Lung cancer screening has arrived

S11 IDENTIFICATION AND ATTENDANCE OF A HIGH-RISK COHORT IN A LUNG CANCER SCREENING DEMONSTRATION PILOT

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Introduction Lung Cancer screening by Low-Dose CT (LDCT) has been shown to reduce mortality, though exactly how best to implement this is unclear. Uptake to screening trials has generally been low, particularly in those at highest risk of lung cancer. The Lung Screen Uptake Trial is a UK based dual centre LDCT randomised controlled screening trial of a modified invitation strategy versus a standard approach in a population with high levels of socioeconomic deprivation.

Methods Patients were identified as 'high-risk' primarily by age and smoking history on a pre-designed EMIS-Web search and subsequently invited on behalf of their general practitioner (GP) to a 'lung health check' appointment. Those attending were offered enrolment into the study and a LDCT if they met the required threshold of lung cancer risk. This abstract focuses on the mode of recruitment via general practice.

Results Potentially eligible participants were recruited from 16 GP surgeries serving a population of 1 55 034. Of these, 8.7% were in the required age range of 60–75% and 98.9% of those had smoking status recorded. A mean of 32.2% (SD 3.8) of those aged 60–75 had been recorded as a current smoker in the preceding 15 years. A total of 1997 patients, who had been recorded as current smokers within the past 5 years were invited. Uptake to the study was 50.3% (n=1005) of all those invited. 765 underwent a LDCT examination

(figure 1). In 10.3% of patients the smoking history was confirmed to be too light for CT screening, despite GP records suggesting otherwise.

Conclusions Smoking status was found to be very well recorded in primary care records, providing a feasible method for initial selection of those eligible for screening. However we also showed the importance of confirmation of smoking history, something that might be done prior to invitation in screening programmes. This study observed a high rate of attendance when compared to previous LDCT screening trials. The explanation for this observed difference is likely to be multifactorial, though one key factor, unique to this study, is that the invitation to participate came from patients' own GP.

S12 THE LIVERPOOL HEALTHY LUNG PROJECT (LHLP) – SEEKING OUT LUNG DISEASE

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Introduction Liverpool has high respiratory morbidity with double the national lung cancer incidence, particularly in lower socioeconomic groups. To tackle this health inequality Liverpool CCG with the primary and secondary care sectors, Public Health and Liverpool University commenced a 3 year LHLP. The project cost £600 k in the first year. It was adopted by the national ACE program, and we report the first year results.

Methods Firstly, a series of coordinated focused public engagement events are arranged in areas with a high lung cancer incidence, aiming to promote positive messages around lung health, and address the fear and fatalism surrounding lung cancer, called 'Healthy Lung Events' Secondly, from GP records all aged 58–70 with COPD, who smoke, or have asbestos exposure are invited to a face to face lung health check by a respiratory nurse who promotes positive lifestyle messages and calculates a 5 year personal lung cancer risk

Abstract S11 Figure 1 Flow chart illustrating the numbers of individuals invited, recruited to the study and undergoing LDCT screening.

through www.MyLungRisk.org and those >5% threshold are offered a low dose CT scan.

Results The 87 healthy lung events attracted 1943 interactions and 813 completed spirometry of which 146 (18%) were abnormal, triggering a primary care consultation. 2911 (40%) of 7274 eligible individuals attended the lung health check, where 1107 (38%) were offered a CT scan: of 1064 performed, 414 (39%) were abnormal (102 [9.6%] lung nodules and 17 [1.6%] lung cancer (65% resected). 726 (44%) of the 1658 (57%) without previously diagnosed COPD had abnormal spirometry. Based on the first year LHLPE evaluation we have extended the eligible age range to 75 years, altered patient letters, and introduced a phone contact.

Conclusions This innovative project has improved access to respiratory healthcare in a deprived area of Liverpool, identified new COPD patients, and should improve outcomes for lung cancer in this disadvantaged population.

