

**Appendix 1: Radiology Report proforma for Incidental Findings**

9	Emphysema extent	None Unclear Trivial (<5%) Mild (5-25%) Moderate (25-50%) Severe (50-75%) Very severe (>75%)
10	Coronary calcium: LMLAD	None Minimum Mild Moderate Severe Not Reported
11	Coronary calcium: CIR	None Minimum Mild Moderate Severe Not Reported
12	Coronary calcium: RCA	None Minimum Mild Moderate Severe Not Reported
14	Family history of lung cancer	Yes No
15	Please select the applicable pulmonary incidental findings for this patient	None [EXCL] Bronchiectasis Interstitial lung disease Pleural plaques Diffuse pleural thickening Pleural effusion
15a	Bronchiectasis	Mild (1.5-2x artery) Moderate (2-3x artery) Severe- (>3x artery AND >1 segment)
15b	Interstitial lung disease	< 10% reticulation >= 10 % reticulation without fibrotic features >=10% reticulation with fibrotic features
15c	Pleural plaques	Yes No
15d	Diffuse pleural thickening	Yes No

15e	Pleural effusion	Unilateral - Right Unilateral - Left Bilateral
16	Please select the applicable mediastinal and neck incidental findings.	None [EXCL] Thoracic aortic dilatation Anterior mediastinal mass Aortic valve calcification Thyroid nodule
16a	Thoracic aortic dilatation	$\geq 4$ cm and $< 5.5$ cm $\geq 5.5$ cm
16b	Anterior mediastinal mass	$< 3$ cm, no suspicious features at baseline/no growth on serial imaging $< 3$ cm, suspicious features or growing on serial imaging $\geq 3$ cm
16c	Aortic valve calcification	Central Peripheral Both
16d	Thyroid nodule	Nodule with fine calcification Nodule associated with local lymphadenopathy Both
17	Please select the applicable subdiaphragmatic incidental findings.	None [EXCL] Adrenal opacity Significant abdominal aortic dilatation Hiatus hernia Osteoporotic wedge fracture
17a	Adrenal opacity	1-4 cm or HU $> 10$ $> 4$ cm
17b	Significant abdominal aortic dilatation	$\geq 3$ cm and $< 5$ cm $\geq 5$ cm
17c	Hiatus hernia	Absent Present
17d	Osteoporotic wedge fracture	$< 50\%$ $\geq 50\%$
18	Are there any other emergency non-cancerous findings?	Yes No
18a	Describe the other emergency non-cancerous findings	
19	Is there a likely non-pulmonary malignancy (not already captured in the structured report)?	Yes No

	Enter information for suspicious non-pulmonary lesion(s)	
20	Site	
20a	Size (in mm)	
20b	MDT recommendation and other comments	
25	Additional comments on the recommendation	

## Appendix 2: Lung Health Check questions regarding respiratory symptoms and respiratory co-morbidities

1	Do you currently have a cough?	Yes No
1a	[If 'yes' to Q1] When did the cough start?	Within the last 3 weeks 3 to 6 weeks ago 6 weeks to 6 months ago 6 months to 12 months ago 12 months to 24 months ago Greater than 24 months ago
1b	[If 'yes' to Q1] When you cough, do you usually cough up phlegm (sputum)?	Yes No
2	[Show if Q1a is not equal to "Within 3 weeks"] Have you noticed any change in your normal chest symptoms during the past 3 weeks?	Yes No
2a	[Show if 'yes' to Q2] Have your symptoms improved or deteriorated?	Improved Deteriorated
2b	[Show if answer 'deteriorated' to Q2a] [Show if Q1a is not equal to "Within 3 weeks"] Has the cough worsened in the last three weeks?	Yes No
2c (i)	[Show if answer 'deteriorated' to Q2a or 'within 3 weeks' to Q1a] We would like to ask some more questions about symptoms which may have changed.  Fever/ sweats	Yes No
2c (ii)	[Show if answer 'deteriorated' to Q2a or 'within 3 weeks' to Q1a]  Increased phlegm (sputum) production/ change in the colour of phlegm	Yes No

