

Supplementary material

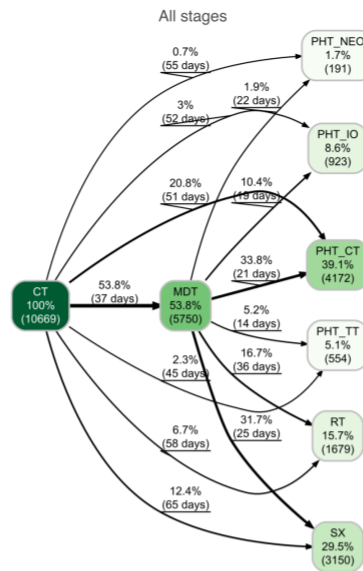
Table S1 Absolute difference between the index date (biopsy, BX) and the date of diagnosis according to the National Cancer Registry (NCR)

Absolute difference between index date (BX) and diagnosis date (NCR)

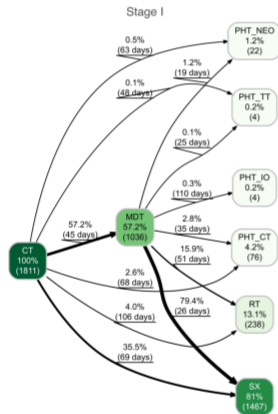
Difference	Stage											
	I		II		III		IV		X		Y	
	N	%	N	%	N	%	N	%	N	%	N	%
< 1 week	48	26.6	41	36.3	1	50.9	2	56.8	57	56.4	21	55.5
	2	%	1	%	47	%	46	%		%	2	%
					8		6					
< 1 month	95	52.6	69	61.5	2	76.1	3	82.7	82	81.2	29	76.7
	2	%	6	%	20	%	59	%		%	3	%
					9		3					
< 6 months	1	97.8	1	98.5	2	99.2	4	99.0	10	99.0	37	97.9
	77	%	11	%	87	%	30	%	0	%	4	%
	2		5		8		0					
All	1	100.0	1	100.0	2	100.0	4	100.0	10	100.0	38	100.0
	81	%	13	%	90	%	34	%	1	%	2	%
	1		2		1		2					

Figure S1 Pathway trajectories by disease stage in the verified treatment cohort with CT

