

Supplementary File 1. Multivariable Cox regression clinical stage III and IV; Adjusted hazard ratios [aHR(95% CI)] for mortality associated with time-to-treatment:

Factors	Stage III chemoradiotherapy (N=2772)		Stage III radiotherapy (N=1359)		Stage III systemic therapy (N=907)		Stage IV systemic therapy (N=5268)	
	aHR (95% CI)	p-value	aHR (95% CI)	p-value	aHR (95% CI)	p-value	aHR (95% CI)	p-value
Time-to-treatment quartiles (days)								
1 (0-21)	Ref	-	Ref	-	Ref	-	Ref	-
2 (22-35)	1.06 (0.92-1.23)	0.4072	0.65 (0.51-0.82)	0.0002	0.92 (0.73-1.15)	0.4495	0.89 (0.82-0.98)	0.0169
3 (36-49)	1.09 (0.93-1.28)	0.2833	0.55 (0.44-0.69)	<.0001	0.84 (0.66-1.07)	0.1540	0.84 (0.77-0.93)	0.0005
4 (>49)	1.12 (0.95-0.99)	0.1612	0.59 (0.47-0.73)	<.0001	0.72 (0.56-0.91)	0.0062	0.77 (0.70-0.85)	<.0001
Gender								
Male	Ref	-					Ref	-
Female	0.77 (0.70-0.85)	<.0001					0.84 (0.79-0.89)	<.0001
Age (years)								
18-60	Ref	-	Ref	-	Ref	-	Ref	-
61-70	1.14 (1.00-1.29)	0.0440	1.28 (1.03-1.59)	0.0243	1.09 (0.90-1.32)	0.4017	1.08 (0.99-1.16)	0.0587
71-80	1.25 (1.09-1.43)	0.0016	1.63 (1.32-2.01)	<.0001	1.23 (1.01-1.50)	0.0446	1.16 (1.07-1.26)	0.0003
80+	1.76 (1.38-2.25)	<.0001	2.15 (1.71-2.70)	<.0001	1.06 (0.77-1.44)	0.7334	1.53 (1.31-1.78)	<.0001
Socioeconomic status								
Low	Ref	-	Ref	-				
Intermediate	0.88 (0.78-0.99)	0.0357	1.10 (0.94-1.28)	0.2372				
High	0.99 (0.87-1.12)	0.8385	0.84 (0.71-0.99)	0.0393				
Year of diagnosis								
2014			Ref	-				
2015-2016			0.92 (0.74-1.14)	0.4300				
2017+			0.76 (0.61-0.94)	0.0130				
Performance status								

0	Ref	-	Ref	-	Ref	-	Ref	-
1	1.24 (1.08-1.41)	0.0016	1.16 (0.94-1.44)	0.1778	1.37 (1.12-1.69)	0.0028	1.22 (1.12-1.32)	<.0001
2	1.99 (1.57-2.52)	<.0001	1.70 (1.35-2.15)	<.0001	1.96 (1.46-2.63)	<.0001	1.71 (1.50-1.94)	<.0001
3+4	1.70 (0.93-3.13)	0.0855	2.47 (1.86-3.29)	<.0001	1.12 (0.55-2.28)	0.7649	1.84 (1.43-2.37)	<.0001
Unknown	1.42 (1.26-1.61)	<.0001	1.26 (1.01-1.56)	0.0396	1.51 (1.24-1.83)	<.0001	1.34 (1.24-1.45)	<.0001
Histology								
Adenocarcinoma	Ref	-	Ref	-	Ref	-	Ref	-
Squamous	1.16 (1.04-1.30)	0.0101	1.21 (1.04-1.41)	0.0938	1.36 (1.15-1.60)	0.0002	1.24 (1.14-1.35)	<.0001
Large cell	1.35 (1.18-1.54)	<.0001	1.46 (1.19-1.78)	0.0023	1.68 (1.38-2.04)	<.0001	1.32 (1.21-1.44)	<.0001
Other*	1.42 (0.80-2.53)	0.2272	1.12 (0.68-1.85)	0.0215	1.11 (0.55-2.26)	0.7642	1.13 (0.84-1.52)	0.4048
Clinical diagnosis	1.36 (0.72-2.54)	0.3426	1.01 (0.81-1.28)	0.8997	1.68 (0.96-2.94)	0.0700	1.25 (0.65-2.41)	0.5016
Distant metastasis								
cM1a							Ref	-
cM1b/cM1c							1.37 (1.29-1.47)	<.0001
Type of systemic therapy								
Chemo/immune							Ref	-
Targeted							0.54 (0.50-0.58)	<.0001

*Other: Rare histological subtypes

Supplementary File 2. Multivariable Cox regression clinical stage IV NSCLC (subtypes of systemic therapy); Adjusted hazard ratios [aHR(95% CI)] for mortality associated with time-to-treatment:

Factors	Stage IV chemo- and/or immunotherapy (N=3715)		Stage IV targeted therapy (N=1553)	
	aHR (95% CI)	p-value	aHR (95% CI)	p-value
Time-to-treatment quartiles (days)				
1 (0-21)	Ref	-	Ref	-
2 (22-35)	0.87 (0.79-0.97)	0.0081	0.97 (0.81-1.16)	0.7110
3 (36-49)	0.80 (0.72-0.89)	<.0001	0.95 (0.78-1.15)	0.5900
4 (>49)	0.72 (0.64-0.81)	<.0001	0.96 (0.79-1.17)	0.7004
Gender				
Male	Ref	-	Ref	-
Female	0.85 (0.79-0.91)	<.0001	0.84 (0.74-0.95)	0.0055
Age (years)				
18-60	Ref	-	Ref	-
61-70	1.03 (0.95-1.13)	0.4726	1.27 (1.08-1.50)	0.0047
71-80	1.14 (1.04-1.25)	0.0073	1.27 (1.07-1.51)	0.0058
80+	1.33 (1.09-1.64)	0.0059	1.98 (1.54-2.54)	<.0001
Socioeconomic status				
Low	Ref	-		
Intermediate	1.05 (0.97-1.14)	0.2598		
High	0.90 (0.83-0.99)	0.0266		
Performance status				
0	Ref	-	Ref	-
1	1.22 (1.11-1.34)	<.0001	1.17 (0.99-1.38)	0.0661
2	1.84 (1.58-2.14)	<.0001	1.32 (1.03-1.70)	0.0295

3+4	1.70 (1.21-2.37)	0.0021	2.11 (1.42-3.12)	0.0002
Unknown	1.35 (1.24-1.48)	<.0001	1.27 (1.07-1.51)	0.0069
Histology				
Adenocarcinoma	Ref	-	Ref	-
Squamous	1.22 (1.12-1.34)	<.0001	1.26 (0.99-1.60)	0.0642
Large cell	1.30 (1.18-1.43)	<.0001	1.48 (1.21-1.82)	0.0002
Other*	1.11 (0.79-1.56)	0.5490	1.13 (0.62-2.06)	0.6933
Clinical diagnosis	1.55 (0.77-3.11)	0.2180	0.53 (0.07-3.82)	0.5304
Distant metastasis				
cM1a	Ref	-	Ref	-
cM1b/cM1c	1.41 (1.31-1.52)	<.0001	1.25 (1.09-1.42)	0.0012

*Other: Rare histological subtypes