

APPENDIX

Table 1: Descriptive Statistics for all variables (Prostate)

Table 2: Univariate Association with Proton Therapy (Prostate)

Table 3: Multiple Logistic Regression to Predict Proton Therapy VS Non-Proton Therapy

Table 4: Multivariable Survival Analysis of OS Main effect

Table 5: LOGREG - Balance Check before Matching Proton V.S. non-Proton

Table 6: LOGREG - Balance Check After Matching Proton V.S. non-Proton

Table 7: LOGREG(INT) - Balance Check before Matching Proton V.S. non-Proton

Table 8: LOGREG(INT) - Balance Check After Matching Proton V.S. non-Proton

Table 9: GBM - Balance Check before Matching Proton V.S. non-Proton

Table 10: GBM - Balance Check After Matching Proton V.S. non-Proton

Table 1: Descriptive Statistics for all variables (Prostate)

Variable	Level	N (%) = 261490
Proton	No	255630 (97.8)
	Yes	5860 (2.2)
Facility Type	Non Academic/Research Program	181247 (69.3)
	Academic/Research Program	80207 (30.7)
	Missing	36
Facility Location	Northeast	65300 (25.0)
	South	86718 (33.2)
	Midwest	67316 (25.7)
	West	42120 (16.1)
	Missing	36
Race	White	207537 (79.4)
	Black	42975 (16.4)
	Other/Unknown	10978 (4.2)
Hispanic Ethnicity	No	230938 (95.1)
	Yes	11798 (4.9)
	Missing	18754
Insurance Type	Not Insured	4276 (1.7)
	Private Insurance	86179 (33.6)
	Other Government	13611 (5.3)
	Medicare	152765 (59.5)
	Missing	4659
Median Income Quartiles 2000	Not Available	8806
	< \$30,000	34456 (13.6)
	\$30,000 - \$35,999	43638 (17.3)
	\$36,000 - \$45,999	70056 (27.7)

Variable	Level	N (%) = 261490
	\$46,000 +	104534 (41.4)
Percent No High School Degree Quartiles 2000	Not Available	8835
	>=29%	41818 (16.6)
	20-28.9%	58100 (23.0)
	14-19.9%	60528 (24.0)
	< 14%	92209 (36.5)
Urban/Rural 2003	Metro	210015 (82.5)
	Urban or Rural	44505 (17.5)
	Missing	6970
Charlson-Deyo Score	0	227382 (87.0)
	1+	34108 (13.0)
YEAR_OF_DIAGNOSIS(quarterile)	>=2004, <=2006	82335 (31.5)
	>2006, <=2008	58415 (22.3)
	>2008, <=2011	78500 (30.0)
	>2011, <=2013	42240 (16.2)
Grade	Well differentiated, differentiated, NOS	3516 (1.3)
	Moderately differentiated, moderately well differentiated, intermediate differentiation	91248 (34.9)
	Poorly differentiated or Undifferentiated, anaplastic	158443 (60.6)
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	8283 (3.2)

Variable	Level	N (%) = 261490
AJCC Analytic Stage Group	Stage I	20925 (8.0)
	Stage II	216321 (82.7)
	Stage III	24244 (9.3)
PSA(ng/ml) (C)	<10	171574 (68.1)
	10 - <20	47473 (18.8)
	>=20	32949 (13.1)
	Missing	9494
Gleason Score	2-7	194862 (76.5)
	8-10	59786 (23.5)
	Missing	6842
Great Circle Distance (C)	<=10 mi	146801 (56.6)
	>10 mi, <=20 mi	53727 (20.7)
	<20 mi, >=30 mi	23012 (8.9)
	>30 mi	35640 (13.8)
	Missing	2310
Age at Diagnosis	Mean	68.30
	Median	69.00
	Minimum	25.00
	Maximum	90.00
	Std Dev	8.07
	Missing	0.00

Table 2: Univariate Association with Proton Therapy (Prostate)

Covariate	Statistics	Level	Proton		Parametric P-value*
			No N=255630	Yes N=5860	
Facility Type	N (Row %)	Non Academic/Research Program	181002 (99.86)	245 (0.14)	<.001
	N (Row %)	Academic/Research Program	74597 (93.01)	5610 (6.99)	
Facility Location	N (Row %)	Northeast	64900 (99.39)	400 (0.61)	<.001
	N (Row %)	South	86576 (99.84)	142 (0.16)	
	N (Row %)	Midwest	67223 (99.86)	93 (0.14)	
	N (Row %)	West	36900 (87.61)	5220 (12.39)	
Race	N (Row %)	White	202223 (97.44)	5314 (2.56)	<.001
	N (Row %)	Black	42639 (99.22)	336 (0.78)	
	N (Row %)	Other/Unknown	10768 (98.09)	210 (1.91)	
Hispanic Ethnicity	N (Row %)	No	225360 (97.58)	5578 (2.42)	0.004
	N (Row %)	Yes	11562 (98)	236 (2)	
Insurance Type	N (Row %)	Not Insured	4112 (96.16)	164 (3.84)	<.001
	N (Row %)	Private Insurance	83580 (96.98)	2599 (3.02)	
	N (Row %)	Other Government	13518 (99.32)	93 (0.68)	
	N (Row %)	Medicare	149784 (98.05)	2981 (1.95)	

