultation despite this being offered within the written communication to patients.

Abstract P167 Table 1   A comparison between patients seen prior to the VNC and those reviewed in the VNC

	Prior to VNC (November 2013)	Reviewed in VNC (November 2014)
n	50	49
Age *(mean)*	63	65
Gender	Male 50%	Male 49%
	Female 50%	Female 51%
Mean Size of Nodule *(Diameter in cm)*	6.17	7.05
Concordance with Fleischner Guidelines	52% (26/50)	92% (45/49)

Conclusion The introduction of a virtual nodule clinic has significantly improved concordance with published guidelines for radiological follow-up of indeterminate lung nodules. It has also allowed a significant reduction in the number of 'unnecessary' out-patient appointments within the lung cancer service. VNC ensures effective and timely communication of scan results to patients and GPs.

THE 'REAL WORLD' IMPACT OF THE NEW BTS LUNG NODULE SURVEILLANCE GUIDELINES

J Thomas, S Grundy. *University Hospital Aintree, Liverpool, UK*

Background and objectives The BTS published new guidelines for the investigation and management of pulmonary nodules in June 2015. These replace the Fleischner guidelines and are based on an improved evidence base produced predominantly from recent lung cancer screening trials.

The BTS guidelines suggest no radiological follow-up for nodules smaller than 5 mm or <80 mm^3 and limit CT follow-up to 12 months when volumetric analysis is used. The guidelines recommend use of the Brock Model (full with spiculation) to estimate the probability of malignancy in nodules ≥ 8 mm. The Brock group also published a parsimonious model which requires fewer clinical variables to calculate risk with almost equivalent accuracy.

The objectives of this study are to establish the impact of the new guidance on the number of patients requiring radiological follow-up and the total number of scans recommended. We also studied any differences between the 2 Brock risk models.

Methods We retrospectively reviewed 99 consecutive patients who were reviewed for indeterminate lung nodules. Their follow-up recommendations were calculated using 3 methods: 1)