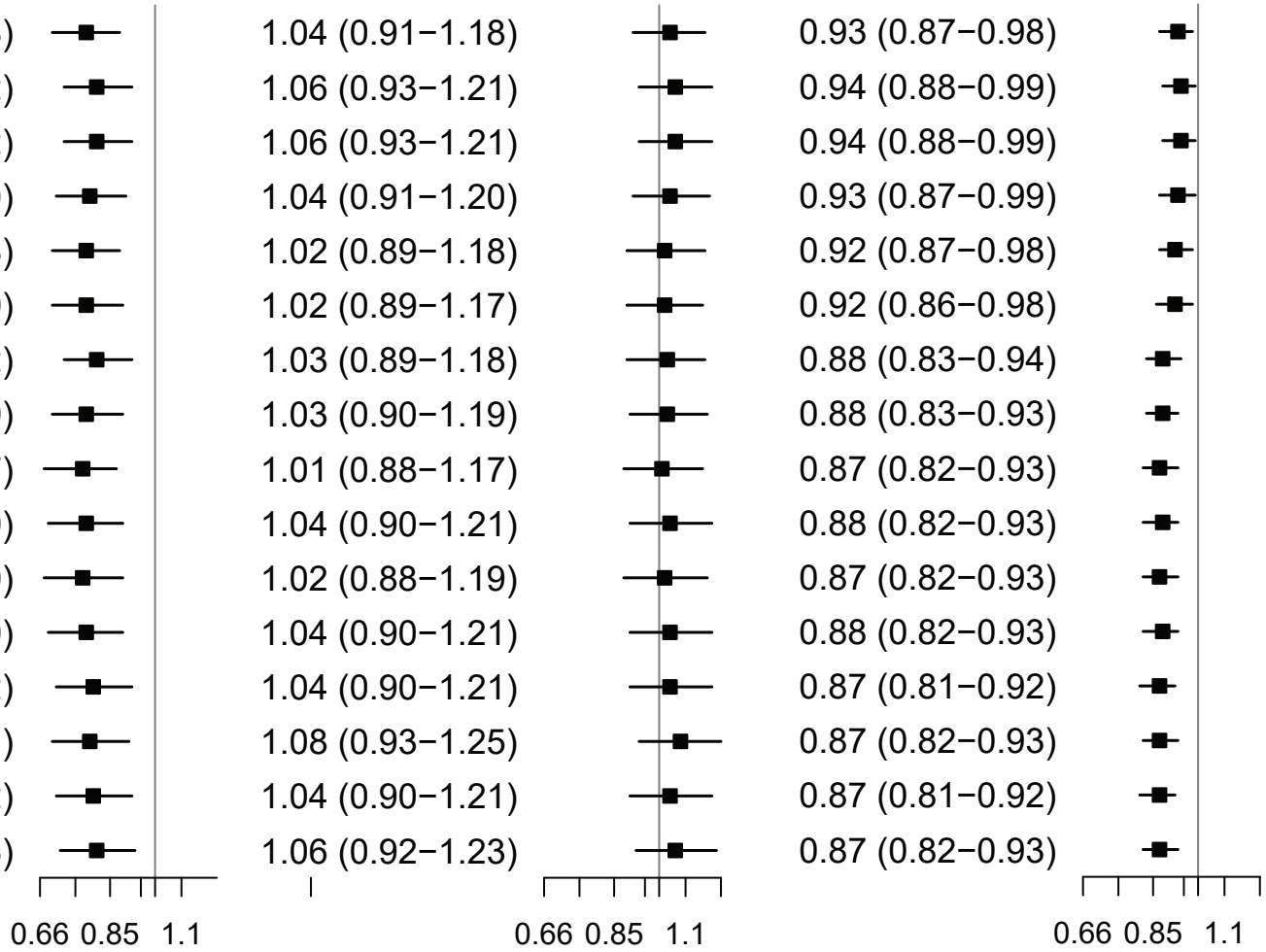
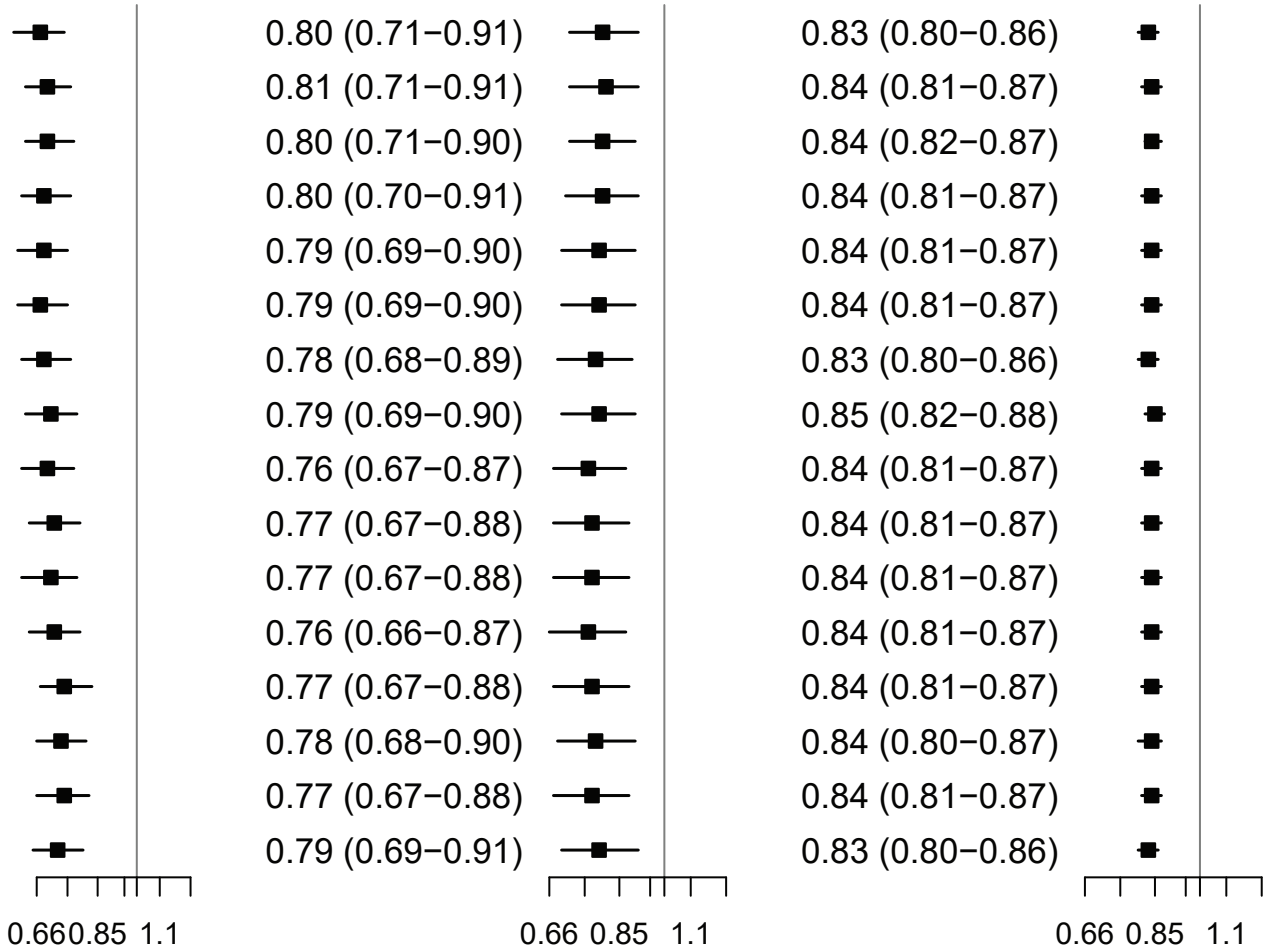
Supplementary Figure 2A - Squamous cell carcinoma

Statistical model	Stage IA−IIB HR (95% CI)	Stage IIIA HR (95% CI)	Stage IIIB−IV HR (95% CI)
0: Unadjusted	0.78 (0.69−0.88)	1.04 (0.91−1.18)	0.93 (0.87−0.98)
1: 0 + Age and year of diagnosis	0.81 (0.72−0.92)	1.06 (0.93−1.21)	0.94 (0.88−0.99)
2: 1 + Level of education	0.81 (0.72−0.92)	1.06 (0.93−1.21)	0.94 (0.88−0.99)
3: 2 + Marital status	0.79 (0.70−0.90)	1.04 (0.91−1.20)	0.93 (0.87−0.99)
4: 3 + Birth country	0.78 (0.69−0.88)	1.02 (0.89−1.18)	0.92 (0.87−0.98)
5: 4 + Geographic region	0.78 (0.69−0.89)	1.02 (0.89−1.17)	0.92 (0.86−0.98)
6: 5 + ECOG performance status	0.81 (0.72−0.92)	1.03 (0.89−1.18)	0.88 (0.83−0.94)
7: 6 + Smoking history	0.78 (0.69−0.89)	1.03 (0.90−1.19)	0.88 (0.83−0.93)
8: 7 + Charlson Comorbidity	0.77 (0.67−0.87)	1.01 (0.88−1.17)	0.87 (0.82−0.93)
9: 7 + Elixhauser comorbidity	0.78 (0.68−0.89)	1.04 (0.90−1.21)	0.88 (0.82−0.93)