Covariate	Statistics	Level	Proton		Parametric P-value*
			No N=255630	Yes N=5860	
Median Income Quartiles 2000	N (Row %)	< \$30,000	34064 (98.86)	392 (1.14)	<.001
	N (Row %)	\$30,000 - \$35,999	42805 (98.09)	833 (1.91)	
	N (Row %)	\$36,000 - \$45,999	68583 (97.9)	1473 (2.1)	
	N (Row %)	\$46,000 +	101750 (97.34)	2784 (2.66)	
Percent No High School Degree Quartiles 2000	N (Row %)	>=29%	41238 (98.61)	580 (1.39)	<.001
	N (Row %)	20-28.9%	57186 (98.43)	914 (1.57)	
	N (Row %)	14-19.9%	59249 (97.89)	1279 (2.11)	
	N (Row %)	< 14%	89500 (97.06)	2709 (2.94)	
Urban/Rural 2003	N (Row %)	Metro	205162 (97.69)	4853 (2.31)	<.001
	N (Row %)	Urban or Rural	43727 (98.25)	778 (1.75)	
Charlson-Deyo Score	N (Row %)	0	222166 (97.71)	5216 (2.29)	<.001
	N (Row %)	1+	33464 (98.11)	644 (1.89)	

Covariate	Statistics	Level	Proton		Parametric P-value*
			No N=255630	Yes N=5860	
YEAR_OF_DIAGNOSIS(quarter)	N (Row %)	>=2004, <=2006	80678 (97.99)	1657 (2.01)	<.001
	N (Row %)	>2006, <=2008	57276 (98.05)	1139 (1.95)	
	N (Row %)	>2008, <=2011	76518 (97.48)	1982 (2.52)	
	N (Row %)	>2011, <=2013	41158 (97.44)	1082 (2.56)	
Grade	N (Row %)	Well differentiated, differentiated, NOS	3462 (98.46)	54 (1.54)	<.001
	N (Row %)	Moderately differentiated, moderately well differentiated, intermediate differentiation	87997 (96.44)	3251 (3.56)	
	N (Row %)	Poorly differentiated or Undifferentiated, anaplastic	156000 (98.46)	2443 (1.54)	
	N (Row %)	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	8171 (98.65)	112 (1.35)	
AJCC Analytic Stage Group	N (Row %)	Stage I	19720 (94.24)	1205 (5.76)	<.001
	N (Row %)	Stage II	211825 (97.92)	4496 (2.08)	
	N (Row %)	Stage III	24085 (99.34)	159 (0.66)	
PSA(ng/ml) (C)	N (Row %)	<10	166787 (97.21)	4787 (2.79)	<.001
	N (Row %)	10 - <20	46687 (98.34)	786 (1.66)	
	N (Row %)	>=20	32715 (99.29)	234 (0.71)	

Covariate	Statistics	Level	Proton		Parametric P-value*
			No N=255630	Yes N=5860	
Gleason Score	N (Row %)	2-7	189523 (97.26)	5339 (2.74)	<.001
	N (Row %)	8-10	59281 (99.16)	505 (0.84)	
Great Circle Distance (C)	N (Row %)	<=10 mi	146266 (99.64)	535 (0.36)	<.001
	N (Row %)	>10 mi,<=20 mi	53355 (99.31)	372 (0.69)	
	N (Row %)	<20 mi,>=30 mi	22675 (98.54)	337 (1.46)	
	N (Row %)	>30 mi	31066 (87.17)	4574 (12.83)	
Age at Diagnosis	N		255630	5860	<.001
	Mean		68.36	65.58	
	Median		69	66	
	Min		25	33	
	Max		90	90	
	Std Dev		8.06	7.92	

* The parametric p-value is calculated by ANOVA for numerical covariates and chi-square test for categorical covariates.

Table 3: Multiple Logistic Regression to Predict Proton Therapy VS Non-Proton Therapy

Covariate	Level	N	Proton=Yes		
			Odds Ratio (95% CI)	OR P- value	Type3 P-value
Facility Type	Academic/Research Program	64915	41.34 (35.53-48.10)	<.001	<.001
	Non Academic/Research Program	148404	-	-	
Facility Location	West	36656	19.26 (17.05-21.75)	<.001	<.001
	Midwest	53092	0.22 (0.17-0.28)	<.001	
	South	70871	0.29 (0.23-0.36)	<.001	
	Northeast	52700	-	-	
Race	Other/Unknown	7499	0.50 (0.41-0.61)	<.001	<.001
	Black	35251	0.84 (0.72-0.99)	0.040	
	White	170569	-	-	
Hispanic Ethnicity	No	202987	2.08 (1.71-2.51)	<.001	<.001
	Yes	10332	-	-	
Insurance Type	Not Insured	3618	0.94 (0.71-1.24)	0.654	<.001
	Private Insurance	71219	0.79 (0.71-0.87)	<.001	
	Other Government	11579	0.10 (0.08-0.14)	<.001	
	Medicare	126903	-	-	
Median Income Quartiles 2000	< \$30,000	29258	1.53 (1.26-1.86)	<.001	<.001
	\$30,000 - \$35,999	37016	1.27 (1.10-1.47)	0.001	
	\$36,000 - \$45,999	58872	1.43 (1.27-1.60)	<.001	
	\$46,000 +	88173	-	-	

			Proton=Yes		
Covariate	Level	N	Odds Ratio (95% CI)	OR P- value	Type3 P-value
Percent No High School Degree Quartiles 2000	>=29%	35876	0.82 (0.69-0.97)	0.018	0.015
	20-28.9%	48492	0.87 (0.76-0.99)	0.035	
	14-19.9%	50980	0.84 (0.75-0.95)	0.004	
	< 14%	77971	-	-	
Urban/Rural 2003	Metro	176247	2.55 (2.24-2.90)	<.001	<.001
	Urban or Rural	37072	-	-	
Charlson-Deyo Score	0	184799	0.88 (0.77-1.00)	0.048	0.048
	1+	28520	-	-	
YEAR_OF_DIAGNOSIS(quarter)	>=2004, <=2006	64300	0.78 (0.68-0.89)	<.001	<.001
	>2006, <=2008	46114	0.88 (0.77-1.01)	0.074	
	>2008, <=2011	65732	0.95 (0.84-1.07)	0.406	
	>2011, <=2013	37173	-	-	
Grade	Well differentiated, differentiated, NOS	2895	1.01 (0.62-1.64)	0.975	<.001
	Moderately differentiated, moderately well differentiated, intermediate differentiation	73956	1.24 (0.94-1.64)	0.121	
	Poorly differentiated or Undifferentiated, anaplastic	130174	0.68 (0.51-0.89)	0.005	

