

Supplementary Table 1 Baseline characteristics of 12,370 advanced esophageal cancer patients receiving or not receiving chemotherapy included in multivariable analyses of overall survival

Variable	All patients (N=12370)	Chemotherapy received (N=9836)	No chemo received (N=2534)	P-value*
Age				
Median (IQR)	64 (56 - 72)	63 (56 - 71)	69 (60 - 78)	<.001
Gender				
Female	2150 (17.38)	1607 (16.34)	543 (21.43)	<.001
Male	10220 (82.62)	8229 (83.66)	1991 (78.57)	
Race				
Black	1217 (9.84)	861 (8.75)	356 (14.05)	<.001
Other	678 (5.48)	536 (5.45)	142 (5.6)	
White	10475 (84.68)	8439 (85.8)	2036 (80.35)	
Insurance Type				
Medicaid	987 (7.98)	741 (7.53)	246 (9.71)	<.001
Medicare	5687 (45.97)	4225 (42.95)	1462 (57.7)	
Not insured	565 (4.57)	410 (4.17)	155 (6.12)	
Other government	205 (1.66)	161 (1.64)	44 (1.74)	
Private	4926 (39.82)	4299 (43.71)	627 (24.74)	
Income Quartiles for Place of Residence				
Less than \$30,000	1676 (14.16)	1230 (13.07)	446 (18.36)	<.001
\$30,000-\$34,999	2293 (19.37)	1762 (18.73)	531 (21.86)	
\$35,000-\$45,999	3463 (29.25)	2785 (29.6)	678 (27.91)	
\$46,000+	4406 (37.22)	3632 (38.6)	774 (31.86)	
Treatment Site				
Academic	5751 (46.49)	4630 (47.07)	1121 (44.24)	0.011
Non-Academic	6619 (53.51)	5206 (52.93)	1413 (55.76)	
Geographic Location in US				
Midwest	3526 (28.5)	2877 (29.25)	649 (25.61)	<.001
Northeast	2916 (23.57)	2393 (24.33)	523 (20.64)	
South	4173 (33.73)	3232 (32.86)	941 (37.13)	
West	1755 (14.19)	1334 (13.56)	421 (16.61)	
Residence Area Type				
Metro	9462 (79.67)	7551 (79.86)	1911 (78.9)	0.529
Rural	262 (2.21)	204 (2.16)	58 (2.39)	
Urban	2153 (18.13)	1700 (17.98)	453 (18.7)	
Number of comorbidities ^a				
0	9340 (75.51)	7592 (77.19)	1748 (68.98)	<.001
1	2327 (18.81)	1757 (17.86)	570 (22.49)	
>= 2	703 (5.68)	487 (4.95)	216 (8.52)	
Year of Diagnosis				
2004-2009	6816 (55.1)	5310 (53.99)	1506 (59.43)	<.001
2010-2014	5554 (44.9)	4526 (46.01)	1028 (40.57)	
Grade ^b				
1	330 (2.67)	259 (2.63)	71 (2.8)	0.037
2	4381 (35.42)	3521 (35.8)	860 (33.94)	
3	7421 (59.99)	5882 (59.8)	1539 (60.73)	
4	238 (1.92)	174 (1.77)	64 (2.53)	
AJCC T stage				

Variable	All patients (N=12370)	Chemotherapy received (N=9836)	No chemo received (N=2534)	P-value*
T0	33 (0.27)	19 (0.19)	14 (0.55)	<.001
T1	2007 (16.22)	1465 (14.89)	542 (21.39)	
T2	1344 (10.86)	1106 (11.24)	238 (9.39)	
T3	5542 (44.8)	4765 (48.44)	777 (30.66)	
T4	3439 (27.8)	2476 (25.17)	963 (38)	
pIS	5 (0.04)	5 (0.05)	0 (0)	
AJCC N stage				
Negative	2271 (20.12)	1666 (18.33)	605 (27.54)	<.001
Positive	9017 (79.88)	7425 (81.67)	1592 (72.46)	

