

Table S1 Clinicopathologic and demographic characteristics for patients, stratified by lung adenocarcinoma versus CCAL, for cases diagnosed before 2015

Patient characteristic	Lung adenocarcinoma (N=338,385)	CCAL (N=1,183)	P value
Age at diagnosis (median, IQR), years	67.0 (58.0, 75.0)	65.0 (57.0, 72.0)	<0.01
Sex, n (%)			0.48
Male	164,148 (48.5)	586 (49.5)	
Female	174,237 (51.5)	597 (50.5)	
Race, n (%)			<0.01
White	283,049 (83.6)	1,043 (88.2)	
Black	39,980 (11.8)	104 (8.8)	
Other	12,749 (3.8)	26 (2.2)	
Unknown	2,607 (0.8)	10 (0.8)	
Education, n (%)			0.44
17.6%	71,828 (21.2)	233 (19.7)	
10.9%-17.5%	90,374 (26.7)	331 (28.0)	
6.3%-10.8%	90,938 (26.9)	325 (27.5)	
<6.3%	70,017 (20.7)	233 (19.7)	
Unknown	15,228 (4.5)	61 (5.2)	
CDCC Score, n (%)			<0.01
0	203,766 (60.2)	623 (52.7)	
1	92,355 (27.3)	380 (32.1)	
2	30,455 (9.0)	136 (11.5)	
3+	11,809 (3.5)	44 (3.7)	
Year of Diagnosis (median, IQR)	2010 (2007, 2012)	2008 (2006, 2011)	<0.01
Distance from Facility (median, IQR), miles	8.9 (4.0, 21.8)	10.2 (4.3, 24.5)	<0.01
Tumor Size (median, IQR), cm	32.0 (20.0, 50.0)	33.0 (20.0, 55.0)	0.09
Tumor Location, n (%)			<0.01
Main bronchus	103,984 (30.7)	404 (34.2)	
RUL	14,584 (4.3)	42 (3.6)	
RML	45,844 (13.5)	152 (12.8)	
RLL	75,010 (22.2)	308 (26.0)	
LUL	36,412 (10.8)	129 (10.9)	
LLL	14,158 (4.2)	40 (3.4)	
Unknown	48,393 (14.3)	108 (9.1)	
Insurance Status, n (%)			<0.01
Uninsured	13,743 (4.1)	38 (3.2)	
Private	106,978 (31.6)	437 (36.9)	
Medicaid	24,026 (7.1)	77 (6.5)	
Medicare	181,972 (53.8)	597 (50.5)	
Other	4,445 (1.3)	13 (1.1)	
Unknown	7,221 (2.1)	21 (1.8)	
Facility Type, n (%)			0.32
Community cancer program	23,913 (7.1)	72 (6.1)	
Comprehensive community	138,066 (40.8)	491 (41.5)	
Academic/research program	105,527 (31.2)	387 (32.7)	
Integrated network cancer program	68,216 (20.2)	224 (18.9)	
Unknown	2,663 (0.8)	9 (0.8)	
Median Household Income, n (%)			0.78
First quartile	68,274 (20.2)	229 (19.4)	
Second quartile	75,205 (22.2)	271 (22.9)	
Third quartile	75,847 (22.4)	255 (21.6)	
Fourth quartile	103,172 (30.5)	366 (30.9)	
Unknown	15,887 (4.7)	62 (5.2)	
Grade/Differentiation, n (%)			<0.01
Well differentiated; differentiated, NOS	20,634 (6.1)	44 (3.7)	
Moderately differentiated	70,860 (20.9)	287 (24.3)	
Poorly differentiated; dedifferentiated	96,280 (28.5)	471 (39.8)	
Undifferentiated; anaplastic	1,801 (0.5)	20 (1.7)	
Cell type not determined	148,810 (44.0)	361 (30.5)	
NCCDB Analytic Stage Group, n (%)			<0.01
Stage I	76,727 (22.7)	445 (37.6)	
Stage II	22,875 (6.8)	146 (12.3)	
Stage III	66,851 (19.8)	235 (19.9)	
Stage IV	171,932 (50.8)	357 (30.2)	
Clinical T status, n (%)			<0.01
T1a	95,875 (28.3)	412 (34.8)	
T1b	67,277 (19.9)	265 (22.4)	
T1c	38,562 (11.4)	158 (13.4)	
T2a	88,504 (26.2)	248 (21.0)	
Unknown	46,547 (13.8)	95 (8.0)	
Clinical N status, n (%)			<0.01
N0	112,621 (33.3)	484 (40.9)	
N1	24,741 (7.3)	75 (6.3)	
N2	94,661 (28.0)	219 (18.5)	
N3	42,588 (12.6)	104 (8.8)	
Unknown	63,744 (18.8)	301 (25.4)	
Clinical M status, n (%)			<0.01
M0	164,010 (48.5)	791 (66.9)	
M1	162,988 (48.2)	332 (28.1)	
Unknown	11,387 (3.4)	60 (5.1)	
Treatment, n (%)			<0.01
Surgery	95,145 (28.1)	723 (61.1)	
Chemotherapy	165,706 (49.0)	513 (43.4)	
Radiation	77,529 (22.9)	221 (18.7)	