Covariate	Level	N	Proton=Yes		
			Odds Ratio (95% CI)	OR P- value	Type3 P-value
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	6294	-	-	
AJCC Analytic Stage Group	Stage I	17407	9.54 (7.59-11.99)	<.001	<.001
	Stage II	176243	4.42 (3.64-5.38)	<.001	
	Stage III	19669	-	-	
PSA(ng/ml) (C)	<10	145055	2.41 (2.03-2.86)	<.001	<.001
	10 - <20	40582	1.75 (1.44-2.12)	<.001	
	>=20	27682	-	-	
Gleason Score	2-7	162861	1.86 (1.63-2.12)	<.001	<.001
	8-10	50458	-	-	
Great Circle Distance (C)	<=10 mi	121068	0.05 (0.04-0.05)	<.001	<.001
	>10 mi,<=20 mi	44085	0.08 (0.07-0.10)	<.001	
	<20 mi,>=30 mi	18766	0.21 (0.18-0.24)	<.001	
	>30 mi	29400	-	-	
Age at Diagnosis		213319	0.97 (0.96-0.98)	<.001	<.001

* Number of observations in the original data set = 261490. Number of observations used = 213319.

** Backward selection with an alpha level of removal of .2 was used. No variables were removed from the model.

Table 4: Multivariable Survival Analysis of OS Main effect

Covariate	Level	Overall Survival (Months)		
		Hazard Ratio (95% CI)	HR P- value	Type3 P-value
Proton	Yes	0.55 (0.49-0.62)	<.001	<.001
	No	-	-	
Facility Type	Academic/Research Program	0.94 (0.92-0.96)	<.001	<.001
	Non Academic/Research Program	-	-	
Facility Location	West	0.91 (0.88-0.94)	<.001	<.001
	Midwest	1.05 (1.02-1.08)	<.001	
	South	1.04 (1.01-1.07)	0.012	
	Northeast	-	-	
Race	Other/Unknown	0.71 (0.66-0.76)	<.001	<.001
	Black	1.00 (0.97-1.03)	0.999	
	White	-	-	
Hispanic Ethnicity	No	1.48 (1.39-1.57)	<.001	<.001
	Yes	-	-	
Insurance Type	Not Insured	1.05 (0.95-1.16)	0.358	<.001
	Private Insurance	0.85 (0.82-0.87)	<.001	
	Other Government	1.34 (1.28-1.41)	<.001	
	Medicare	-	-	
Median Income Quartiles 2000	< \$30,000	1.19 (1.14-1.24)	<.001	<.001
	\$30,000 - \$35,999	1.12 (1.08-1.16)	<.001	
	\$36,000 - \$45,999	1.10 (1.07-1.13)	<.001	
	\$46,000 +	-	-	

Covariate	Level	Overall Survival (Months)		
		Hazard Ratio (95% CI)	HR P- value	Type3 P-value
Percent No High School Degree Quartiles 2000	>=29%	1.26 (1.21-1.31)	<.001	<.001
	20-28.9%	1.17 (1.13-1.21)	<.001	
	14-19.9%	1.10 (1.06-1.13)	<.001	
	< 14%	-	-	
Urban/Rural 2003	Metro	0.96 (0.93-0.99)	0.007	0.007
	Urban or Rural	-	-	
Charlson-Deyo Score	0	0.64 (0.62-0.66)	<.001	<.001
	1+	-	-	
YEAR_OF_DIAGNOSIS(q uartile)	>=2004, <=2006	0.92 (0.86-0.97)	0.003	0.002
	>2006, <=2008	0.94 (0.89-1.00)	0.043	
	>2008, <=2011	0.96 (0.91-1.02)	0.153	
	>2011, <=2013	-	-	
Grade	Well differentiated, differentiated, NOS	0.86 (0.74-1.01)	0.072	<.001
	Moderately differentiated, moderately well differentiated, intermediate differentiation	0.93 (0.83-1.03)	0.171	
	Poorly differentiated or Undifferentiated, anaplastic	1.07 (0.96-1.19)	0.237	
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	-	-	
AJCC Analytic Stage Group	Stage I	0.83 (0.78-0.89)	<.001	<.001
	Stage II	0.91 (0.88-0.95)	<.001	

Covariate	Level	Overall Survival (Months)		
		Hazard Ratio (95% CI)	HR P- value	Type3 P-value
	Stage III	-	-	
PSA(ng/ml) (C)	<10	0.75 (0.73-0.77)	<.001	<.001
	10 - <20	0.94 (0.91-0.97)	<.001	
	>=20	-	-	
Gleason Score	2-7	0.72 (0.70-0.74)	<.001	<.001
	8-10	-	-	
Great Circle Distance (C)	<=10 mi	1.16 (1.12-1.21)	<.001	<.001
	>10 mi, <=20 mi	1.12 (1.08-1.17)	<.001	
	<20 mi, >=30 mi	1.09 (1.04-1.14)	<.001	
	>30 mi	-	-	
Age at Diagnosis		1.05 (1.05-1.05)	<.001	<.001

* Number of observations in the original data set = 261490. Number of observations used = 213319.