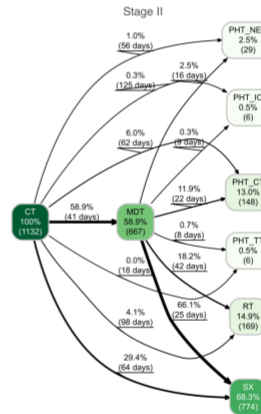
A



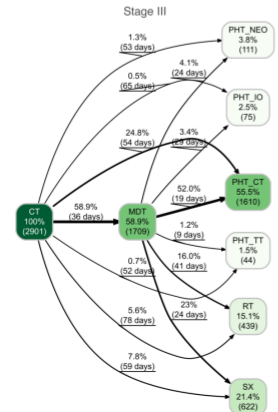
B



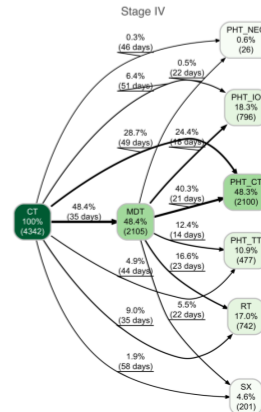
C



D



E

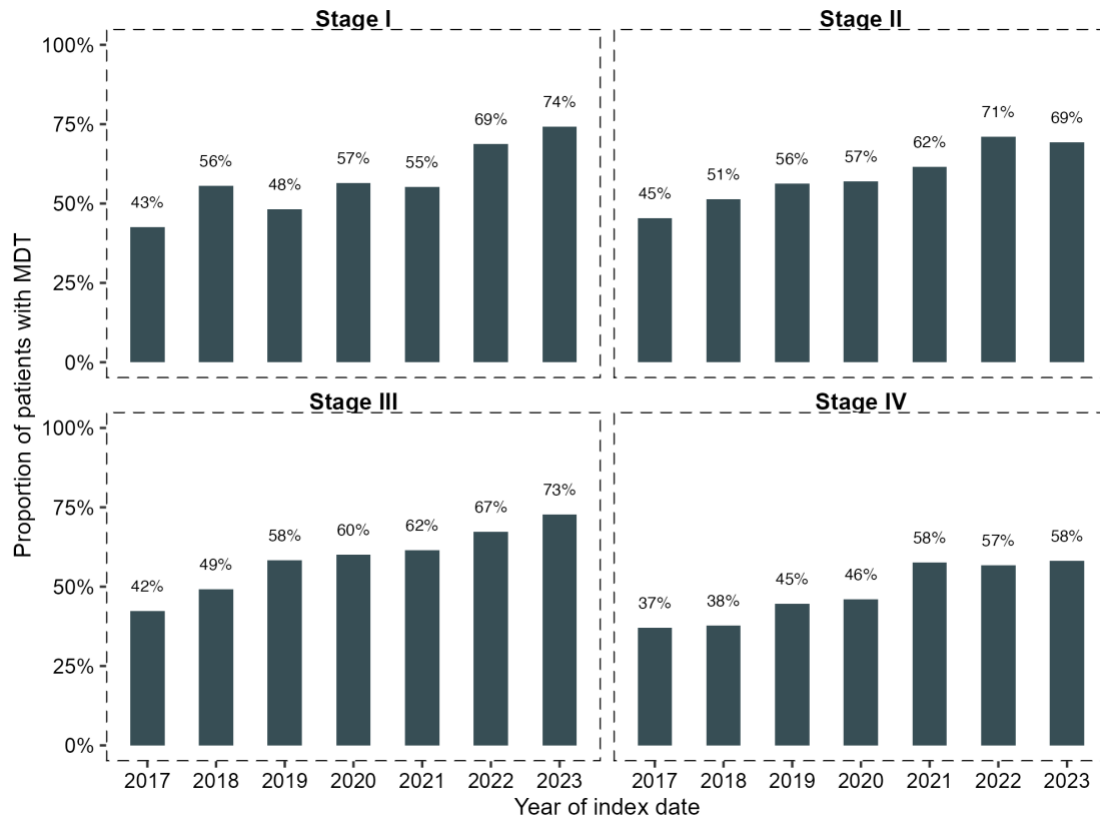


Patient pathway trajectories following the last (PET) CT in lung cancer patients. (A) The pathways illustrate the progression of all treated patients to multidisciplinary team (MDT) discussion and first-line therapy (FLT), divided into surgery (SX), radiotherapy (RT), and pharmacotherapy (PHT), which includes chemotherapy (PHT_CT), targeted therapy