2c (iii)	[Show If answer 'deteriorated' to Q2a or 'within 3 weeks' to Q1a]  Increased shortness of breath	Yes No
2c (iv)	[Show If answer 'deteriorated' to Q2a or 'within 3 weeks' to Q1a]  Increased wheeze (noisy breathing)	Yes No
2c (v)	[Show If answer 'deteriorated' to Q2a or 'within 3 weeks' to Q1a]  Sharp chest pain when you take a deep breath (pleuritic pain)	Yes No
3	Are you currently taking antibiotics or steroids prescribed for an acute chest infection?	Yes No
4	How many times in the past 12 months have you used antibiotics or steroids for your chest?	[number input][range 0:50]
9	Have you coughed up blood in the last year?	Yes No
9a	[Show if yes to Q9] Have you coughed up blood within the past two weeks?	Yes No
9b	[Show if yes to Q9] Has the blood been investigated by a doctor?	Yes No
10	Which of these best describes your breathing?	[Only one option can be selected]  Only breathless on strenuous exercise  Breathless when hurrying on the flat or up a slight hill  Slower than peers when walking. Would need to stop after 15 minutes or 1 mile at own pace  Would need to stop due to breathlessness after 100 yards on the flat  Too breathless to leave house or when washing/dressing

		Unable to answer questions as limited due to other co-morbidity
11	Have you lost weight in the past three months?	Yes No
11a	[Show if 'yes' to Q11] Was the weight loss intentional?	Yes No
11b	[Show if 'yes' to Q11] Do you know how much weight you have lost in the past three months?	Yes No
11c	[Show if 'yes' to Q11b] How much weight have you lost?	[Number input] _____ Kg or _____ lb
11d	[Show if 'no' to Q11a] Has this unintentional weight loss been investigated by a doctor?	Yes No
	Medical History	
12	Have you ever been told you have any of the following conditions?	
12i	COPD/chronic bronchitis/emphysema	Yes No [Field to auto populate from phone screener Q6, with ability to edit response at LHC]
12ii	Asthma	Yes No
12iii	Atopy - hayfever/eczema/rhinitis	Yes No
12iv	Pulmonary fibrosis	Yes No
12v	Bronchiectasis	Yes No
12vi	Previous Pneumonia	Yes No
12vii	Sarcoidosis	Yes No
12viii	Tuberculosis (TB)	Yes No
12viii a	[show if 'yes' to Q12viii] Did or do you have pulmonary or non-pulmonary Tuberculosis (TB)?	Lung only (Pulmonary) Outside the lung only (extra-pulmonary) Lung and elsewhere in the body I don't know
12viii b	[show if 'yes' to Q12viii] Are you currently receiving treatment for Tuberculosis (TB)?	Yes No

	Family History	
14	Have your parents, brother, sister, or children ever been diagnosed with lung cancer?	Yes No  [Field to auto populate from phone screener Q8, with ability to edit response at LHC]
	Demographics	
15	Which of these categories best describes your ethnic group?	White British White Irish Other White White and Black Caribbean White and Black African White and Asian Chinese Other Asian Black Caribbean Black African Other Black Indian Pakistani Bangladeshi Other Mixed Any other ethnic group
16	What is the highest level of education you have achieved?	Finished school at or before the age of fifteen Completed CSEs, O-levels or equivalent Completed A-levels or equivalent Completed further education but not a degree Completed a Bachelor's degree or equivalent Completed a further degree e.g. masters or PhD etc  [Field to auto populate from phone screener Q5, with ability to edit response at LHC]
	Smoking History	
17	Have you smoked more than 100 cigarettes in your lifetime?	Yes No [Field to auto populate from phone screener Q1, with ability to edit response at LHC]
17a	[If yes to Q17] Do you currently smoke cigarettes regularly?	Yes No

		[Field to auto populate from phone screener Q3, with ability to edit response at LHC]
17b	At what age did you start smoking cigarettes regularly?	_ years  [Field to auto populate from phone screener Q3c, with ability to edit response at LHC] [range 1:78]
17c	[If no to Q17a] At what age did you stop smoking cigarettes regularly?	[number input] _ Years  [Field to auto populate from phone screener Q3b, with ability to edit response at LHC] [range 1:78]
17d	[If yes to Q17a] During the time you have smoked cigarettes, have you ever stopped smoking for more than one month?	Yes No  [Field to auto populate from phone screener Q3d, with ability to edit response at LHC]
17e	[If yes to 17d] How many months did you stop for in total? [Range 1-500]	Months  [Field to auto populate from phone screener Q3d(i), with ability to edit response at LHC]
17f	How many cigarettes do or did you smoke per day on average for the majority of your time as a smoker?	__ number of cigarettes per day  or __ grams of tobacco per week  [Field to auto populate from phone screener Q3e or Q3f, with ability to edit response at LHC]
18	Have you ever smoked any of the following types of tobacco in addition to or instead of cigarettes?	[Please select all that apply] Cigars Cigarillos Pipe Marijuana Waterpipe None of the above
18a	[show if selects cigars in Q18] How often do or did you smoke cigars?	[please select one option]  Occasionally (less than weekly) Regularly (at least once per week)
18b	[Show if select regularly to Q18a] Do you smoke cigars currently?	Yes No
18c	[Show if select regularly to Q18a] At what age did you start smoking cigars?	[number input]