** Backward selection with an alpha level of removal of .20 was used. No variables were removed from the model.

Table 5: LOGREG - Balance Check before Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Facility Type	Non Academic/Research Program	N (Col%)	148205 (71.21)	199 (3.83)	<.001	1.937
	Academic/Research Program	N (Col%)	59921 (28.79)	4994 (96.17)		
Facility Location	Northeast	N (Col%)	52333 (25.14)	367 (7.07)	<.001	0.507
	South	N (Col%)	70756 (34)	115 (2.21)		
	Midwest	N (Col%)	53012 (25.47)	80 (1.54)		
	West	N (Col%)	32025 (15.39)	4631 (89.18)		
Race	White	N (Col%)	165847 (79.69)	4722 (90.93)	<.001	0.322
	Black	N (Col%)	34956 (16.8)	295 (5.68)		
	Other/Unknown	N (Col%)	7323 (3.52)	176 (3.39)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Hispanic Ethnicity	No	N (Col%)	198007 (95.14)	4980 (95.9)	0.012	0.037
	Yes	N (Col%)	10119 (4.86)	213 (4.1)		0.037
Insurance Type	Not Insured	N (Col%)	3466 (1.67)	152 (2.93)	<.001	0.084
	Private Insurance	N (Col%)	68890 (33.1)	2329 (44.85)		0.243
	Other Government	N (Col%)	11498 (5.52)	81 (1.56)		0.216
	Medicare	N (Col%)	124272 (59.71)	2631 (50.66)		0.183
Median Income Quartiles 2000	< \$30,000	N (Col%)	28882 (13.88)	376 (7.24)	<.001	0.217
	\$30,000 - \$35,999	N (Col%)	36217 (17.4)	799 (15.39)		0.054
	\$36,000 - \$45,999	N (Col%)	57465 (27.61)	1407 (27.09)		0.012
	\$46,000 +	N (Col%)	85562 (41.11)	2611 (50.28)		0.185
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	35315 (16.97)	561 (10.8)	<.001	0.179
	20-28.9%	N (Col%)	47617 (22.88)	875 (16.85)		0.152
	14-19.9%	N (Col%)	49769 (23.91)	1211 (23.32)		0.014

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
	< 14%	N (Col%)	75425 (36.24)	2546 (49.03)		0.261
Urban/Rural 2003	Metro	N (Col%)	171760 (82.53)	4487 (86.4)	<.001	0.107
	Urban or Rural	N (Col%)	36366 (17.47)	706 (13.6)		0.107
Charlson-Deyo Score	0	N (Col%)	180190 (86.58)	4609 (88.75)	<.001	0.066
	1+	N (Col%)	27936 (13.42)	584 (11.25)		0.066
YEAR_OF_DIAGNOSIS(quarterly)	>=2004, <=2006	N (Col%)	62839 (30.19)	1461 (28.13)	<.001	0.045
	>2006, <=2008	N (Col%)	45093 (21.67)	1021 (19.66)		0.050
	>2008, <=2011	N (Col%)	63987 (30.74)	1745 (33.6)		0.061
	>2011, <=2013	N (Col%)	36207 (17.4)	966 (18.6)		0.031
Grade	Well differentiated, differentiated, NOS	N (Col%)	2845 (1.37)	50 (0.96)	<.001	0.038
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	71083 (34.15)	2873 (55.32)		0.436

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	127995 (61.5)	2179 (41.96)		0.399
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	6203 (2.98)	91 (1.75)		0.081
AJCC Analytic Stage Group	Stage I	N (Col%)	16350 (7.86)	1057 (20.35)	<.001	0.365
	Stage II	N (Col%)	172253 (82.76)	3990 (76.83)		0.148
	Stage III	N (Col%)	19523 (9.38)	146 (2.81)		0.277
PSA(ng/ml) (C)	<10	N (Col%)	140783 (67.64)	4272 (82.26)	<.001	0.342
	10 - <20	N (Col%)	39873 (19.16)	709 (13.65)		0.149
	>=20	N (Col%)	27470 (13.2)	212 (4.08)		0.329
Gleason Score	2-7	N (Col%)	158120 (75.97)	4741 (91.3)	<.001	0.423
	8-10	N (Col%)	50006 (24.03)	452 (8.7)		0.423

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Great Circle Distance (C)	<=10 mi	N (Col%)	120584 (57.94)	484 (9.32)	<.001	1.200
	>10 mi,<=20 mi	N (Col%)	43754 (21.02)	331 (6.37)		
	<20 mi,>=30 mi	N (Col%)	18460 (8.87)	306 (5.89)		
	>30 mi	N (Col%)	25328 (12.17)	4072 (78.41)		
Age at Diagnosis		Mean (Std)	68.36 (8.03)	65.58 (7.94)	<.001	0.347

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.

Table 6: LOGREG - Balance Check after Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2450	Yes N=2450		
Facility Type	Non Academic/Research Program	N (Col%)	276 (11.27)	199 (8.12)	<.001	0.106
	Academic/Research Program	N (Col%)	2174 (88.73)	2251 (91.88)		
Facility Location	Northeast	N (Col%)	328 (13.39)	367 (14.98)	0.136	0.046
	South	N (Col%)	130 (5.31)	115 (4.69)		
	Midwest	N (Col%)	101 (4.12)	80 (3.27)		
	West	N (Col%)	1891 (77.18)	1888 (77.06)		
Race	White	N (Col%)	2168 (88.49)	2112 (86.2)	0.050	0.069
	Black	N (Col%)	182 (7.43)	212 (8.65)		
	Other/Unknown	N (Col%)	100 (4.08)	126 (5.14)		
Hispanic Ethnicity	No	N (Col%)	2313 (94.41)	2312 (94.37)	0.951	0.002
	Yes	N (Col%)	137 (5.59)	138 (5.63)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2450	Yes N=2450		
Insurance Type	Not Insured	N (Col%)	43 (1.76)	50 (2.04)	0.195	0.021
	Private Insurance	N (Col%)	1064 (43.43)	1006 (41.06)		0.048
	Other Government	N (Col%)	60 (2.45)	77 (3.14)		0.042
	Medicare	N (Col%)	1283 (52.37)	1317 (53.76)		0.028
Median Income Quartiles 2000	< \$30,000	N (Col%)	183 (7.47)	192 (7.84)	0.394	0.014
	\$30,000 - \$35,999	N (Col%)	379 (15.47)	408 (16.65)		0.032
	\$36,000 - \$45,999	N (Col%)	655 (26.73)	675 (27.55)		0.018
	\$46,000 +	N (Col%)	1233 (50.33)	1175 (47.96)		0.047
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	304 (12.41)	340 (13.88)	0.054	0.044
	20-28.9%	N (Col%)	438 (17.88)	478 (19.51)		0.042
	14-19.9%	N (Col%)	533 (21.76)	548 (22.37)		0.015
	< 14%	N (Col%)	1175 (47.96)	1084 (44.24)		0.075
Urban/Rural 2003	Metro	N (Col%)	2078 (84.82)	2040 (83.27)	0.138	0.042
	Urban or Rural	N (Col%)	372 (15.18)	410 (16.73)		0.042

