

Figures & Tables

Elizabeth Chase

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Table 1: Baseline characteristics of NHANES training and PLCO validation data.

	NHANES	PLCO	p	test
n	2420	8220		
Age (years) (mean (SD))	59.4 (12.1)	69.5 (5.9)	<0.001	
Race (%)			<0.001	
NHB	411 (17.0)	475 (5.8)		
NHW	1362 (56.3)	7312 (89.0)		
Other	647 (26.7)	433 (5.3)		
Education (%)			<0.001	
Less than 9th grade	305 (12.6)	90 (1.1)		
9th-11th grade	295 (12.2)	520 (6.3)		
HS graduate	591 (24.4)	1512 (18.4)		
Some college	607 (25.1)	2605 (31.7)		
College graduate	622 (25.7)	3493 (42.5)		
Marital status (%)			<0.001	
Married	1813 (74.9)	7055 (85.8)		
Separated	466 (19.3)	945 (11.5)		
Single	141 (5.8)	220 (2.7)		
Smoking status (%)			<0.001	
Never	905 (37.4)	3368 (41.0)		
Current	538 (22.2)	736 (9.0)		
Former	977 (40.4)	4116 (50.1)		
Arthritis = Yes (%)	813 (33.6)	2471 (30.1)	0.001	
Chronic bronchitis = Yes (%)	111 (4.6)	240 (2.9)	<0.001	
Diabetes = Yes (%)	453 (18.7)	527 (6.4)	<0.001	
Emphysema = Yes (%)	75 (3.1)	183 (2.2)	0.017	
Hypertension = Yes (%)	1169 (48.3)	2742 (33.4)	<0.001	
Previous heart attack, coronary heart disease = Yes (%)	281 (11.6)	979 (11.9)	0.716	
Liver disease = Yes (%)	113 (4.7)	314 (3.8)	0.070	
Previous stroke = Yes (%)	95 (3.9)	181 (2.2)	<0.001	
BMI category (%)			<0.001	
Underweight (BMI < 18.5)	21 (0.9)	21 (0.3)		
Normal weight (BMI 18.5-25)	506 (20.9)	2326 (28.3)		
Overweight (BMI 25-40)	1801 (74.4)	5809 (70.7)		
Obese (BMI 40+)	92 (3.8)	64 (0.8)		
Prostate cancer = Yes (%)	127 (5.2)	8220 (100.0)	<0.001	
Outcome = Deceased (%)	459 (19.0)	2415 (29.4)	<0.001	
Follow-up (months) (median [range])	109.0 [0.0, 180.0]	151.0 [0.0, 267.0]	NA	nonnorm

Figure 1: Forest plot of predictors for final OC mortality prediction model fit in the NHANES training cohort of 7,369 men. The model also includes interactions between age and diabetes, education, hypertension, and stroke.