18d	[Show if select regularly to Q18a and no to Q18b] At what age did you stop smoking cigars?	[number input]
18e	[Show if select regularly to Q18a] How many cigars do or did you smoke per week on average for the majority of your time as a smoker?	[number input] _ per week
18f	[show if selects cigarillos in Q18] How often do or did you smoke cigarillos?	Occasionally (less than weekly) Regularly (at least once per week)
18g	[Show if select regularly to Q18f] Do you smoke cigarillos currently?	Yes No
18h	[Show if select regularly to Q18f] At what age did you start smoking cigarillos?	[number input]
18i	[Show if select regularly to Q18f and no to Q18g] At what age did you stop smoking cigarillos?	[number input]
18j	[Show if select regularly to Q18f] How many cigarillos do or did you smoke per week on average for the majority of your time as a smoker?	[number input] per week
18k	[show if selects pipe in Q18] How often do or did you smoke a pipe?	Occasionally (less than weekly) Regularly (at least once per week)
18l	[Show if select regularly to Q18k] Do you smoke a pipe currently?	Yes No
18m	[Show if select regularly to Q18k] At what age did you start smoking a pipe?	[number input]
18n	[Show if select regularly to Q18k and no to Q18l] At what age did you stop smoking a pipe?	[number input]
18o	[Show if select regularly to Q18k] How many pipe bowls do or did you smoke per week on average for the majority of your time as a smoker?	[number input] per week
18p	[show if selects marijuana in Q18] How often do or did you smoke marijuana?	Occasionally (less than weekly) Regularly (at least once per week) Decline to answer
18q	[Show if select regularly to Q18p] Do you smoke marijuana currently?	Yes No
18r	[Show if select regularly to Q18p] At what age did you start smoking marijuana?	[number input]
18s	[Show if select regularly to Q18p and no to Q18q] At what age did you stop smoking marijuana?	[number input]
18t	[Show if select regularly to Q18p]	[number input] per week



	How many joints of marijuana do or did you smoke per week on average for the majority of your time as a smoker?	
18u	[show if selects waterpipe in Q18] How often do or did you use a waterpipe (20 minute session)?	Occasionally (less than weekly) Regularly (at least once per week)
18v	[Show if select regularly to Q18u] Do you smoke a waterpipe currently?	Yes No
18w	[Show if select regularly to Q18u] At what age did you start smoking a waterpipe?	[number input]
18x	[Show if select regularly to Q18u and no to Q18v] At what age did you stop smoking a waterpipe?	[number input]
18y	[Show if select regularly to Q18u] For how many sessions (20 minutes) do or did you use a waterpipe per week on average for the majority of your time as a smoker?	[number input] per week
	Smoking cessation	
19	[Show if yes to Q17a or 18b or 18g or 18l] Please confirm that Very Brief Advice (VBA) on smoking cessation has been given	Yes No
19a	[Show if 'No' to Q19] If no VBA given, please briefly explain why	[Free text]
20	[if yes to Q17a or 18b or 18g or 18l] Has the participant consented to a smoking cessation referral being made on their behalf? This includes consent to their information being shared with a stop smoking service and to being contacted about the referral by that service.	Yes No, the participant would prefer to self-refer No, the participant does not want support from a stop smoking service No, already in contact with a stop smoking service
	Clinical recordings	
23	Height [range:60-280]	__ cm [numerical input to 1.dp]
24	Weight [range:25-350]	__ kg [numerical input to 1.dp]
25	Has the participant had their blood pressure taken?	Yes Declined
25a	[Show if yes to Q25] BP (systolic) [range:30-250]	__ mmHg