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2450	Yes N=2450		
Charlson-Deyo Score	0	N (Col%)	2146 (87.59)	2157 (88.04)	0.631	0.014
	1+	N (Col%)	304 (12.41)	293 (11.96)		0.014
YEAR_OF_DIAGNOSIS(quarterly)	>=2004, <=2006	N (Col%)	585 (23.88)	667 (27.22)	0.024	0.077
	>2006, <=2008	N (Col%)	436 (17.8)	455 (18.57)		0.020
	>2008, <=2011	N (Col%)	852 (34.78)	794 (32.41)		0.050
	>2011, <=2013	N (Col%)	577 (23.55)	534 (21.8)		0.042
Grade	Well differentiated, differentiated, NOS	N (Col%)	21 (0.86)	22 (0.9)	0.866	0.004
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	962 (39.27)	990 (40.41)		0.023
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	1388 (56.65)	1362 (55.59)		0.021
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	79 (3.22)	76 (3.1)		0.007

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2450	Yes N=2450		
AJCC Analytic Stage Group	Stage I	N (Col%)	397 (16.2)	372 (15.18)	0.500	0.028
	Stage II	N (Col%)	1900 (77.55)	1934 (78.94)		0.034
	Stage III	N (Col%)	153 (6.24)	144 (5.88)		0.015
PSA(ng/ml) (C)	<10	N (Col%)	1854 (75.67)	1846 (75.35)	0.928	0.008
	10 - <20	N (Col%)	403 (16.45)	413 (16.86)		0.011
	>=20	N (Col%)	193 (7.88)	191 (7.8)		0.003
Gleason Score	2-7	N (Col%)	2041 (83.31)	2056 (83.92)	0.563	0.017
	8-10	N (Col%)	409 (16.69)	394 (16.08)		0.017
Great Circle Distance (C)	<=10 mi	N (Col%)	448 (18.29)	484 (19.76)	0.076	0.037
	>10 mi,<=20 mi	N (Col%)	296 (12.08)	330 (13.47)		0.042
	<20 mi,>=30 mi	N (Col%)	254 (10.37)	274 (11.18)		0.026
	>30 mi	N (Col%)	1452 (59.27)	1362 (55.59)		0.074
Age at Diagnosis		Mean (Std)	66.54 (8.07)	66.78 (8.1)	0.291	0.030

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2450	Yes N=2450		

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.

Table 7: LOGREG(INT) - Balance Check before Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Facility Type	Non Academic/Research Program	N (Col%)	148205 (71.21)	199 (3.83)	<.001	1.937
	Academic/Research Program	N (Col%)	59921 (28.79)	4994 (96.17)		
Facility Location	Northeast	N (Col%)	52333 (25.14)	367 (7.07)	<.001	0.507
	South	N (Col%)	70756 (34)	115 (2.21)		
	Midwest	N (Col%)	53012 (25.47)	80 (1.54)		
	West	N (Col%)	32025 (15.39)	4631 (89.18)		
Race	White	N (Col%)	165847 (79.69)	4722 (90.93)	<.001	0.322
	Black	N (Col%)	34956 (16.8)	295 (5.68)		
	Other/Unknown	N (Col%)	7323 (3.52)	176 (3.39)		
Hispanic Ethnicity	No	N (Col%)	198007 (95.14)	4980 (95.9)	0.012	0.037
	Yes	N (Col%)	10119 (4.86)	213 (4.1)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Insurance Type	Not Insured	N (Col%)	3466 (1.67)	152 (2.93)	<.001	0.084
	Private Insurance	N (Col%)	68890 (33.1)	2329 (44.85)		0.243
	Other Government	N (Col%)	11498 (5.52)	81 (1.56)		0.216
	Medicare	N (Col%)	124272 (59.71)	2631 (50.66)		0.183
Median Income Quartiles 2000	< \$30,000	N (Col%)	28882 (13.88)	376 (7.24)	<.001	0.217
	\$30,000 - \$35,999	N (Col%)	36217 (17.4)	799 (15.39)		0.054
	\$36,000 - \$45,999	N (Col%)	57465 (27.61)	1407 (27.09)		0.012
	\$46,000 +	N (Col%)	85562 (41.11)	2611 (50.28)		0.185
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	35315 (16.97)	561 (10.8)	<.001	0.179
	20-28.9%	N (Col%)	47617 (22.88)	875 (16.85)		0.152
	14-19.9%	N (Col%)	49769 (23.91)	1211 (23.32)		0.014
	< 14%	N (Col%)	75425 (36.24)	2546 (49.03)		0.261