10: 9 + Number of outpatient visits	0.77 (0.67−0.89)	1.02 (0.88−1.19)	0.87 (0.82−0.93)
11: 9 + Number of inpatient visits	0.78 (0.68−0.89)	1.04 (0.90−1.21)	0.88 (0.82−0.93)
12: 9 + TNM stage	0.80 (0.70−0.92)	1.04 (0.90−1.21)	0.87 (0.81−0.92)
13: 9 + T−, N−, M−stage	0.79 (0.69−0.91)	1.08 (0.93−1.25)	0.87 (0.82−0.93)
14: 12 + Primary tumor location	0.80 (0.70−0.92)	1.04 (0.90−1.21)	0.87 (0.81−0.92)
15. 14 + Primary treatment	0.81 (0.71−0.93)	1.06 (0.92−1.23)	0.87 (0.82−0.93)



Supplementary Figure 2B - Adenocarcinoma

Statistical model	Stage IA−IIB HR (95% CI)	Stage IIIA HR (95% CI)	Stage IIIB−IV HR (95% CI)
0: Unadjusted	0.67 (0.60−0.74)	0.80 (0.71−0.91)	0.83 (0.80−0.86)
1: 0 + Age and year of diagnosis	0.69 (0.63−0.76)	0.81 (0.71−0.91)	0.84 (0.81−0.87)
2: 1 + Level of education	0.69 (0.63−0.77)	0.80 (0.71−0.90)	0.84 (0.82−0.87)
3: 2 + Marital status	0.68 (0.62−0.76)	0.80 (0.70−0.91)	0.84 (0.81−0.87)