25b	[Show if yes to Q25] BP (diastolic) [range:10-250]	__ mmHg
26a	Was spirometry cancelled due to Covid-19 related social distancing guidelines?	Yes No
26b	[show if "No" to 26a] Is spirometry contraindicated?	Yes No
26c	[Show if no to Q26b] FEV1  [Range 0.10L to 9.99L]	__ litres [numerical input to 2. dp]
26d	[Show if no to Q26b] FEV1 % Predicted  [Max 250%]	__ % [numerical to 1.dp]
26e	[Show if no to Q26b] FVC  [Range 0.1L to 9.99L]	__ litres [numerical input to 2 dp]
26f	[Show if no to Q26b] FVC % Predicted  [Max 250%]	__ %
26g	[Show if no to Q26b] FEV1: FVC [Range 0-1]	[Numerical input to 2.dp]
27	BMI [This should be calculated, no need for staff to enter] [Hidden from the nurse/UI]	__ kg/m <sup>2</sup>
28	USPSTF criteria met? [This should be calculated, no need for staff to enter] [Hidden from Nurse/UI]	Yes No
29	PLCO risk score [This should be calculated, no need for staff to enter] [Hidden from Nurse/UI]	Numeric
30	Smoking pack years [This should be calculated, no need for staff to enter] [Hidden from Nurse/UI]	Numeric

### Appendix 3: Supplementary data

	Emphysema (n=3711)	No emphysema (n=7404)	p value
Age (years)	66.26 (±6.01)	64.90 (±6.11)	<0.001
Male (%)	58.6% (n=2175)	56.9% (n=4211)	0.081
Current smoker (%)	51.4% (n=1907)	47.1% (n=3490)	<0.001

<b>Pack year history (years)</b>	47.84 ( $\pm$ 22.72)	44.05 ( $\pm$ 23.03)	<0.001
<b>Airflow obstruction? (%)</b>	67.8% (n=2515)	40.3% (n=2982)	<0.001
<b>Cough &gt; 6 weeks (%)</b>	28.3% (n=1052)	21.9% (n=1620)	<0.001
<b>Sputum (%)</b>	19.6% (n=727)	13.7% (n=1012)	<0.001
<b>MRC score <math>\geq</math>1 (%)</b>	70.5% (n=2618)	63.9% (n=4730)	<0.001
<b><math>\geq</math>2 exacerbations per year (%)</b>	10.1% (n=375)	6.5% (n=479)	<0.001
<b>Self-reported diagnosis of COPD</b>	52.3% (n=2126)	31.6% (n=2342)	<0.001

**Supplementary Table A: Characteristics of those with emphysema on baseline LDCT compared to those without**

	<b>Bronchiectasis (n=818)</b>	<b>No bronchiectasis (n=10,297)</b>	<b>p value</b>
<b>Age (years)</b>	67.33 ( $\pm$ 5.88)	65.20 ( $\pm$ 6.10)	<0.001
<b>Male? (%)</b>	59.8% (n=489)	57.3% (n=5897)	0.162
<b>Cough &gt; 6 weeks (%)</b>	27.6% (n=226)	23.8% (n=2448)	0.013
<b>Sputum (%)</b>	18.8% (n=154)	15.4% (n=1585)	0.009
<b>MRC score <math>\geq</math>1 (%)</b>	67.8% (n=555)	66.0% (n=6793)	0.275
<b>Haemoptysis in past year? (%)</b>	2.6% (n=21)	2.3% (n=237)	0.627
<b>Exacerbations in past year (median)</b>	0.00 (0.00-1.00)	0.00 (0.00-0.00)	<0.001
<b><math>\geq</math>2 exacerbations per year (%)</b>	10.1% (n=83)	7.5% (n=771)	0.006
<b>Previous pneumonia (%)</b>	20.8% (n=170)	14.5% (n=1495)	<0.001
<b>Previous TB (%)</b>	4.4% (n=36)	1.9% (n=199)	<0.001
<b>Self-reported bronchiectasis (%)</b>	1.7% (n=14)	0.7% (n=75)	0.002
<b>FEV1% predicted (%)</b>	74.01 ( $\pm$ 22.14)	76.16 ( $\pm$ 19.58)	0.003
<b>Airflow obstruction (%)</b>	54.5% (n=446)	49.1% (n=5051)	0.003

**Supplementary Table B: Characteristics of those with and without bronchiectasis on baseline LDCT**

<b>Variable</b>	<b>Unadjusted OR (95% CI)</b>	<b>p</b>	<b>Adjusted OR (95% CI)</b>	<b>p</b>
<b>Age</b>				
Per increasing year	1.06 (1.05-1.07)	<0.001	1.05 (1.04-1.07)	<0.001
<b>Gender</b>				