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Urban/Rural 2003	Metro	N (Col%)	171760 (82.53)	4487 (86.4)	<.001	0.107
	Urban or Rural	N (Col%)	36366 (17.47)	706 (13.6)		
Charlson-Deyo Score	0	N (Col%)	180190 (86.58)	4609 (88.75)	<.001	0.066
	1+	N (Col%)	27936 (13.42)	584 (11.25)		
YEAR_OF_DIAGNOSIS(quarterly)	>=2004, <=2006	N (Col%)	62839 (30.19)	1461 (28.13)	<.001	0.045
	>2006, <=2008	N (Col%)	45093 (21.67)	1021 (19.66)		
	>2008, <=2011	N (Col%)	63987 (30.74)	1745 (33.6)		
	>2011, <=2013	N (Col%)	36207 (17.4)	966 (18.6)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Grade	Well differentiated, differentiated, NOS	N (Col%)	2845 (1.37)	50 (0.96)	<.001	0.038
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	71083 (34.15)	2873 (55.32)		0.436
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	127995 (61.5)	2179 (41.96)		0.399
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	6203 (2.98)	91 (1.75)		0.081
AJCC Analytic Stage Group	Stage I	N (Col%)	16350 (7.86)	1057 (20.35)	<.001	0.365
	Stage II	N (Col%)	172253 (82.76)	3990 (76.83)		0.148
	Stage III	N (Col%)	19523 (9.38)	146 (2.81)		0.277
PSA(ng/ml) (C)	<10	N (Col%)	140783 (67.64)	4272 (82.26)	<.001	0.342
	10 - <20	N (Col%)	39873 (19.16)	709 (13.65)		0.149
	>=20	N (Col%)	27470 (13.2)	212 (4.08)		0.329

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=208126	Yes N=5193		
Gleason Score	2-7	N (Col%)	158120 (75.97)	4741 (91.3)	<.001	0.423
	8-10	N (Col%)	50006 (24.03)	452 (8.7)		
Great Circle Distance (C)	<=10 mi	N (Col%)	120584 (57.94)	484 (9.32)	<.001	1.200
	>10 mi,<=20 mi	N (Col%)	43754 (21.02)	331 (6.37)		
	<20 mi,>=30 mi	N (Col%)	18460 (8.87)	306 (5.89)		
	>30 mi	N (Col%)	25328 (12.17)	4072 (78.41)		
Age at Diagnosis		Mean (Std)	68.36 (8.03)	65.58 (7.94)	<.001	0.347

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.

Table 8: LOGREG(INT) - Balance Check after Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2298	Yes N=2298		
Facility Type	Non Academic/Research Program	N (Col%)	245 (10.66)	199 (8.66)	0.022	0.068
	Academic/Research Program	N (Col%)	2053 (89.34)	2099 (91.34)		
Facility Location	Northeast	N (Col%)	350 (15.23)	364 (15.84)	0.530	0.017
	South	N (Col%)	123 (5.35)	115 (5)		
	Midwest	N (Col%)	97 (4.22)	80 (3.48)		
	West	N (Col%)	1728 (75.2)	1739 (75.67)		
Race	White	N (Col%)	2022 (87.99)	1966 (85.55)	0.051	0.072
	Black	N (Col%)	168 (7.31)	203 (8.83)		
	Other/Unknown	N (Col%)	108 (4.7)	129 (5.61)		
Hispanic Ethnicity	No	N (Col%)	2195 (95.52)	2176 (94.69)	0.194	0.038
	Yes	N (Col%)	103 (4.48)	122 (5.31)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2298	Yes N=2298		
Insurance Type	Not Insured	N (Col%)	41 (1.78)	30 (1.31)	0.330	0.039
	Private Insurance	N (Col%)	988 (42.99)	967 (42.08)		0.018
	Other Government	N (Col%)	56 (2.44)	69 (3)		0.035
	Medicare	N (Col%)	1213 (52.79)	1232 (53.61)		0.017
Median Income Quartiles 2000	< \$30,000	N (Col%)	159 (6.92)	186 (8.09)	0.080	0.045
	\$30,000 - \$35,999	N (Col%)	348 (15.14)	385 (16.75)		0.044
	\$36,000 - \$45,999	N (Col%)	636 (27.68)	649 (28.24)		0.013
	\$46,000 +	N (Col%)	1155 (50.26)	1078 (46.91)		0.067
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	271 (11.79)	328 (14.27)	0.007	0.074
	20-28.9%	N (Col%)	395 (17.19)	440 (19.15)		0.051
	14-19.9%	N (Col%)	521 (22.67)	514 (22.37)		0.007
	< 14%	N (Col%)	1111 (48.35)	1016 (44.21)		0.083
Urban/Rural 2003	Metro	N (Col%)	1969 (85.68)	1933 (84.12)	0.138	0.044
	Urban or Rural	N (Col%)	329 (14.32)	365 (15.88)		0.044

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2298	Yes N=2298		
Charlson-Deyo Score	0	N (Col%)	2039 (88.73)	2024 (88.08)	0.490	0.020
	1+	N (Col%)	259 (11.27)	274 (11.92)		0.020
YEAR_OF_DIAGNOSIS(quartile)	>=2004, <=2006	N (Col%)	518 (22.54)	586 (25.5)	0.061	0.069
	>2006, <=2008	N (Col%)	402 (17.49)	415 (18.06)		0.015
	>2008, <=2011	N (Col%)	817 (35.55)	787 (34.25)		0.027
	>2011, <=2013	N (Col%)	561 (24.41)	510 (22.19)		0.053
Grade	Well differentiated, differentiated, NOS	N (Col%)	21 (0.91)	21 (0.91)	0.995	0.000
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	918 (39.95)	926 (40.3)		0.007
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	1283 (55.83)	1277 (55.57)		0.005
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	76 (3.31)	74 (3.22)		0.005