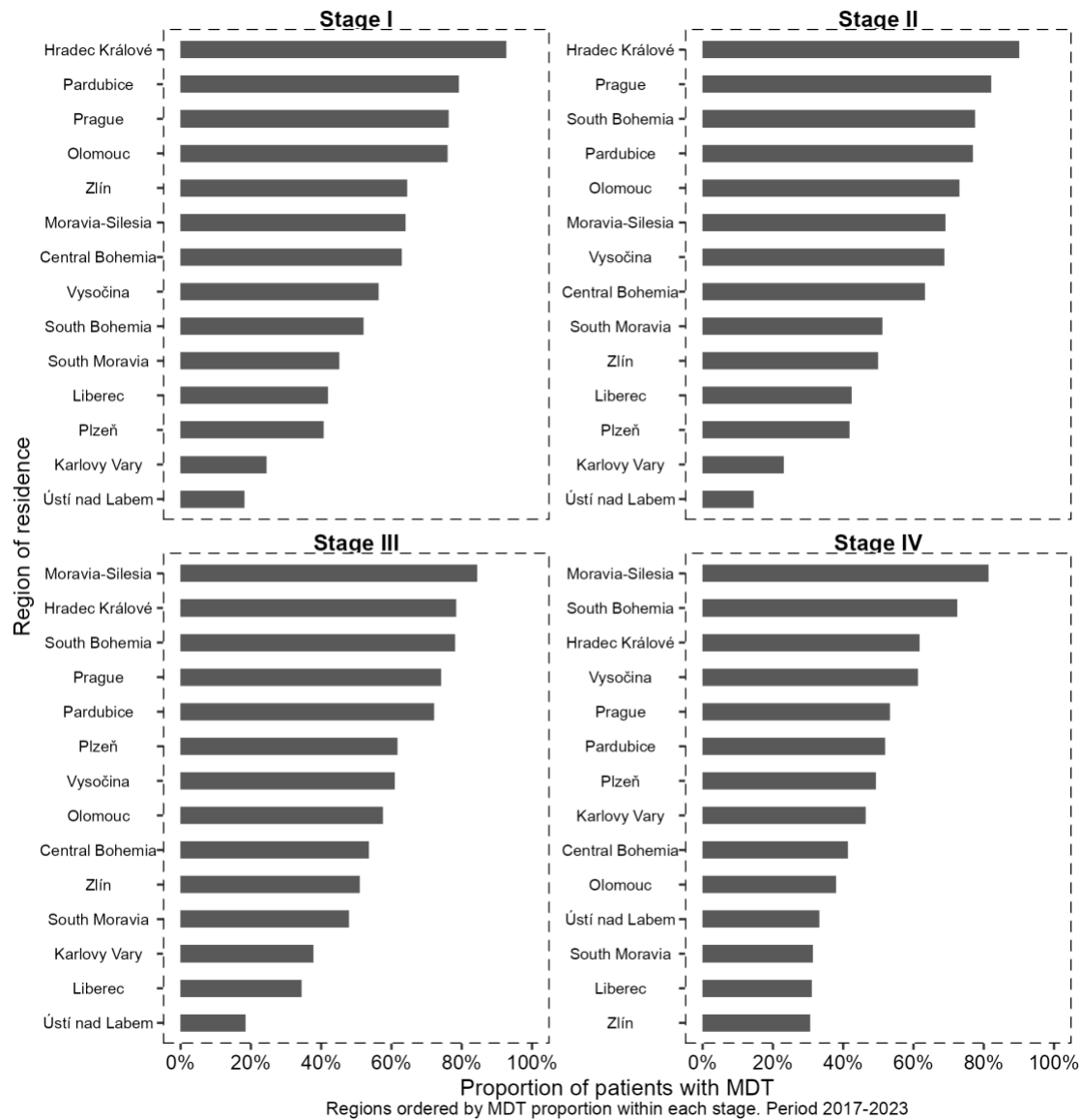
(PHT_TT), and immunotherapy (PHT_IO). (B-E) The pathways illustrate treatment types stratified by disease stage.

Figure S2 Multidisciplinary team (MDT) review in the verified treated cohort with CT over time and by region

A



B



(A) MDT review by disease stage over time.

(B) MDT review by region of residence.

Table S2 Baseline characteristics of PD-L1-tested and non-tested patients (stages III-IV, 2021-2023)

Baseline characteristics by PD-L1 testing status (stages III-IV, 2021-2023)

Characteristic	Overall, N=3,151	**Not tested, N=1,060	** Tested, N=2,091
Sex			
Male	1,958 (62%)	657 (62%)	1,301 (62%)
Female	1,193 (38%)	403 (38%)	790 (38%)

Age			
Mean (SD)	69 (9)	68 (9)	69 (8)
Median (Q1, Q3)	70 (64, 75)	70 (64, 74)	70 (65, 75)
Stage			
Stage III	1,229 (39%)	429 (40%)	800 (38%)
Stage IV	1,922 (61%)	631 (60%)	1,291 (62%)
Year			
2021	1,052 (33%)	391 (37%)	661 (32%)
2022	1,095 (35%)	349 (33%)	746 (36%)
2023	1,004 (32%)	320 (30%)	684 (33%)
FLT in COC	2,817 (89%)	950 (90%)	1,867 (89%)
Region			
Central Bohemia	403 (13%)	84 (7.9%)	319 (15%)
Hradec Králové	179 (5.7%)	45 (4.2%)	134 (6.4%)
Karlovy Vary	72 (2.3%)	49 (4.6%)	23 (1.1%)
Liberec	180 (5.7%)	40 (3.8%)	140 (6.7%)
Moravia-Silesia	319 (10%)	163 (15%)	156 (7.5%)
Olomouc	218 (6.9%)	105 (9.9%)	113 (5.4%)
Pardubice	129 (4.1%)	30 (2.8%)	99 (4.7%)
Plzeň	176 (5.6%)	168 (16%)	8 (0.4%)
Prague	354 (11%)	69 (6.5%)	285 (14%)
South Bohemia	208 (6.6%)	57 (5.4%)	151 (7.2%)
South Moravia	363 (12%)	113 (11%)	250 (12%)
Ústí nad Labem	281 (8.9%)	49 (4.6%)	232 (11%)
Vysočina	140 (4.4%)	22 (2.1%)	118 (5.6%)
Zlín	129 (4.1%)	66 (6.2%)	63 (3.0%)

Table S3 Time to treatment initiation by disease stage and type of first-line therapy (FLT)

(A) Time to treatment from CT to first-line therapy (FLT).