Male	1		1	
Female	0.902 (0.780-1.043)	0.162	0.87 (0.75-1.01)	0.064
<b>Previous TB</b>				
No history of TB	1		1	
Previous TB	2.332 (1.626-3.356)	<0.001	2.20 (1.53-3.12)	<0.001
<b>Pneumonia</b>				
No previous history	1		1	
History of pneumonia	1.545 (1.293-1.845)	<0.001	1.42 (1.19-1.71)	<0.001
<b>Smoking status</b>				
Current smoker	1	<0.001	1	
Former smoker	1.49 (1.29-1.72)		1.22 (1.45-1.54)	<0.001
<b>Exacerbations in past 12 months</b>				
Per increasing exacerbation	1.12 (1.06-1.12)	<0.001	1.10 (1.04-1.17)	0.002
<b>Airflow obstruction</b>				
No airflow obstruction	1		1	
Airflow obstruction	1.25 (1.08-1.44)	0.003	1.08 (0.93-1.25)	0.305

**Supplementary Table C: Bronchiectasis: Univariate and multivariate binary logistic analysis assessing the relationship between associated variables and presence on baseline LDCT**

	ILD (n=528)	No ILD (n= 10,587)	p value
Age (years)	67.52 ( $\pm$ 6.03)	65.24 ( $\pm$ 6.09)	<0.001
Male Sex (%)	64.6% (n=341)	57.1% (n=6045)	0.001
Current smoker (%)	47.5% (n=251)	48.6% (n=5146)	0.631
Pack year history (years)	45.80 ( $\pm$ 25.70)	45.29 ( $\pm$ 22.86)	0.620
Cough > 6 weeks (%)	26.1% (n=138)	23.9% (n=2534)	0.248
MRC score $\geq$ 1 (%)	67.4% (n=356)	66.0% (n=6992)	0.513
Self-reported ILD (%)	1.1% (n=6)	0.3% (n=37)	0.004
FEV1% predicted (%)	77.98 ( $\pm$ 18.60)	75.91 ( $\pm$ 19.84)	0.019
Emphysema present (%)	37.3% (n=197)	33.2% (n=3541)	0.050
Airflow obstruction (%)	42.8% (n=226)	49.8% (n=5271)	0.002

**Supplementary Table D: Characteristics of those with and without ILA on baseline LDCT**

Variable	Unadjusted OR (95% CI)	p	Adjusted OR (95%CI)	p
<b>Age</b>				
Per increasing year	1.062 (1.049-1.079)	<0.001	1.072 (1.055-1.088)	<0.001
<b>Gender</b>				
Female	1		1	
Male	1.370 (1.142-1.644)	0.001	1.272 (1.047-1.546)	0.016
<b>Pneumonia</b>				

No previous history	1		1	
History of pneumonia	0.952 (0.742-1.221)	0.699	0.942 (0.731-1.214)	0.646
<b>Smoking status</b>				
Current smoker	1		1	
Former smoker	1.044 (0.876-1.243)	0.632	0.878 (0.733-1.052)	0.159
<b>Pack years</b>				
Per increasing year	1.001 (0.997-1.005)	0.620	1.00 (0.996-1.003)	0.852
<b>Occupational Asbestos exposure</b>				
No	1		1	
Yes	1.389 (1.127-1.712)	0.002	1.293 (1.033-1.618)	0.025
<b>Airflow obstruction</b>				
No airflow obstruction	1		1	
Airflow obstruction	0.755 (0.633-0.990)	0.002	0.608 (0.504-0.734)	<0.001

**Supplementary Table E: Interstitial Lung Abnormalities: Univariate and multivariate binary logistic analysis assessing the relationship between associated variables and presence on baseline LDCT**