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2298	Yes N=2298		
AJCC Analytic Stage Group	Stage I	N (Col%)	391 (17.01)	352 (15.32)	0.038	0.046
	Stage II	N (Col%)	1795 (78.11)	1800 (78.33)		0.005
	Stage III	N (Col%)	112 (4.87)	146 (6.35)		0.064
PSA(ng/ml) (C)	<10	N (Col%)	1766 (76.85)	1739 (75.67)	0.497	0.028
	10 - <20	N (Col%)	364 (15.84)	371 (16.14)		0.008
	>=20	N (Col%)	168 (7.31)	188 (8.18)		0.033
Gleason Score	2-7	N (Col%)	1929 (83.94)	1904 (82.85)	0.322	0.029
	8-10	N (Col%)	369 (16.06)	394 (17.15)		0.029
Great Circle Distance (C)	<=10 mi	N (Col%)	508 (22.11)	481 (20.93)	0.560	0.029
	>10 mi,<=20 mi	N (Col%)	290 (12.62)	311 (13.53)		0.027
	<20 mi,>=30 mi	N (Col%)	224 (9.75)	240 (10.44)		0.023
	>30 mi	N (Col%)	1276 (55.53)	1266 (55.09)		0.009

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2298	Yes N=2298		
Age at Diagnosis		Mean (Std)	66.56 (8.26)	66.79 (7.9)	0.341	0.028

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.

Table 9: GBM - Balance Check before Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=255630	Yes N=5860		
Facility Type	Non Academic/Research Program	N (Col%)	181002 (70.81)	245 (4.18)	<.001	1.897
	Academic/Research Program	N (Col%)	74597 (29.19)	5610 (95.82)		
Facility Location	Northeast	N (Col%)	64900 (25.39)	400 (6.83)	<.001	0.522
	South	N (Col%)	86576 (33.87)	142 (2.43)		
	Midwest	N (Col%)	67223 (26.3)	93 (1.59)		
	West	N (Col%)	36900 (14.44)	5220 (89.15)		
Race	White	N (Col%)	202223 (79.11)	5314 (90.68)	<.001	0.328
	Black	N (Col%)	42639 (16.68)	336 (5.73)		
	Other/Unknown	N (Col%)	10768 (4.21)	210 (3.58)		
Hispanic Ethnicity	No	N (Col%)	225360 (95.12)	5578 (95.94)	0.004	0.040
	Yes	N (Col%)	11562 (4.88)	236 (4.06)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=255630	Yes N=5860		
Insurance Type	Not Insured	N (Col%)	4112 (1.64)	164 (2.81)	<.001	0.079
	Private Insurance	N (Col%)	83580 (33.3)	2599 (44.53)		0.232
	Other Government	N (Col%)	13518 (5.39)	93 (1.59)		0.208
	Medicare	N (Col%)	149784 (59.68)	2981 (51.07)		0.174
Median Income Quartiles 2000	< \$30,000	N (Col%)	34064 (13.78)	392 (7.15)	<.001	0.218
	\$30,000 - \$35,999	N (Col%)	42805 (17.32)	833 (15.2)		0.057
	\$36,000 - \$45,999	N (Col%)	68583 (27.74)	1473 (26.87)		0.020
	\$46,000 +	N (Col%)	101750 (41.16)	2784 (50.78)		0.194
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	41238 (16.68)	580 (10.58)	<.001	0.179
	20-28.9%	N (Col%)	57186 (23.14)	914 (16.67)		0.162
	14-19.9%	N (Col%)	59249 (23.97)	1279 (23.33)		0.015
	< 14%	N (Col%)	89500 (36.21)	2709 (49.42)		0.269

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=255630	Yes N=5860		
Urban/Rural 2003	Metro	N (Col%)	205162 (82.43)	4853 (86.18)	<.001	0.103
	Urban or Rural	N (Col%)	43727 (17.57)	778 (13.82)		
Charlson-Deyo Score	0	N (Col%)	222166 (86.91)	5216 (89.01)	<.001	0.065
	1+	N (Col%)	33464 (13.09)	644 (10.99)		
YEAR_OF_DIAGNOSIS(quarterly)	>=2004, <=2006	N (Col%)	80678 (31.56)	1657 (28.28)	<.001	0.072
	>2006, <=2008	N (Col%)	57276 (22.41)	1139 (19.44)		
	>2008, <=2011	N (Col%)	76518 (29.93)	1982 (33.82)		
	>2011, <=2013	N (Col%)	41158 (16.1)	1082 (18.46)		
Grade	Well differentiated, differentiated, NOS	N (Col%)	3462 (1.35)	54 (0.92)	<.001	0.041
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	87997 (34.42)	3251 (55.48)		
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	156000 (61.03)	2443 (41.69)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=255630	Yes N=5860		
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	8171 (3.2)	112 (1.91)		0.082
AJCC Analytic Stage Group	Stage I	N (Col%)	19720 (7.71)	1205 (20.56)	<.001	0.375
	Stage II	N (Col%)	211825 (82.86)	4496 (76.72)		0.153
	Stage III	N (Col%)	24085 (9.42)	159 (2.71)		0.284
PSA(ng/ml) (C)	<10	N (Col%)	166787 (67.75)	4787 (82.43)	<.001	0.345
	10 - <20	N (Col%)	46687 (18.96)	786 (13.54)		0.148
	>=20	N (Col%)	32715 (13.29)	234 (4.03)		0.334
Gleason Score	2-7	N (Col%)	189523 (76.17)	5339 (91.36)	<.001	0.421
	8-10	N (Col%)	59281 (23.83)	505 (8.64)		0.421

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference	
			No N=255630	Yes N=5860			
Great Circle Distance (C)	<=10 mi	N (Col%)	146266 (57.73)	535 (9.2)	<.001	1.199	
	>10 mi,<=20 mi	N (Col%)	53355 (21.06)	372 (6.39)			0.436
	<20 mi,>=30 mi	N (Col%)	22675 (8.95)	337 (5.79)			0.121
	>30 mi	N (Col%)	31066 (12.26)	4574 (78.62)			1.787
Age at Diagnosis		Mean (Std)	68.36 (8.06)	65.58 (7.92)	<.001	0.346	

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.

