Table S1 Diagnostic characteristics of lung cancer patients who underwent LDCT screening stratified by cancer location

Variable	Total (n=352)	Central lung cancer (n=78)	Peripheral lung cancer (n=274)	P value
Age at first screening, mean ± SD	59.6±9.8	61.9±10.5	59.0±9.5	0.029
Age at diagnosis, mean ± SD	63.8±10.3	67.1±11.2	62.9±9.9	0.003
Smoking status at first screening, n (%)				<0.001
Never-smoker	115 (32.7)	12 (15.4)	103 (37.6)	
Current smoker	141 (40.1)	49 (62.8)	92 (33.6)	
Former smoker	96 (27.3)	17 (21.8)	79 (28.8)	
Smoking pack-years at first screening, mean ± SD	23.1±23.6	37.5±26.8	19.0±20.9	<0.001
Method of detection				
Screen-detected, n (%)	281 (79.8)	32 (41.0)	249 (90.9)	<0.001
Detected at baseline screening, n/N (%)	196/281 (69.8)	19/32 (59.4)	177/249 (71.1)	0.175
Detected at follow-up screening, n/N (%)	85/281 (30.2)	13/32 (40.6)	72/249 (28.9)	0.175
Non-screen-detected, n (%)	71 (20.2)	46 (59.0)	25 (9.1)	<0.001
Missed cancer, n/N (%)	11/71 (15.5)	3/46 (6.5)	8/25 (32.0)	0.013
Non-compliance of participant n/N (%)	3/71 (4.2)	2/46 (4.3)	1/25 (4.0)	1.000
Negative screen, n/N (%)	57/71 (80.3)	41/46 (89.1)	16/25 (64.0)	0.026
Type of primary tumor at first detection				<0.001
Solid	174 (49.4)	71 (91.0)	103 (37.6)	
Part-solid	126 (35.8)	6 (7.7)	120 (43.8)	
Pure GGN	52 (14.8)	1 (1.3)	51 (18.6)	
Location of primary tumor, n (%)				0.089
Right upper lobe	118 (33.5)	28 (35.9)	90 (32.8)	
Right middle lobe	23 (6.5)	3 (2.8)	20 (7.3)	
Right lower lobe	68 (19.3)	12 (15.4)	56 (20.4)	
Left upper lobe	94 (26.7)	27 (34.6)	67 (24.5)	
Left lower lobe	48 (13.6)	7 (9.0)	41 (15.0)	
Main trachea or mediastinum	1 (0.3)	1 (1.3)	0 (0)	
Tumor size at first detection (mm), mean ± SD	23.4±19.2	41.3±25.0	18.3±13.4	<0.001
Tumor with endobronchial lesion, n (%)*	56 (15.9)	52 (66.7)	4 (1.5)	<0.001
Number of LDCT screening rounds, mean ± SD	1.7±1.4	1.7±1.2	1.7±1.4	0.920
Number of CT scans including first LDCT before pathologic diagnosis, mean ± SD	3.7±2.3	3.0±1.4	3.8 ±2.5	0.008
Time from baseline LDCT screening to pathologic diagnosis (months), mean ± SD	47.8±51.5	59.0±51.1	44.6±51.2	0.030

*, endobronchial tumor or obstructive lesion(s) confirmed by bronchoscopic evaluation. LDCT, low-dose chest computed tomography; SD, standard deviation; GGN, ground glass nodule.

Table S2 Clinical course of lung cancer patients who underwent LDCT screening stratified by cancer location

Variable	Total (n=352)	Central lung cancer (n=78)	Peripheral lung cancer (n=274)	P value
Cancer histology, n (%)				<0.001
Adenocarcinoma in situ	21 (6.0)	1 (1.3)	20 (7.3)	
Minimally invasive adenocarcinoma	42 (11.9)	1 (1.3)	41 (15.0)	
Invasive adenocarcinoma	208 (59.1)	27 (34.6)	181 (66.1)	
Adenosquamous carcinoma	3 (0.9)	1 (1.3)	2 (0.7)	
Squamous cell carcinoma	46 (13.1)	21 (26.9)	25 (9.1)	
Other non-small cell carcinoma	13 (3.7)	10 (12.8)	3 (1.1)	
Small cell carcinoma	19 (5.4)	17 (21.8)	2 (0.7)	
Lung cancer staging, n (%)				<0.001
0*	21 (6.0)	1 (1.3)	20 (7.3)	
IA	195 (55.4)	10 (12.8)	185 (67.5)	
IB	30 (8.5)	4 (5.1)	26 (9.5)	
IIA	9 (2.6)	3 (2.8)	6 (2.2)	
IIB	12 (3.4)	3 (3.8)	9 (3.3)	
IIIA	26 (7.4)	17 (21.8)	9 (3.3)	
IIIB	6 (1.7)	5 (6.4)	1 (0.4)	
IIIC	8 (2.3)	5 (6.4)	3 (1.1)	
IV	45 (12.8)	30 (38.5)	15 (5.5)	
Advanced stage at diagnosis (stage III/IV)	85 (24.1)	57 (73.1)	28 (10.2)	<0.001
Initial treatment, n (%)				<0.001
Surgery	287 (81.5)	31 (39.7)	256 (93.4)	
Limited resection, n/N (%)	86/287 (30.0)	1/31 (3.2)	85/256 (33.2)	
Lobectomy, n/N (%)	196/287 (68.3)	26/31 (83.9)	170/256 (66.4)	
Bilobectomy, n/N (%)	3/287 (1.0)	2/31 (6.5)	1/256 (0.4)	
Pneumonectomy, n/N (%)	2/287 (0.7)	2/31 (6.5)	0/256 (0)	
Chemotherapy with or without radiotherapy	58 (16.5)	41 (52.6)	17 (6.2)	
Supportive care only	7 (2.0)	6 (7.7)	1 (0.4)	
Recurrence after curative treatment, n (%)	31 (8.8)	14 (17.9)	17 (6.2)	0.001
Lung cancer-related death, n (%)	68 (19.3)	45 (57.7)	23 (8.4)	<0.001

*, cases of adenocarcinoma in situ. LDCT, low-dose chest computed tomography.