Time to treatment by stage and FLT type (from CT), 2017-2023

Stage	FLT type	N	Time to treatment, days		
			Mean	80th percentile	Median

Stage I	PHT	106	128	126	72
Stage I	RT	238	137	170	118
Stage I	SX	1 467	86	115	71
Stage II	PHT	189	91	113	64
Stage II	RT	169	125	147	99
Stage II	SX	774	79	104	68
Stage III	PHT	1 840	74	96	60
Stage III	RT	439	100	133	81
Stage III	SX	622	78	103	66
Stage IV	PHT	3 399	71	90	55
Stage IV	RT	742	62	86	45
Stage IV	SX	201	73	99	64
Stage X	PHT	58	61	69	48
Stage X	RT	16	99	119	88
Stage X	SX	27	78	106	61
Stage Y	PHT	248	80	101	64
Stage Y	RT	75	103	155	78
Stage Y	SX	59	80	106	72

(B) Relative numbers of patients treated within 4-, 6-, and 8-week intervals across different years.

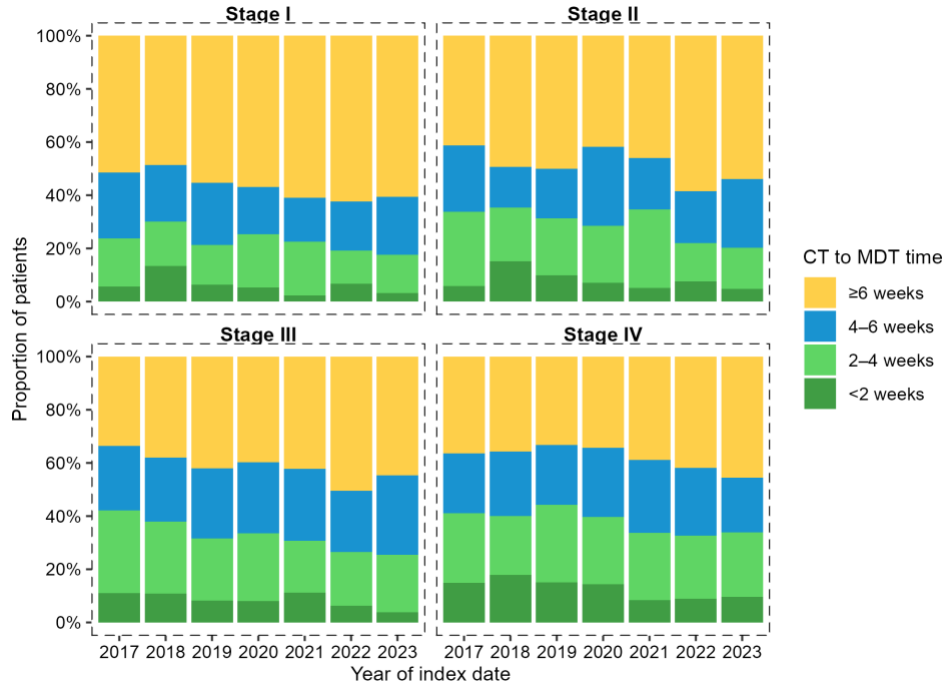
Time to treatment in verified cohort by stage and year

Stage	Time to treatment (from CT)	Year of index date						
		2017	2018	2019	2020	2021	2022	2023
Stage I	<4 weeks	4.0%	4.6%	4.4%	5.2%	2.1%	3.1%	1.5%
Stage I	<6 weeks	15.4%	15.3%	12.3%	15.7%	13.3%	10.8%	6.5%
Stage I	<8 weeks	31.2%	26.3%	22.5%	28.3%	27.8%	22.0%	19.2%
Stage I	≥8 weeks	68.8%	73.7%	77.5%	71.7%	72.2%	78.0%	80.8%
Stage II	<4 weeks	5.3%	4.5%	2.8%	6.4%	3.8%	3.6%	3.3%
Stage II	<6 weeks	21.3%	19.5%	13.3%	19.2%	11.9%	10.8%	10.7%