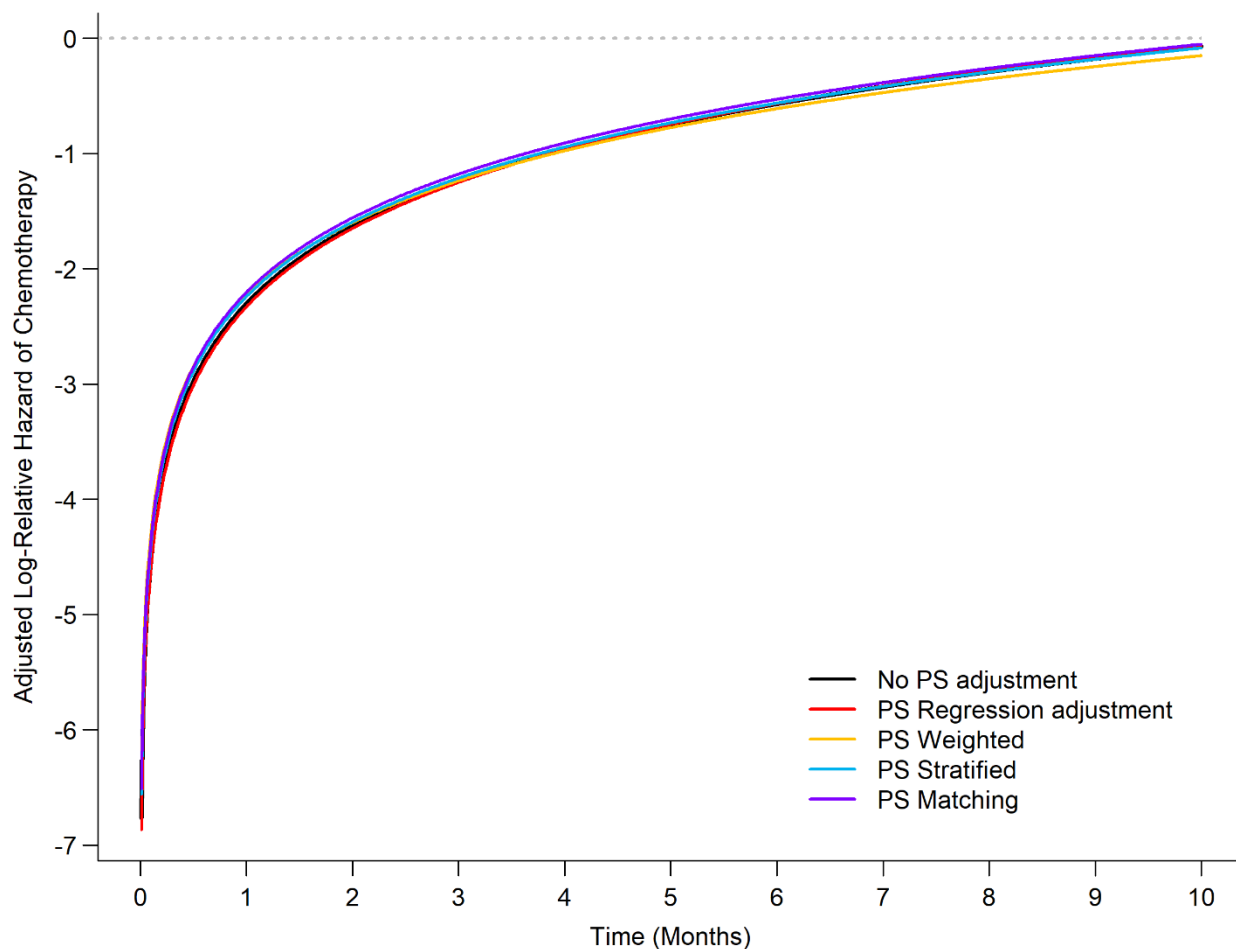
Data are presented as number of patients (column %) or median (IQR, interquartile range)

*P-value is calculated by Wilcoxon rank-sum test for numerical variables and chi-square test for categorical variables

^aPer Charlson/Deyo (11)

^bGrade 1, well-differentiated; grade 2, moderately differentiated; grade 3, poorly differentiated; grade 4, undifferentiated

AJCC, American Joint Committee on Cancer



Supplementary Figure 1 Propensity score-adjusted log relative hazard for chemotherapy compared with no chemotherapy over 10 months from esophageal cancer diagnosis showing that propensity score-adjusted analyses are consistent with findings from multivariable analyses whereby the effect of chemotherapy on overall survival varies with time and is associated with improved overall survival up until 10 months, after which there is no chemotherapy effect on overall survival. Solid lines represent a plot of the natural logarithm of the adjusted hazard ratio (HR) of chemotherapy versus no chemotherapy with respect to months from diagnosis. The dotted horizontal line denotes no chemotherapy effect. As the four approaches showed similar results, the four curves are not quite distinguishable.