unclassified Pulmonary Fibrosis, 67 (6.5%) Fibrotic Hypersensitivity Pneumonitis, 100 (14%) CT-ILD and 71 (9.9%) exposure including Asbestos were classified. Crude prevalence rates (per 100'000 (Min-Max)) for Sarcoidosis 31.4 (11.1–67.5), UIP definite and probable 47.5 (12.2–76.9) and CT-ILD 23.1 (12.2–76.9). Prevalence of disease appeared to correlate with population density (figure 1) however there was a suggestion of clustering associated with topographic features particularly with regards to sarcoidosis.

Exploratory analysis of patient travel distance suggested that reallocation of 108 patients (15%) to a satellite clinic closer to home could save in excess 14'000 miles per year, reducing the carbon footprint by 4.15 tonnes.

Conclusions Northern Ireland has a stable population with little drift making it ideal for study. Preliminary analysis of data suggests intriguing clusters which may lead to insights into disease pathogenesis with further study. Analysis of crude prevalence and patient travel distance allows for planning of service provision and a potential reduction of carbon footprint.

P3 PROGRESSION OF EARLY FIBROTIC ILA TO ESTABLISHED INTERSTITIAL LUNG DISEASE AND MORTALITY: OBSERVATIONS FROM A REGIONAL CENTRE

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Introduction Interstitial lung abnormalities (ILA) are defined as patterns of increased lung density on CT scans, compatible with early interstitial lung disease (ILD). Patients are typically asymptomatic, but a proportion will progress to pulmonary fibrosis. Factors predisposing to this are unclear.

Aims Determine estimated prevalence of fibrotic ILAs in specified geographical region (Oxfordshire), and explore factors contributing to progression and mortality.

Methods Using the Clinical Record Interactive System database of the Oxford University Hospitals NHS trust (serving an estimated population of 800,000), we analysed reports from CTs performed between January-2015 and December-2020. Search criteria were selective for early fibrotic ILA within this

database; ['reticulation' or 'interstitial'] AND ['sub-pleural' or 'basal' or 'lower zone' or 'Possible UIP'] AND [Age: 45–75]. Radiological features, patient demographics and contemporaneous blood leukocyte counts were examined to explore contribution to progression and mortality using multivariate Cox regression.

Results 40,711 patients underwent CT thorax during this period; 2735 (6.7%) patients met inclusion criteria. Mean age 65.5 years (± 7.32), male 1486 (54.3%). 762 of these patients had traction bronchiectasis and/or honeycombing on first CT. 355 cases had normal CTs; 80 had non-emphysematous cysts and GGO only in 279. The remaining 1259 cases demonstrated reticulation $\pm$ additional parenchymal features (Table 1).

Follow on CT was performed in 390 cases. Progression was observed in 47.4%; progression to reticulation 28 (7.1% of 390), of reticulation 51 (13.1%), to probable UIP 84 (21.2%), to definite UIP 22 (5.6%).

Compared to the group with normal CT, reticulation combined with emphysema $\pm$ GGO demonstrated significant risk of mortality (Table1). Of those that underwent follow-on CT, progression appeared significantly associated with mortality [HR 1.92, 1.2–3.2, $p=0.013$]. Progression to definite UIP was associated with greatest mortality risk [HR 3.47, 1.6–7.5, $p=0.002$]. Monocyte:lymphocyte ratio [1.50, 1.16–1.94, $p=0.002$] and age [1.04, 1.01–1.07, $p=0.010$] at first CT scan, were the only independent factors associated with progression.

Conclusion 3.1% (1259/40,711) of patients requiring thoracic CT during our analysis period demonstrated ILA with early fibrotic features. Monocyte:lymphocyte ratio was significantly associated with progression suggesting this and other blood leukocyte derivations could be explored further as potential prognostic biomarkers of sub-clinical ILD.