	CAC present (n=7141)	No CAC (n=3974)	p value
<b>Age (years)</b>	66.52 (±5.98)	63.26 (±5.78)	<0.001
<b>Male Sex(%)</b>	65.3% (n=4663)	43.4% (n=1723)	<0.001
<b>BMI (kg/m<sup>2</sup>)</b>	28.28 (±9.63)	27.90 (±9.24)	0.040
<b>Systolic BP (mmHg)</b>	135.34 (±17.68)	131.83 (±17.23)	<0.001
<b>Systolic BP ≥140mmHg (%)</b>	40.7% (n=2906)	32.1% (n=1275)	<0.001
<b>Systolic BP ≥160mmHg (%)</b>	8.4% (n=598)	5.9% (n=233)	<0.001
<b>Diastolic BP (mmHg)</b>	79.72 (±10.53)	80.41 (±10.15)	0.001
<b>Current smoker (%)</b>	47.3% (n=3378)	50.8% (n=2019)	<0.001
<b>Pack year history (years)</b>	46.67 (±24.19)	42.88 (±20.48)	<0.001
<b>Ethnicity</b>			
<b>White</b>	84.0% (n=5997)	82.1% (n=3262)	<0.001
<b>Mixed</b>	2.0% (n=141)	2.7% (n=109)	
<b>Asian</b>	7.8% (n=560)	4.6% (n=183)	
<b>Black</b>	3.2% (n=226)	6.5% (n=258)	
<b>Other</b>	3.0% (n=217)	4.1% (n=162)	
<b>Airflow obstruction (%)</b>	51.8% (n=3696)	45.3% (n=1801)	<0.001

**Supplementary Table F. Baseline characteristics of those with CAC compared to those without CAC on baseline LDCT**

	Thoracic aneurysm present (N=306)	No aneurysm present (N=10809)	p value
<b>Age (years)</b>	66.64 (±9.75)	65.32(±10.00)	<0.001
<b>Male Sex(%)</b>	69.9% (n=214)	57.1%(N=6172)	<0.001
<b>BMI (kg/m<sup>2</sup>)</b>	28.08 (±5.90)	28.15 (±6.61)	0.810
<b>Systolic BP (mmHg)</b>	135.5 (±22.0)	134.0 (±24.0)	<0.001
<b>Systolic BP ≥140mmHg (%)</b>	38.9% (n=119)	37.6% (n=4062)	0.685
<b>Systolic BP ≥160mmHg (%)</b>	9.5% (n=29)	7.4% (n=802)	0.215
<b>Diastolic BP (mmHg)</b>	83.2 (IQR±14)	79.88 (±14)	<0.001
<b>Current smoker (%)</b>	47.3% (n=3378)	50.8% (n=2019)	<0.001
<b>Pack year history (years)</b>	43.46 (±19.25)	45.36 (±18.75)	0.136
<b>Ethnicity</b>			
<b>White</b>	84.0% (n=5997)	82.1% (n=3262)	<0.001
<b>Mixed</b>	2.0% (n=141)	2.7% (n=109)	
<b>Asian</b>	7.8% (n=560)	4.6% (n=183)	
<b>Black</b>	3.2% (n=226)	6.5% (n=258)	
<b>Other</b>	3.0% (n=217)	4.1% (n=162)	
<b>Airflow obstruction (%)</b>	50.7% (n=155)	49.4% (n=5342)	0.714

**Supplementary Table G: Baseline characteristics of those with and without thoracic aortic aneurysm on baseline LDCT**

Variable	Unadjusted OR (95% CI)	p	Adjusted OR (95% CI)	p
<b>BMI</b>				
Per increasing kg/m <sup>2</sup>	0.998 (0.980-1.008)	0.822	0.998 (0.980-1.007)	0.827
<b>Age</b>				

Per increasing year	1.036 (1.017 – 1.055)	<0.001	1.048 (1.027- 1.069)	<0.001
<b>Gender</b>				
Female	1		1	
Male	1.748 (1.370 – 2.248)	<0.001	1.655 (1.290 – 2.139)	<0.001
<b>Blood pressure</b>				
Systolic BP	1.010 (1.004-1.017)	0.001	0.998 (0.990 – 1.005)	0.537
Diastolic BP	1.030 (1.019 – 1.040)	<0.001	1.032 (1.020 – 1.045)	<0.001
<b>Smoking status</b>				
Former smoker	1		1	
Current smoker	1.019 (0.812-1.279)	0.869	1.126 (0.890 – 1.425)	0.321
<b>Pack year history</b>				
Per increasing pack year	0.996 (0.990 – 1.001)	0.152	0.994 (0.988 – 1.000)	0.044
<b>Airflow obstruction</b>				
No airflow obstruction	1		1	
Airflow obstruction	1.051 (0.837 – 1.319)	0.671	1.000 (0.790-1.263)	0.990

**Supplementary Table H: Thoracic Aortic Aneurysm: Univariate and multivariate binary logistic analysis assessing the relationship between associated variables and presence on baseline LDCT**