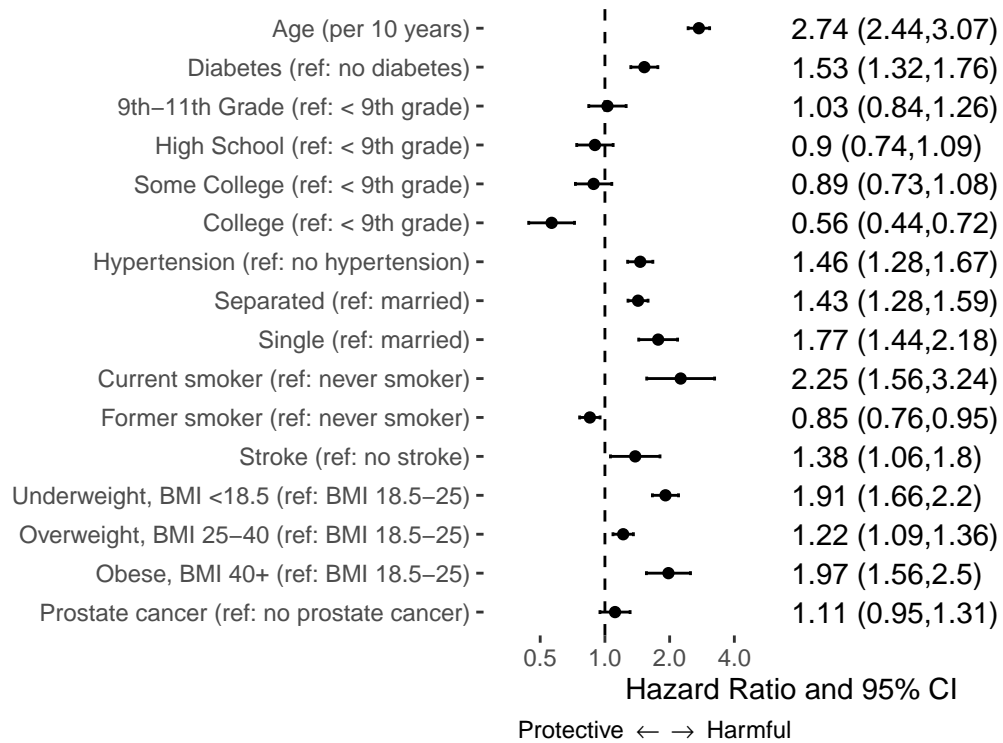


Figure 2: Externally validated time-dependent AUCs at 5, 10, and 14 years of our Cox model, the Social Security Administration (SSA) 2001 actuarial life table predictions, and the National Vital Statistics System's (NVSS) 2001 life expectancy predictions. Models were validated in the Prostate, Lung, Colon, and Ovarian Cancer Screening Trial (PLCO) cohort of 8,220 men.

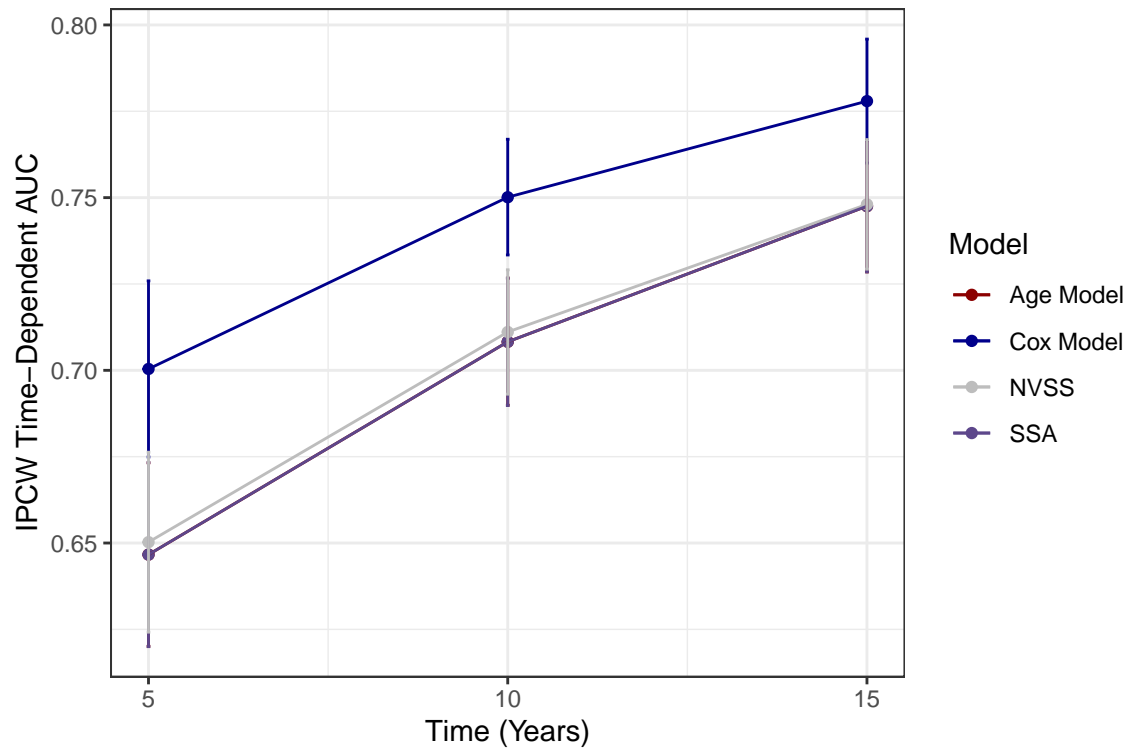


Figure 3: Calibration performance of our final OC mortality model in PLCO validation cohort of 8,220 men with prostate cancer.

