

Appendix A. Predictors used in all the different models.

Predictors in Model A1:

AGE_DX, YEAR_DX, GENDER, STAGE, RACEHISP, MARRIED, INSURANCE, CIGARETTE, TRT_SURGERY, TRT_RADIATION, TRT_CHEMO, TRT_HORMONE

Predictors in Model A2:

Predictors in A1 + FL_RPL_1, FL_RPL_2, FL_RPL_3, FL_RPL_4, RUCA, AVGSMK, AVGHALC, AVGPLTH, PCPRATE

Predictors in Model A3:

For Breast cancer: Predictors in A2 + RACEHISP*INSURANCE

For Lung cancer: Predictors in A2 + RACEHISP*STAGE, RACEHISP*MARRIED, RACEHISP*FL_RPL_1

For Colon cancer: Predictors in A2 + RACEHISP*STAGE, RACEHISP*MARRIED

Base predictors in Model B and C

AGE_DX, YEAR_DX, GENDER, STAGE, RACEHISP, MARRIED, INSURANCE, CIGARETTE, TRT_SURGERY, TRT_RADIATION, TRT_CHEMO, TRT_HORMONE

For Model B1: Base predictors + RUCA_B1

For Model B2: Base predictors + RUCA_B2

For Model B3: Base predictors + RUCA_B3

For Model B4: Base predictors + RUCA_B4

For Model C1: Base predictors + NCHS_C1

Appendix B. Hazard ratios from the cox models under scenario A.

Predictors	Breast	Lung	Colorectal
Age at diagnosis	1.20 (1.15, 1.26)	1.17 (1.14, 1.19)	1.24 (1.19, 1.28)
Year of diagnosis	1.02 (1.01, 1.03)	1.00 (1.00, 1.01)	1.03 (1.02, 1.04)
Sex (Male vs. Female)		1.21 (1.17, 1.25)	1.12 (1.04, 1.21)
Stage of diagnosis			
Reginal vs. Local	4.35 (3.84, 4.93)		
Distant vs. Local	17.17 (14.73, 20.03)		
Unknown vs. Local	5.83 (4.97, 6.85)		

Race-ethnicity			
NHB vs. NHW			
Hispanics vs. NHW			
Marital status			
Married vs. Single	0.79 (0.72, 0.87)		
Unknown vs. Single	0.59 (0.46, 0.76)		
Insurance			
Private vs. None		0.74 (0.67, 0.83)	0.69 (0.54, 0.87)
Medicaid vs. None		0.88 (0.79, 0.99)	1.03 (0.79, 1.33)
Medicare vs. None		0.74 (0.67, 0.83)	0.75 (0.60, 0.94)
Medicare with supplement vs. None		0.68 (0.62, 0.76)	0.69 (0.55, 0.86)
Other vs. None		0.79 (0.71, 0.87)	0.88 (0.70, 1.12)
Unknown vs. None		1.49 (1.35, 1.66)	1.43 (1.14, 1.81)
Smoking status			
Former vs. Never	0.78 (0.68, 0.91)	1.21 (1.13, 1.30)	0.98 (0.89, 1.08)
Current vs. Never	1.27 (1.10, 1.46)	1.37 (1.27, 1.46)	1.13 (1.00, 1.28)
Unknown vs. Never	1.38 (1.24, 1.54)	1.48 (1.38, 1.58)	1.16 (1.06, 1.28)
Treatment: Surgery	0.41 (0.37, 0.47)	0.44 (0.42, 0.47)	0.46 (0.42, 0.51)
Treatment: Radiation	0.83 (0.74, 0.94)	0.93 (0.90, 0.96)	0.88 (0.71, 1.08)
Treatment: Chemo therapy	1.27 (1.14, 1.42)	0.80 (0.77, 0.83)	0.90 (0.82, 0.98)
Treatment: Hormone therapy	0.71 (0.61, 0.81)	0.79 (0.61, 1.04)	0.15 (0.04, 0.61)
SVI: Socioeconomic status	1.01 (0.99, 1.04)		1.01 (0.99, 1.03)
SVI: Household composition	0.99 (0.97, 1.01)	0.99 (0.98, 1.00)	1.00 (0.98, 1.02)

and disability			
SVI: Minority status and language	1.02 (0.99, 1.05)	1.00 (0.99, 1.01)	0.99 (0.96, 1.01)
SVI: Housing and transportation	1.02 (1.00, 1.04)	1.00 (0.99, 1.01)	1.03 (1.01, 1.05)
Rurality			
Urban vs. Rural	0.94 (0.82, 1.07)	1.01 (0.96, 1.06)	1.05 (0.94, 1.17)
Suburban vs. Rural	1.32 (1.11, 1.56)	1.13 (1.07, 1.20)	1.23 (1.07, 1.41)
Micropolitan vs. Rural	0.99 (0.82, 1.21)	1.16 (1.08, 1.24)	1.13 (0.97, 1.32)
Small town vs. Rural	1.14 (0.91, 1.42)	1.20 (1.11, 1.31)	1.35 (1.13, 1.62)
County smoking rate	1.04 (0.88, 1.23)	1.12 (1.05, 1.19)	1.25 (1.09, 1.43)
County alcohol consumption rate	0.56 (0.25, 1.24)	0.99 (0.75, 1.30)	1.43 (0.75, 2.72)
County health status	0.97 (0.95, 0.99)	0.98 (0.98, 0.99)	0.97 (0.95, 0.99)
County PCP density	1.00 (0.98, 1.02)	1.01 (1.00, 1.02)	1.02 (1.00, 1.04)
Race by Insurance			
Not insured, NHB vs. NHW	2.27 (1.45, 3.57)		
Not insured, Hispanics vs. NHW	0.25 (0.09, 0.68)		
Private, NHB vs. NHW	1.47 (1.10, 1.96)		
Medicaid, NHB vs. NHW	2.00 (1.47, 2.78)		
Other, NHB vs. NHW	2.17 (1.61, 3.03)		
Race by Stage			
Local, NHB vs NHW		1.31 (1.00, 1.73)	1.12 (0.77, 1.62)
Regional, NHB vs NHW		0.99 (0.79, 1.24)	1.24 (1.00, 1.53)

Distance, NHB vs NHW		1.09 (0.90, 1.33)	0.77 (0.64, 0.92)
Race by Marital status			
Single, NHB vs NHW		1.31 (1.00, 1.73)	1.12 (0.77, 1.62)
Married, NHB vs NHW		0.99 (0.79, 1.24)	1.24 (1.00, 1.53)
Unknown, NHB vs NHW		0.52 (0.29, 0.94)	1.03 (0.39, 2.72)
SVI: Socioeconomic status by Race			
NHW		1.02 (1.01, 1.03)	
NHB		0.99 (0.97, 1.02)	
Hispanics		1.03 (0.97, 1.09)	