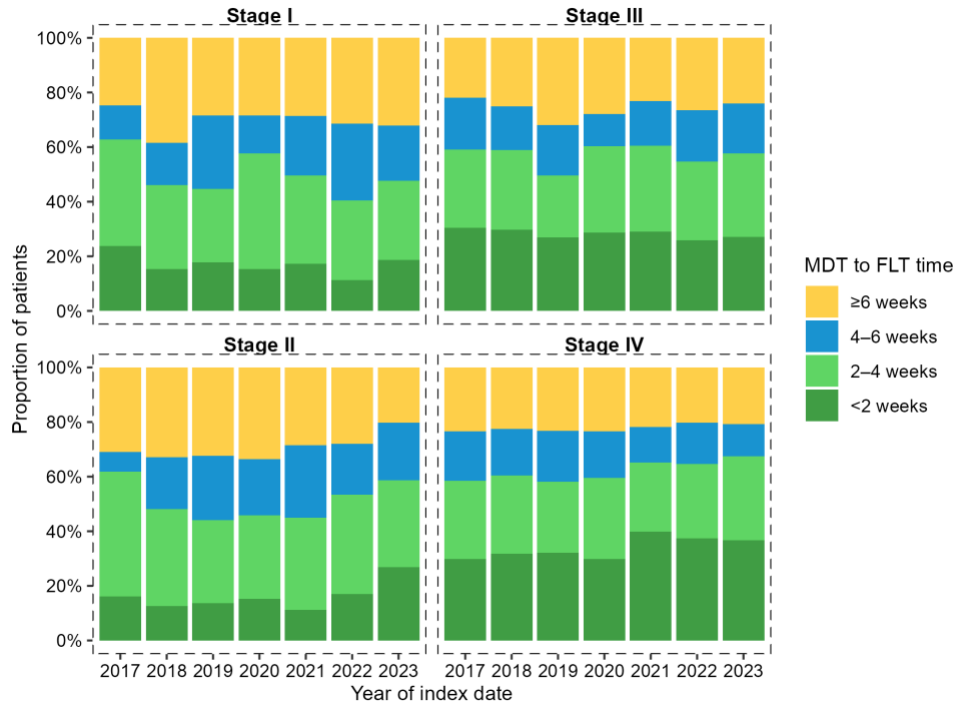
II								
Stage II	<8 weeks	40.0%	37.0%	24.9%	32.0%	30.2%	26.5%	26.0%
Stage II	≥8 weeks	60.0%	63.0%	75.1%	68.0%	69.8%	73.5%	74.0%
Stage III	<4 weeks	10.8%	8.1%	6.1%	6.6%	7.4%	5.2%	5.5%
Stage III	<6 weeks	32.0%	25.3%	21.2%	24.1%	23.3%	16.4%	18.5%
Stage III	<8 weeks	51.0%	39.9%	38.2%	43.6%	43.4%	34.4%	36.8%
Stage III	≥8 weeks	49.0%	60.1%	61.8%	56.4%	56.6%	65.6%	63.2%
Stage IV	<4 weeks	16.2%	17.7%	14.8%	15.3%	12.7%	12.9%	10.8%
Stage IV	<6 weeks	37.0%	35.6%	36.8%	35.2%	31.2%	31.0%	29.1%
Stage IV	<8 weeks	56.8%	53.8%	52.7%	54.7%	49.1%	49.0%	49.3%
Stage IV	≥8 weeks	43.2%	46.2%	47.3%	45.3%	50.9%	51.0%	50.7%
Stage X	<4 weeks	22.2%	7.5%	50.0%	-	50.0%	-	50.0%
Stage X	<6 weeks	33.3%	28.3%	100.0%	-	-	33.3%	100.0%
Stage X	<8 weeks	41.7%	45.3%	-	-	100.0%	66.7%	-
Stage X	≥8 weeks	58.3%	54.7%	-	100.0%	-	33.3%	-
Stage Y	<4 weeks	7.8%	3.8%	4.2%	9.5%	5.9%	5.6%	5.1%
Stage Y	<6 weeks	17.6%	20.8%	18.1%	21.4%	13.7%	18.5%	13.6%
Stage Y	<8 weeks	45.1%	39.6%	38.9%	35.7%	25.5%	33.3%	28.8%
Stage Y	≥8 weeks	54.9%	60.4%	61.1%	64.3%	74.5%	66.7%	71.2%

Figure S3 Time to MDT and from MDT to treatment initiation in verified treated cohort

A



B



(A) Time from (PET) CT to multidisciplinary team (MDT) discussion.