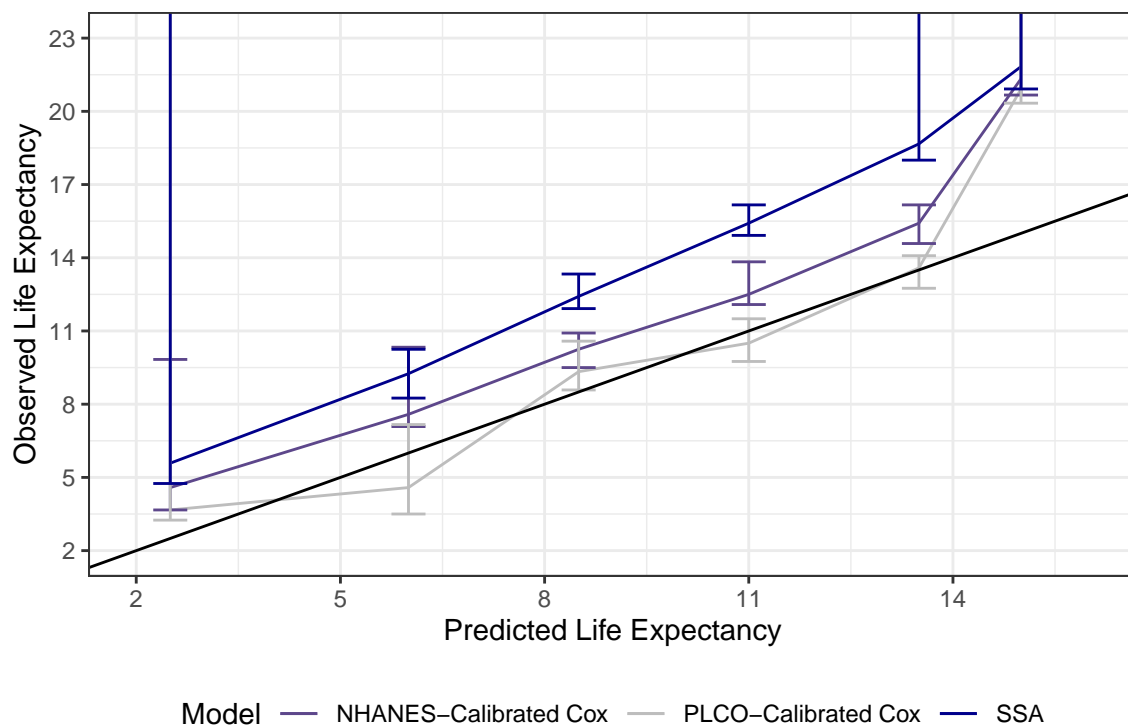


Table 2: Percent of men with median survival 0-5, 5-10, 10-15, and 15+ years, grouped by age, in a cohort of 8,220 men with prostate cancer from the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO). Although older men generally have reduced life expectancy, we see that a substantial proportion of older men also have long life expectancy, which cannot be captured by predictions that rely on age alone.

Age	0-5 Years	5-10 Years	10-15 Years	15+ Years
55-64	0%	0.1%	3%	96.9%
65-74	0%	4.1%	31.3%	64.6%
75-84	1%	40.9%	55.9%	2.2%
85+	21.2%	78.8%	0%	0%

Figure 4: Proportion of men receiving a particular treatment in a cohort of 7,596 men in the Prostate, Lung, Colon, and Ovarian Cancer Screening Trial (PLCO), grouped by NCCN prostate cancer risk group and median survival prediction.