Table S3 Logistic regression for the risk of advanced stage (III or IV) at diagnosis in lung cancer patients who underwent LDCT screening

Variable	Univariate		Multivariate	
	OR (95% CI)	P value	OR (95% CI)	P value
Age at diagnosis	1.05 (1.03–1.08)	<0.001	1.01 (0.97–1.05)	0.633
Male sex (*vs.* female)	3.74 (1.79–7.83)	<0.001	1.44 (0.42–4.91)	0.563
Smoking pack-years	1.03 (1.02–1.04)	<0.001	0.99 (0.98–1.01)	0.479
Solid type (*vs.* subsolid)	51.99 (15.99–169.10)	<0.001	17.60 (4.89–63.35)	<0.001
Central location (*vs.* peripheral location)	23.85 (12.64–45.00)	<0.001	8.73 (4.10–18.60)	<0.001
Screen-detected (*vs.* non-screen-detected)	0.06 (0.03–0.11)	<0.001	0.32 (0.15–0.70)	0.004

LDCT, low-dose chest computed tomography; OR, odds ratio; CI, confidence interval.

Table S4 Cox-proportional hazard modelling for the risk of mortality from diagnosis in lung cancer patients who underwent LDCT screening

Variable	Univariate		Multivariate	
	HR (95% CI)	P value	HR (95% CI)	P value
Age at diagnosis	1.08 (1.05–1.11)	<0.001	1.04 (1.01–1.07)	0.005
Sex (male)	5.28 (1.92–14.51)	0.001	1.61 (0.54–4.85)	0.392
Smoking pack-years	1.03 (1.02–1.03)	<0.001	1.00 (0.99–1.02)	0.429
Solid type (*vs.* subsolid)	16.82 (6.76–41.83)	<0.001	5.11 (1.86–14.04)	0.002
Central location (*vs.* peripheral location)	10.97 (6.61–18.20)	<0.001	3.63 (2.02–6.53)	<0.001
Screen-detected (*vs.* non-screen-detected)	0.11 (0.07–0.18)	<0.001	0.53 (0.31–0.93)	0.025

LDCT, low-dose chest computed tomography; HR, hazard ratio; CI, confidence interval.

Table S5 Logistic regression for the risk of advanced stage (III or IV) at diagnosis according to location of cancer among screen-detected non-small cell lung cancers

Variable	Univariate		Multivariate	
	OR (95% CI)	P value	OR (95% CI)	P value
Screen-detected non-small cell lung cancer (n=273)				
Age at diagnosis	1.03 (0.99–1.07)	0.168	1.01 (0.97–1.06)	0.563
Sex (male)	3.16 (1.07–9.39)	0.038	3.27 (0.62–17.29)	0.163
Smoking pack-years	1.02 (1.00–1.03)	0.033	0.98 (0.95–1.01)	0.156
Solid type (*vs.* subsolid)	34.24 (7.93–147.89)	<0.001	26.66 (5.65–125.74)	<0.001
Central location (*vs.* peripheral location)	18.04 (7.11–45.79)	<0.001	14.66 (4.51–47.70)	<0.001

OR, odds ratio; CI, confidence interval.

Table S6 Cox-proportional hazard modelling for the risk of mortality from diagnosis according to location of cancer among screen-detected non-small cell lung cancers

Variable	Univariate		Multivariate	
	HR (95% CI)	P value	HR (95% CI)	P value
Screen-detected non-small cell lung cancer (n=273)				
Age at diagnosis	1.06 (1.01–1.11)	0.009	1.03 (0.98–1.08)	0.225
Sex (male)	2.86 (0.86–9.56)	0.088	1.05 (0.26–4.21)	0.950
Smoking pack-years	1.03 (1.01–1.04)	<0.001	1.01 (0.99–1.03)	0.200
Solid type (*vs.* subsolid)	8.50 (3.21–22.56)	<0.001	4.55 (1.57–13.17)	0.005
Central location (*vs.* peripheral location)	8.42 (3.86–18.37)	<0.001	3.95 (1.69–9.22)	0.001

HR, hazard ratio; CI, confidence interval.

Table S7 Estimation of sensitivity for LDCT screening for detection of lung cancer stratified by cancer location and histology*

Variable	Sensitivity for lung cancer detection
Central lung cancers (n=76)	42.1% (32/76)
Adenocarcinoma (n=29)	55.2% (16/29)
Squamous cell carcinoma (n=21)	28.6% (6/21)
Other NSCLC (n=11)	36.4% (4/11)
Small cell carcinoma (n=15)	40.0% (6/15)
Peripheral lung cancers (n=273)	91.2% (249/273)
Adenocarcinoma (n=242)	95.9% (232/242)
Squamous cell carcinoma (n=25)	48.0% (12/25)
Other NSCLC (n=4)	75.0% (3/4)
Small cell carcinoma (n=2)	100% (2/2)

*, defining true positive as screen-detected cases and false negatives as missed cancers or negative screen cases. Non-screen-detected cases due to non-compliance was defined indeterminate and excluded from the analyses. LDCT, low-dose chest computed tomography; NSCLC, non-small cell lung cancer.