	Vertebral wedge fracture (n=801)	No vertebral wedge fractures (n=10,314)	p value
Prevalence in males	467/6386 (7.3%)	-	
Prevalence in females	334/4729 (7.1%)	-	
Age (years)	67.24 (±6.15)	65.21 (±6.08)	<0.001
Female (%)	41.7 % (n=334)	42.6% (n=4395)	0.614
BMI (kg/m <sup>2</sup> )	27.42 (±5.24)	28.20 (±9.74)	0.026
Pack year history	45.98 (±22.36)	45.26 (±23.05)	0.394
Current smoker (%)	47.7% (n=382)	48.6% (n=5015)	0.611
Personal history of cancer (%)	15.4% (n=123)	13.1% (n=1351)	0.07
IMD rank	12,147.84 (±7660.29)	12068.96 (±7797.61)	0.784
Exacerbations over last year	0.00 (0.00-0.00)	0.00 (0.00-0.00)	0.351
Airflow obstruction (%)	58.1% (n=465)	48.8% (n=5032)	<0.001

**Supplementary Table I: Characteristics of those with and without the presence of vertebral wedge fractures on baseline LDCT**

Variable	Unadjusted OR	p	Adjusted OR	p
<b>BMI</b>				
Per increasing kg/m <sup>2</sup>	0.98 (0.97-0.99)	0.004	0.99 (0.97-1.00)	0.043
<b>Age</b>				
Per increasing year	1.06 (1.04-1.07)	<0.001	1.05 (1.04-1.07)	<0.001
<b>Gender</b>				
Male	1		1	
Female	0.96 (0.83-1.11)	0.61	0.95 (0.82-1.10)	0.505
<b>Smoking status</b>				
Current smoker	1		1	
Former smoker	1.04 (0.90-1.20)	0.611	0.96 (0.82-1.11)	0.957

<b>Pack year history</b>				
Per increasing pack year	1.00 (1.00-1.00)	0.39	1.00 (1.00-1.00)	0.885
<b>Personal history of cancer</b>				
No	1		1	
Yes	1.20 (0.98-1.47)	0.07	1.1 (0.90-1.35)	0.368
<b>Airflow obstruction</b>				
No airflow obstruction	1		1	
Airflow obstruction	1.45 (1.26-1.68)	<0.001	1.26 (1.08-1.46)	0.003

**Supplementary Table J: Vertebral wedge fractures: Univariate and multivariate binary logistic analysis assessing the relationship between associated variables and presence on baseline LDCT**

	<b>Hiatus Hernia (n=1068)</b>	<b>No hiatus hernia (n=10,047)</b>	<b>p value</b>
<b>Age (years)</b>	67.59 (±5.92)	65.12 (±6.08)	<0.001
<b>Male (%)</b>	49.3% (n=527)	58.3% (n=5859)	<0.001
<b>BMI (kg/m<sup>2</sup>)</b>	28.69 (±5.20)	28.08 (±9.84)	0.046
<b>Current smoker (%)</b>	38.5% (n=411)	49.6% (n=4986)	<0.001
<b>Airflow obstruction (%)</b>	55.9% (n=597)	48.85 (n=4900)	<0.001

**Supplementary Table K: Characteristics of participants with and without the presence of a hiatus hernia on baseline LDCT**

<b>Variable</b>	<b>Unadjusted OR (95% CI)</b>	<b>p</b>	<b>Adjusted OR (95%CI)</b>	<b>p</b>
<b>Age</b>				
Per increasing year	1.069 (1.058-1.080)	<0.001	1.062 (1.050-1.073)	<0.001
<b>Gender</b>				
Female	1		1	
Male	0.696 (0.614-0.790)	<0.001	0.693 (0.610-0.788)	<0.001
<b>BMI</b>				
Per increasing kg/m <sup>2</sup>	1.004 (1.000-1.009)	0.061	1.005 (1.000-1.009)	0.059
<b>Smoking status</b>				
Current smoker	1		1	
Former smoker	1.575 (1.384-1.792)	<0.001	1.379 (1.207-1.575)	<0.001
<b>Airflow obstruction</b>				
No	1		1	
Yes	1.331 (1.173-1.512)	<0.001	1.195 (1.049-1.362)	0.007

**Supplementary Table L: Hiatus Hernia: Univariate and multivariate binary logistic analysis assessing the relationship between associated variables and presence on baseline LDCT**