Table S2 Multivariate Cox proportional hazards analyses for patients, stratified by lung adenocarcinoma versus CCAL, for cases diagnosed before 2015

Variables	Hazard ratio	95% CI	P
Age (per year)	1.01	1.01, 1.01	<0.01
Female vs. male	0.82	0.81, 0.84	<0.01
Race (ref = white)			
Black	0.92	0.89, 0.95	<0.01
Native American	0.93	0.79, 1.10	0.40
Asian	0.74	0.70, 0.78	<0.01
Year of diagnosis (per year)	0.97	0.97, 0.97	<0.01
Median household income (ref = quartile 1)			
Second quartile	0.98	0.97, 1.01	0.23
Third quartile	0.96	0.93, 0.99	<0.01
Forth quartile	0.91	0.88, 0.94	<0.01
Insurance type (ref = uninsured)			
Private	0.85	0.81, 0.89	<0.01
Medicaid	0.97	0.92, 1.03	0.38
Medicare	0.95	0.90, 0.99	0.03
Other	0.92	0.84, 1.01	0.08
Education (ref = 17.6%)			
10.9%-17.5%	1.02	1.00, 1.05	0.10
6.3%-10.8%	1.01	0.98, 1.04	0.40
<6.3%	1.00	0.97, 1.04	0.86
Distance from facility (per mile)	1.00	1.00, 1.00	0.02
Facility type (ref = community cancer program)			<0.01
Comprehensive community clinic	0.95	0.92, 0.98	
Academic/research program	0.86	0.83, 0.89	
Integrated network cancer program	0.97	0.90, 0.97	
CDCC score (ref = 0)			<0.01
1	1.16	1.13, 1.18	
2	1.32	1.28, 1.36	
3+	1.57	1.49, 1.65	
Tumor size (per cm)	1.00	1.00, 1.00	<0.01
Tumor location (ref = Main bronchus)			
RUL	1.08	1.03, 1.12	<0.01
RML	1.14	1.11, 1.17	<0.01
RLL	1.02	1.00, 1.05	0.05
LUL	1.09	1.06, 1.12	<0.01
LLL	1.13	1.08, 1.18	<0.01
Grade/Differentiation (ref = well differentiated)			<0.01
Moderately differentiated	1.24	1.20, 1.29	
Poorly differentiated; dedifferentiated	1.44	1.39, 1.50	
Undifferentiated; anaplastic	1.44	1.32, 1.57	
Clinical T status (ref = T1a)			<0.01
T1b	1.16	1.13, 1.19	
T1c	1.24	1.20, 1.28	
T2a	1.36	1.31, 1.40	
Clinical N status (ref = N0)			<0.01
N1	1.10	1.07, 1.13	
N2	1.22	1.18, 1.27	
N3	1.10	1.06, 1.13	
Clinical M status (ref = M0)			<0.01
M1	0.99	0.99, 0.99	
Analytic Stage Group (ref = stage I)			<0.01
Stage II	1.84	1.77, 1.91	
Stage III	2.29	2.21, 2.37	
Stage IV	4.03	3.88, 4.19	
Treatment			<0.01
Surgery	0.50	0.48, 0.51	
Chemotherapy	0.52	0.51, 0.53	
Radiation	0.92	0.90, 0.94	
CCAL v Lung adenocarcinoma	1.10	0.96, 1.24	0.20

Table S3 Independent predictors of overall survival after Cox proportional hazards adjustment for patients with CCAL for cases diagnosed before 2015