(B) Time from MDT to first-line therapy (FLT).

Figure S4 Time to treatment initiation by disease stage and region of residence

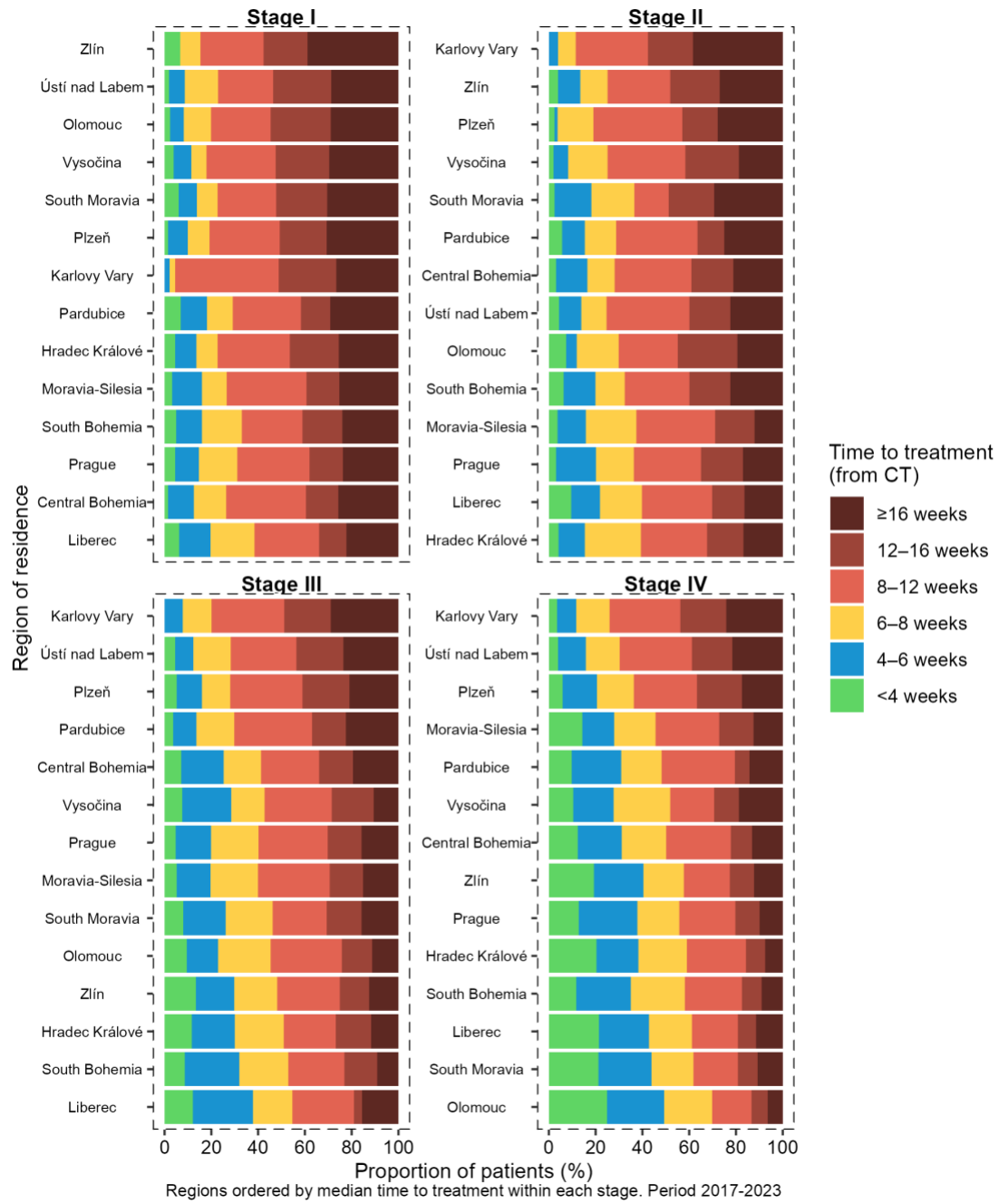


Figure S5 First-line therapy (FLT) in Complex Oncology Centres (COCs) for treated patients by region of residence and disease stage