P4 LUNG CANCER SCREENING PROVIDES A UNIQUE OPPORTUNITY FOR EARLY DIAGNOSIS AND MANAGEMENT OF INTERSTITIAL LUNG DISEASES

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Abstract P3 Table 1 Univariate and multivariate cox regression analysis for outcome of mortality. Hazard ratios of ILD categories are expressed relative to Nil ILD group

Table 1. Outcome = Mortality			Univariate			Multivariate				
Covariate	n	Death	HR	Lower	Upper	Sig.	HR	Lower	Upper	Sig.
Age	–	–	1.02	1.01	1.04	0.0001*	1.02	1.01	1.04	0.002*
Gender	–	–	1.14	0.95	1.37	0.140	1.08	0.89	1.31	0.420
Nil ILD (ref. category)	355 (13.0%)	43 (12.1%)	–	–	–	<0.001*	–	–	–	<0.001*
GGO only	279 (10.2%)	54 (19.3%)	1.67	1.12	2.50	0.011*	1.63	1.09	2.43	0.017*
Reticulation only	603 (22.0%)	68 (11.3%)	1.09	0.74	1.59	0.667	1.01	0.69	1.48	0.966
Reticulation + GGO	373 (13.6%)	55 (14.7%)	1.43	0.96	2.13	0.079	1.39	0.93	2.07	0.108
Reticulation + Emph	133 (4.9%)	28 (2.1%)	2.32	1.45	3.71	<0.001*	2.08	1.29	3.35	0.003*
Retic + GGO + Emph	150 (5.5%)	27 (18.0%)	1.74	1.07	2.81	0.025*	1.67	1.03	2.70	0.038*
Probable UIP	490 (17.9%)	86 (17.5%)	1.58	1.10	2.28	0.014*	1.45	1.01	2.11	0.047*
Definite UIP	272 (9.9%)	87 (32.0%)	2.82	1.95	4.10	<0.001*	2.55	1.76	3.69	<0.001*

* $P<0.05$. GGO; ground glass opacities, UIP; Usual interstitial pneumonia, Emph; Emphysema.

Background Early detection and treatment of lung cancer through low-dose computed tomography (LDCT) screening reduces lung cancer mortality. Undiagnosed interstitial lung disease (ILD) can be incidentally detected on LDCT, but whether this leads to improved clinical outcomes is unclear.

Methods The West London lung screening pilot invited ever-smokers aged 55–75 for a lung health check, and LDCT for those meeting a prespecified lung cancer risk score. LDCTs were reported by 5 consultant thoracic radiologists with ≥ 8 years thoracic CT experience. Participants without known ILD and with (i) $>10\%$ interstitial lung abnormalities (ILAs) as defined by the Fleischner Society on LDCT (ii) 5–10% ILAs on LDCT and restrictive spirometry (pre-March 2020), (iii) ILAs $>5\%$ (without spirometry post-March 2020), (iv) progressive ILAs on serial imaging performed after 12–24 months, were referred for clinical evaluation to the ILD Unit at the Royal Brompton Hospital. Diagnoses were assigned after multidisciplinary team (MDT) discussion.

Results ILAs of $>5\%$ extent on LDCT were identified in 39/1853 (2.1%) subjects screened between August 2018 and April 2021 (table 1). Respiratory symptoms were present in 18/39 (46.1%) and crackles were auscultated in 17 of 22 subjects

(77.3%) undergoing physical examination. Past exposure to potential environmental triggers was noted in 21/39 (53.8%). Diagnostic bronchoalveolar lavage was performed in 7/39 (17.9%) and one patient underwent transbronchial lung cryobiopsy. After MDT discussion, ILD was concluded in 31/39 (79.5%) cases, of which 14/31 (45.2%) were diagnosed with IPF. In the IPF subgroup, antifibrotics were initiated in 7/14 (50%) of cases. In those diagnosed with other ILDs, immunomodulatory treatment was initiated in 2/25 (8%) subjects.

