

EM by sex, stratify

The FREQ Procedure

Frequency Percent Row Pct Col Pct	Table of BOOZE_cat by SEX			
	BOOZE_cat	SEX		
		1	2	Total
	0	1437	2596	4033
		15.59	28.17	43.77
		35.63	64.37	
		33.19	53.13	
	1	2115	2010	4125
		22.95	21.81	44.76
		51.27	48.73	
		48.86	41.14	
	2	550	235	785
		5.97	2.55	8.52
		70.06	29.94	
		12.71	4.81	
	3	227	45	272
		2.46	0.49	2.95
		83.46	16.54	
		5.24	0.92	
	Total	4329	4886	9215
		46.98	53.02	100.00

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The PHREG Procedure

SEX=1

Model Information	
Data Set	WORK.NHANES4
Dependent Variable	EXAM_YR
Dependent Variable	LAST_YR
Censoring Variable	DEATH
Censoring Value(s)	0
Ties Handling	EFRON

Number of Observations Read	4329
Number of Observations Used	4329

Class Level Information				
Class	Value	Design Variables		
BOOZE_cat	0	1	0	0
	1	0	0	0
	2	0	1	0
	3	0	0	1
RACE	1	0	0	
	2	1	0	
	3	0	1	
ASPIRIN	0	0		
	1	1		
DIAB	0	0		
	1	1		

Class Level Information				
Class	Value	Design Variables		
RECEX	1	1	0	
	2	0	0	
	3	0	1	

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
4329	1238	3091	71.40

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	20216.757	18929.809
AIC	20216.757	18955.809
SBC	20216.757	19022.385

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	1286.9488	13	<.0001
Score	1117.7046	13	<.0001
Wald	942.1781	13	<.0001

Type 3 Tests			
Effect	DF	Wald Chi-Square	Pr > ChiSq
BOOZE_cat	3	3.8004	0.2838
AGEYRS	1	680.0335	<.0001
RACE	2	8.2983	0.0158
SEX	0	.	.
ASPIRIN	1	1.3612	0.2433
DIAB	1	34.8805	<.0001
AVGSMK	1	105.4162	<.0001
BMI	1	22.0198	<.0001
RECEX	2	27.2791	<.0001
HTN_REP	1	32.5372	<.0001

Analysis of Maximum Likelihood Estimates								
Parameter		DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio	Label
BOOZE_cat	0	1	0.11209	0.06374	3.0924	0.0787	1.119	BOOZE_cat 0
BOOZE_cat	2	1	0.04737	0.09640	0.2415	0.6231	1.049	BOOZE_cat 2
BOOZE_cat	3	1	0.15528	0.12530	1.5358	0.2152	1.168	BOOZE_cat 3
AGEYRS		1	0.09183	0.00352	680.0335	<.0001	1.096	
RACE	2	1	-0.16404	0.09390	3.0516	0.0807	0.849	RACE 2
RACE	3	1	-0.64104	0.27088	5.6003	0.0180	0.527	RACE 3
SEX		0	0	
ASPIRIN	1	1	0.07342	0.06293	1.3612	0.2433	1.076	ASPIRIN 1

Analysis of Maximum Likelihood Estimates								
Parameter		DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio	Label
DIAB	1	1	0.56794	0.09616	34.8805	<.0001	1.765	DIAB 1
AVGSMK		1	0.01933	0.00188	105.4162	<.0001	1.020	
BMI		1	-0.03510	0.00748	22.0198	<.0001	0.966	
RECEX	1	1	-0.03256	0.08608	0.1430	0.7053	0.968	RECEX 1
RECEX	3	1	0.29523	0.06234	22.4274	<.0001	1.343	RECEX 3
HTN_REP		1	0.34020	0.05964	32.5372	<.0001	1.405	

Hazard Ratios for BOOZE_cat			
Description	Point Estimate	95% Wald Confidence Limits	
BOOZE_cat 0 vs 1	1.119	0.987	1.267
BOOZE_cat 2 vs 1	1.049	0.868	1.267
BOOZE_cat 3 vs 1	1.168	0.914	1.493

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The PHREG Procedure

SEX=2

Model Information	
Data Set	WORK.NHANES4
Dependent Variable	EXAM_YR
Dependent Variable	LAST_YR
Censoring Variable	DEATH
Censoring Value(s)	0
Ties Handling	EFRON

Number of Observations Read	4886
Number of Observations Used	4886

Class Level Information				
Class	Value	Design Variables		
BOOZE_cat	0	1	0	0
	1	0	0	0
	2	0	1	0
	3	0	0	1
RACE	1	0	0	
	2	1	0	
	3	0	1	
ASPIRIN	0	0		
	1	1		
DIAB	0	0		
	1	1		
RECEX	1	1	0	
	2	0	0	
	3	0	1	