Table 10: GBM - Balance Check after Matching Proton V.S. non-Proton

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2813	Yes N=2813		
Facility Type	Non Academic/Research Program	N (Col%)	246 (8.75)	245 (8.73)	0.975	0.001
	Academic/Research Program	N (Col%)	2566 (91.25)	2563 (91.27)		
Facility Location	Northeast	N (Col%)	402 (14.3)	400 (14.25)	0.955	0.001
	South	N (Col%)	134 (4.77)	142 (5.06)		
	Midwest	N (Col%)	97 (3.45)	93 (3.31)		
	West	N (Col%)	2179 (77.49)	2173 (77.39)		
Race	White	N (Col%)	2373 (84.36)	2430 (86.38)	0.087	0.057
	Black	N (Col%)	253 (8.99)	227 (8.07)		
	Other/Unknown	N (Col%)	187 (6.65)	156 (5.55)		
Hispanic Ethnicity	No	N (Col%)	2565 (93.61)	2607 (94.12)	0.437	0.021
	Yes	N (Col%)	175 (6.39)	163 (5.88)		

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2813	Yes N=2813		
Insurance Type	Not Insured	N (Col%)	51 (1.83)	60 (2.15)	0.012	0.023
	Private Insurance	N (Col%)	1254 (44.95)	1147 (41.05)		0.079
	Other Government	N (Col%)	102 (3.66)	89 (3.19)		0.026
	Medicare	N (Col%)	1383 (49.57)	1498 (53.61)		0.081
Median Income Quartiles 2000	< \$30,000	N (Col%)	196 (7.37)	218 (8.24)	<.001	0.032
	\$30,000 - \$35,999	N (Col%)	410 (15.41)	408 (15.42)		0.000
	\$36,000 - \$45,999	N (Col%)	624 (23.46)	746 (28.19)		0.108
	\$46,000 +	N (Col%)	1430 (53.76)	1274 (48.15)		0.112
Percent No High School Degree Quartiles 2000	>=29%	N (Col%)	356 (13.38)	357 (13.49)	0.322	0.003
	20-28.9%	N (Col%)	449 (16.88)	494 (18.67)		0.047
	14-19.9%	N (Col%)	600 (22.56)	598 (22.6)		0.001
	< 14%	N (Col%)	1255 (47.18)	1197 (45.24)		0.039
Urban/Rural 2003	Metro	N (Col%)	2316 (85.4)	2299 (85.34)	0.950	0.002
	Urban or Rural	N (Col%)	396 (14.6)	395 (14.66)		0.002

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2813	Yes N=2813		
Charlson-Deyo Score	0	N (Col%)	2505 (89.05)	2466 (87.66)	0.105	0.043
	1+	N (Col%)	308 (10.95)	347 (12.34)		0.043
YEAR_OF_DIAGNOSIS(quarterly)	>=2004, <=2006	N (Col%)	698 (24.81)	761 (27.05)	0.009	0.051
	>2006, <=2008	N (Col%)	453 (16.1)	514 (18.27)		0.058
	>2008, <=2011	N (Col%)	983 (34.94)	921 (32.74)		0.047
	>2011, <=2013	N (Col%)	679 (24.14)	617 (21.93)		0.052
Grade	Well differentiated, differentiated, NOS	N (Col%)	22 (0.78)	31 (1.1)	0.515	0.033
	Moderately differentiated, moderately well differentiated, intermediate differentiation	N (Col%)	1072 (38.11)	1097 (39)		0.018
	Poorly differentiated or Undifferentiated, anaplastic	N (Col%)	1620 (57.59)	1583 (56.27)		0.027
	Cell type not determined, not stated or not applicable, unknown primaries, high grade dysplasia	N (Col%)	99 (3.52)	102 (3.63)		0.006

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2813	Yes N=2813		
AJCC Analytic Stage Group	Stage I	N (Col%)	440 (15.64)	465 (16.53)	0.017	0.024
	Stage II	N (Col%)	2163 (76.89)	2190 (77.85)		0.023
	Stage III	N (Col%)	210 (7.47)	158 (5.62)		0.075
PSA(ng/ml) (C)	<10	N (Col%)	2047 (73.63)	2090 (75.34)	0.043	0.039
	10 - <20	N (Col%)	466 (16.76)	470 (16.94)		0.005
	>=20	N (Col%)	267 (9.6)	214 (7.71)		0.067
Gleason Score	2-7	N (Col%)	2293 (82.27)	2319 (82.79)	0.611	0.014
	8-10	N (Col%)	494 (17.73)	482 (17.21)		0.014
Great Circle Distance (C)	<=10 mi	N (Col%)	545 (19.52)	535 (19.31)	0.161	0.005
	>10 mi,<=20 mi	N (Col%)	365 (13.07)	372 (13.42)		0.010
	<20 mi,>=30 mi	N (Col%)	289 (10.35)	337 (12.16)		0.057
	>30 mi	N (Col%)	1593 (57.06)	1527 (55.11)		0.039
Age at Diagnosis		Mean (Std)	66.72 (8.08)	66.5 (8.24)	0.316	0.027

Covariate	Level	Statistics	Proton		Parametric P-value*	Standardized Difference
			No N=2813	Yes N=2813		

* The parametric p value is calculated by ANOVA for numerical covariates and Chi-Square test for categorical covariates.