S13 MANCHESTER LUNG SCREENING, TARGETING HIGH-RISK INDIVIDUALS IN DEPRIVED AREAS OF THE COMMUNITY

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Background Lung cancer (LC) is the commonest cause of cancer-related death in the world. Screening with low-dose computer tomography (LDCT) had been shown to reduce LC specific and all-cause mortality. Benefit is greatest in those at highest risk, such as current smokers from areas of high socio-economic deprivation, yet participation in these 'hard-to-reach' populations remains a challenge. The aim of this NHS implementation project was to assess LC screening within the community in deprived areas.

Abstract S13 Figure 1 Comparison of median Index of Multiple Deprivation (IMD) of Manchester and United Kingdom Lung Cancer Screening (UKLS) populations.

Methods Ever smokers, aged 55–74, registered at 14 participating general practitioner (GP) practices in deprived areas of Manchester were invited to attend and have a free 'Lung Health Check' (LHC) in a mobile unit located at their local shopping centres. Lung cancer risk score (PLCO_{M2012}),

respiratory symptoms and spirometry were assessed as part of the LHC. Those at high risk of LC, i.e., 6 year lung cancer risk $\geq 1.51\%$, were offered immediate LDCT in a co-located mobile CT scanner. All active smokers were provided with smoking cessation advice.

Results The maximum available capacity of the service was filled within days of going live. A total of 2541 individuals attended for a LHC and consented to data analysis. The mean age was 64.1 ± 5.5 and 51.0% ($n=1,296$) were female. 74.5% ($n=1,893$) of participants were ranked in the lowest quintile of deprivation in England. The majority of individuals had left school by the age of 16 ($n=2,078$; 81.8%), most without gaining any 'O' levels ($n=1,567$; 61.7%). A significant number of participants reported a history of previous respiratory disease ($n=566$; 22.3%), previous cancer ($n=291$; 11.5%), family history of LC ($n=553$; 21.8%) or asbestos exposure ($n=612$; 24.1%). 56.2% ($n=1,429$) qualified for LDCT screening of which 52.8% were active smokers. 46 lung cancers were detected in 42 individuals, a prevalence of 3.0%, of which 80.4% were early stage (I+II). A treatment with curative intent was offered to 89.1% of screen detected cancers.

Conclusion Taking lung cancer screening into the community can identify and affect those at most risk, the so-called 'hard-to-reach' populations. This Results in a significant stage shift in screen detected lung cancers in deprived populations.

S14 LUNG CANCER RISK PROFILES AND ELIGIBILITY OF ATTENDEES IN A LUNG CANCER SCREENING DEMONSTRATION PILOT

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Introduction Lung cancer screening by Low-Dose CT (LDCT) has been shown to reduce mortality, and the harm-benefit balance of screening is optimised by screening those at higher risk. The Lung Screen Uptake Trial is a UK based randomised controlled trial of standard versus enhanced invitation methods for LDCT screening in more deprived communities.

Methods Patients aged 60 to 75, at higher risk of lung cancer by virtue of their recorded smoking history, were invited to a 'lung health check appointment' on behalf of their GP. Attendees at one of two secondary care sites, underwent a nurse consultation that included a lung cancer risk assessment. Participants were eligible for LDCT if they met any of the following three criteria: NLST-like criteria* (≥ 30 pack-year smoking history and given up ≤ 15 years ago); PLCO_{M2012} score $\geq 1.51\%$; or LLP score $\geq 2.5\%$. This abstract focuses on the performance of the different eligibility criteria.

Results At the time of analysis, 1997 individuals had been invited to screening and 936 attended and were enrolled into the study. 854 participants were eligible for LDCT by fulfilling any of the 3 criteria above, and 718 went on to have LDCT. The mean age of participants was 66.0 (SD 4.16), 54.4% were male and the mean smoking pack-year history was 39.7 (SD 24.9). After a median of 9.7 months follow up, 17 lung cancers were confirmed. Ten suspicious pulmonary