Variables	Hazard ratio	95% CI	P
Age (per year)	1.01	0.99, 1.03	0.19
Female v male	0.68	0.50, 0.93	0.02
Race (ref = white)			
Black	1.31	0.74, 2.33	0.35
Native American	0.00	N/A, N/A	N/A
Asian	1.38	0.29, 6.55	0.69
Year of diagnosis (per year)	1.00	0.95, 1.07	0.92
Median household income (ref = quartile 1)			
Second quartile	0.59	0.36, 0.98	0.04
Third quartile	0.61	0.35, 1.04	0.07
Forth quartile	1.03	0.56, 1.90	0.92
Insurance type (ref = uninsured)			
Private	0.44	0.12, 1.59	0.21
Medicaid	0.62	0.16, 2.46	0.49
Medicare	0.56	0.15, 2.07	0.39
Other	1.21	0.24, 6.17	0.82
Education (ref = 17.6%)			
10.9%-17.5%	1.56	0.99, 2.46	0.05
6.3%-10.8%	1.40	0.84, 2.33	0.19
<6.3%	0.89	0.47, 1.66	0.70
Distance from facility (per mile)	1.00	0.99, 1.00	0.57
Facility type (ref = community cancer program)			
Comprehensive community clinic	1.01	0.45, 2.22	0.99
Academic/research program	0.80	0.35, 1.82	0.60
Integrated network cancer program	1.02	0.44, 2.39	0.96
CDCC score (ref = 0)			
1	1.39	0.97, 1.99	0.07
2	2.02	1.28, 3.17	<0.01
3+	1.10	0.48, 2.50	0.84
Tumor size (per cm)	1.01	1.00, 1.02	0.03
Tumor location (ref = Main bronchus)			
RUL	2.50	1.09, 5.70	0.03
RML	1.58	0.98, 2.55	0.06
RLL	1.27	0.85, 1.89	0.25
LUL	1.64	0.99, 2.72	0.05
LLL	0.92	0.44, 1.95	0.83
Grade/Differentiation (ref = well differentiated)			
Moderately differentiated	0.96	0.46, 1.97	0.90
Poorly differentiated; dedifferentiated	0.96	0.48, 1.94	0.91
Undifferentiated; anaplastic	0.61	0.19, 1.97	0.40
Clinical T status (ref = T1a)			
T1b	1.17	0.77, 1.77	0.47
T1c	1.20	0.66, 2.20	0.55
T2a	1.26	0.60, 2.62	0.54
Clinical N status (ref = N0)			
N1	1.07	0.62, 1.82	0.82
N2	0.47	0.19, 1.15	0.10
N3	0.94	0.53, 1.65	0.82
Clinical M status (ref = M0)			<0.01
M1	0.98	0.97, 0.99	
Analytic Stage Group (ref = stage I)			
Stage II	1.14	0.65, 1.98	0.65
Stage III	3.15	1.86, 5.33	<0.01
Stage IV	8.04	3.89, 16.61	<0.01
Treatment			
Surgery	0.35	0.19, 0.63	<0.01
Chemotherapy	0.62	0.40, 0.96	0.03
Radiation	0.77	0.49, 1.24	0.29

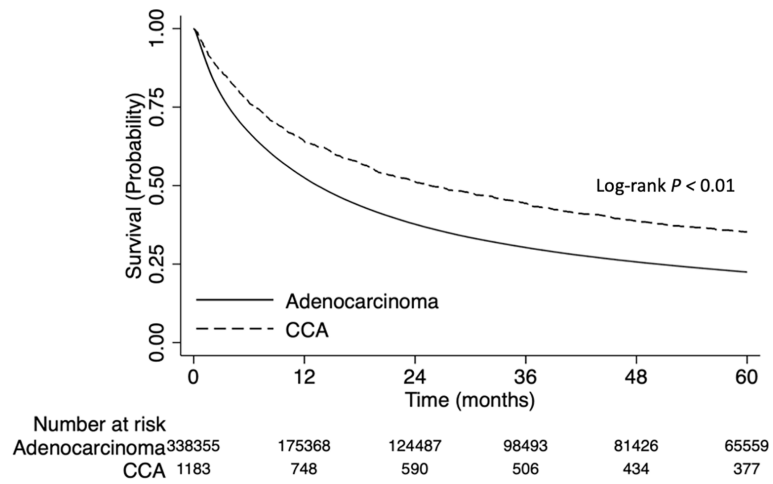


Figure S1 Kaplan-Meier analysis of overall survival for patients with CCAL *vs.* patients with lung adenocarcinoma for cases diagnosed before 2015.

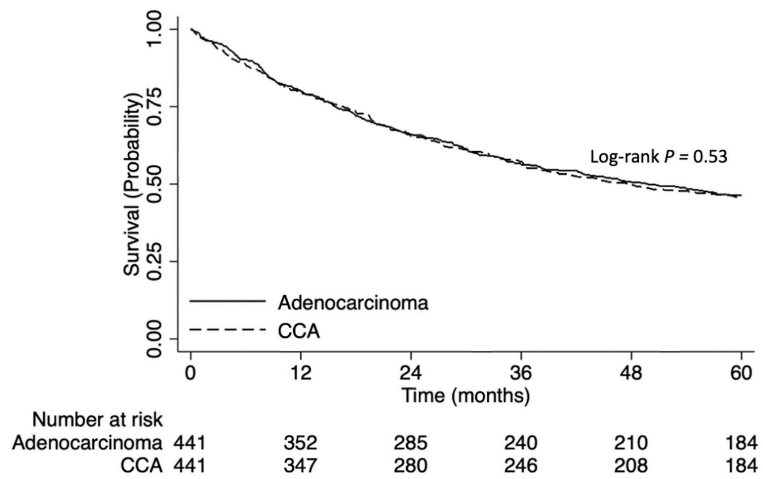


Figure S2 Kaplan-Meier analysis of overall survival for propensity score-matched patients, stratified by lung adenocarcinoma versus CCA, for cases diagnosed before 2015.