4: 3 + Birth country	0.68 (0.61−0.75)	0.79 (0.69−0.90)	0.84 (0.81−0.87)
5: 4 + Geographic region	0.67 (0.61−0.75)	0.79 (0.69−0.90)	0.84 (0.81−0.87)
6: 5 + ECOG performance status	0.68 (0.62−0.76)	0.78 (0.68−0.89)	0.83 (0.80−0.86)
7: 6 + Smoking history	0.70 (0.63−0.78)	0.79 (0.69−0.90)	0.85 (0.82−0.88)
8: 7 + Charlson Comorbidity	0.69 (0.62−0.77)	0.76 (0.67−0.87)	0.84 (0.81−0.87)
9: 7 + Elixhauser comorbidity	0.71 (0.64−0.79)	0.77 (0.67−0.88)	0.84 (0.81−0.87)
10: 9 + Number of outpatient visits	0.70 (0.62−0.78)	0.77 (0.67−0.88)	0.84 (0.81−0.87)
11: 9 + Number of inpatient visits	0.71 (0.64−0.79)	0.76 (0.66−0.87)	0.84 (0.81−0.87)
12: 9 + TNM stage	0.74 (0.67−0.83)	0.77 (0.67−0.88)	0.84 (0.81−0.87)
13: 9 + T−, N−, M−stage	0.73 (0.66−0.81)	0.78 (0.68−0.90)	0.84 (0.80−0.87)
14: 12 + Primary tumor location	0.74 (0.66−0.82)	0.77 (0.67−0.88)	0.84 (0.81−0.87)
15. 14 + Primary treatment	0.72 (0.65−0.80)	0.79 (0.69−0.91)	0.83 (0.80−0.86)