Conclusion A large proportion of individuals with newly identified ILAs have an abnormal clinical examination and respiratory symptoms, consistent with the widely held suspicion that ILD is underdiagnosed in the community. Lung cancer screening in this demographic provides a unique opportunity to address this unmet health metric. Earlier identification of ILD, specifically IPF, allows institution of antifibrotic therapies proven to modify the natural history of the disease by preserving lung function and extending life. The cost-effectiveness of this approach for ILD screening warrants detailed evaluation.

P5

HOW SHOULD PATIENTS WITH INTERSTITIAL LUNG ABNORMALITIES BE EVALUATED AND MONITORED? EXPERIENCE FROM A SECONDARY CARE INTERSTITIAL LUNG DISEASE CLINIC

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Introduction Interstitial lung abnormalities (ILA) have been defined as incidental radiological parenchymal abnormalities without clinical suspicion of interstitial lung disease (ILD)¹. It is recognised that they are clinically important due to increased risk of pulmonary fibrosis, exercise impairments and mortality. A recently published Fleischner Society position paper described three subcategories of ILA¹; non-subpleural, subpleural non-fibrotic and subpleural fibrotic. Little is known about the real world management of these patients.

Methods We performed a retrospective analysis of an ILD database containing 1298 patients covering a population of 820,000.

Results 55 patients with ILA were identified (61.8% male, median age 75 (IQR 69.5–79), current or ex-smokers 70.9%). 33/55 (60%) were categorized as subpleural fibrotic, 15/55 (27.2%) as subpleural non-fibrotic and 7/55 (12.7%) as non-subpleural. Baseline pulmonary function showed a mean (S.D.) FVC% predicted of 98.76% (± 19.94) and TLC% predicted of 59.45% (± 23.45).

42/55 (76.3%) patients were followed up and 13/55 (23.7%) were discharged with safety netting after initial consultation. A further 26 were discharged after a period of follow up (mean (S.D.) 18.5 (26.3) months). 16/55 (29.1%) remain under active follow up, mean duration 22.3 months. 1 patient was re-referred after discharge.

11 (20%) patients died within 3 years of ILA identification. In those who died, there was no significant difference in age, co-morbidities or baseline pulmonary function compared to survivors. Cause of death was known in 7/11, one caused by lung cancer, none by ILD. 6/42 (14.3%) reported worsening respiratory symptoms during the follow-up period. 27/42 patients had serial pulmonary function available at 12 months, of which 3 (11.1%) had $>10\%$ decline in FVC. 23 had repeat

Abstract P4 Table 1 Characteristics of the subjects

Characteristics	Subjects with ILAs on LDCT (n = 39)
Age, yr, mean ($\pm$ SD)	68.8 ($\pm$ 4.3)
Gender, n (%)	
Female	15 (38.5)
Male	24 (61.5)
Smoking status, n (%)	
Current	7 (17.9)
Ex	32 (82.1)
Respiratory symptoms, n (%)	
None	19 (48.7)
Cough	3 (7.7)
Dyspnoea	9 (23.1)
Cough & dyspnoea	6 (15.4)
N/A	2 (5.1)
Physical examination findings, n (%)	
None	5 (12.8)
Crackles	17 (43.6)
N/A	17 (43.6)
Baseline lung function,%pred, median (range)	
FEV1,% pred	91 (58 – 130)
FVC,% pred	94.8 (65 – 143)
TLco,% pred	57.6 (28.4 – 98.8)
Kco,% pred	79.5 (36.4 – 94)
MDT Diagnosis	
ILAs, n (%)	8 (20.5)
ILD, n (%)	
IPF	14 (35.9)
Smoking-related ILD	6 (15.4)
Hypersensitivity pneumonitis	4 (10.3)
PPFE	3 (7.7)
Sarcoidosis	1 (2.6)
Post-COVID ILD	1 (2.6)
Vasculitis	1 (2.6)
Unclassifiable	1 (2.6)
Treatment, n (%)	
Smoking cessation advice	6 (15.4)
Antifibrotic	7 (17.9)
Immunomodulatory treatment	2 (5.1)
None	23 (59)