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
4886	872	4014	82.15

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	14585.878	13687.492
AIC	14585.878	13713.492
SBC	14585.878	13775.512

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	898.3863	13	<.0001
Score	786.6617	13	<.0001
Wald	669.5742	13	<.0001

Type 3 Tests			
Effect	DF	Wald Chi-Square	Pr > ChiSq
BOOZE_cat	3	3.4237	0.3308
AGEYRS	1	452.7545	<.0001
RACE	2	0.1221	0.9408
SEX	0	.	.
ASPIRIN	1	2.6554	0.1032
DIAB	1	41.0803	<.0001
AVGSMK	1	84.3870	<.0001
BMI	1	3.2248	0.0725
RECEX	2	7.8774	0.0195
HTN_REP	1	30.0843	<.0001

Analysis of Maximum Likelihood Estimates								
Parameter		DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio	Label
BOOZE_cat	0	1	-0.00977	0.07467	0.0171	0.8959	0.990	BOOZE_cat 0
BOOZE_cat	2	1	-0.21085	0.19522	1.1665	0.2801	0.810	BOOZE_cat 2
BOOZE_cat	3	1	0.46317	0.32227	2.0656	0.1507	1.589	BOOZE_cat 3
AGEYRS		1	0.09176	0.00431	452.7545	<.0001	1.096	
RACE	2	1	0.03793	0.11001	0.1189	0.7303	1.039	RACE 2
RACE	3	1	0.02145	0.30446	0.0050	0.9438	1.022	RACE 3
SEX		0	0	
ASPIRIN	1	1	0.11502	0.07059	2.6554	0.1032	1.122	ASPIRIN 1
DIAB	1	1	0.63739	0.09945	41.0803	<.0001	1.892	DIAB 1
AVGSMK		1	0.02411	0.00262	84.3870	<.0001	1.024	
BMI		1	-0.01188	0.00662	3.2248	0.0725	0.988	
RECEX	1	1	0.00597	0.12255	0.0024	0.9611	1.006	RECEX 1
RECEX	3	1	0.19837	0.07494	7.0063	0.0081	1.219	RECEX 3

Analysis of Maximum Likelihood Estimates							
Parameter		DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
HTN_REP		1	0.39978	0.07289	30.0843	<.0001	1.491

Hazard Ratios for BOOZE_cat			
Description	Point Estimate	95% Wald Confidence Limits	
BOOZE_cat 0 vs 1	0.990	0.855	1.146
BOOZE_cat 2 vs 1	0.810	0.552	1.187
BOOZE_cat 3 vs 1	1.589	0.845	2.989

EM by sex, interaction

The PHREG Procedure

Model Information	
Data Set	WORK.NHANES4
Dependent Variable	EXAM_YR
Dependent Variable	LAST_YR
Censoring Variable	DEATH
Censoring Value(s)	0
Ties Handling	EFRON

Number of Observations Read	9215
Number of Observations Used	9215

Class Level Information				
Class	Value	Design Variables		
BOOZE_cat	0	1	0	0
	1	0	0	0
	2	0	1	0
	3	0	0	1
RACE	1	0	0	
	2	1	0	
	3	0	1	
SEX	1	0		
	2	1		
ASPIRIN	0	0		
	1	1		
DIAB	0	0		
	1	1		
RECEX	1	1	0	
	2	0	0	
	3	0	1	

Summary of the Number of Event and Censored Values			
Total	Event	Censored	Percent Censored
9215	2110	7105	77.10

Convergence Status

Convergence Status
Convergence criterion (GCONV=1E-8) satisfied.

Model Fit Statistics		
Criterion	Without Covariates	With Covariates
-2 LOG L	37814.436	35478.025
AIC	37814.436	35512.025
SBC	37814.436	35608.150

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	2336.4109	17	<.0001
Score	2059.1719	17	<.0001
Wald	1762.1063	17	<.0001

Joint Tests			
Effect	DF	Wald Chi-Square	Pr > ChiSq
BOOZE_cat	3	4.3481	0.2262
SEX	1	66.0304	<.0001
BOOZE_cat*SEX	3	3.9805	0.2636
AGEYRS	1	1144.7855	<.0001
RACE	2	4.5144	0.1046
ASPIRIN	1	4.0420	0.0444
DIAB	1	72.5801	<.0001
AVGSMK	1	186.9933	<.0001
BMI	1	19.7888	<.0001
RECEX	2	34.9297	<.0001
HTN_REP	1	62.6195	<.0001

Note: Under full-rank parameterizations, Type 3 effect tests are replaced by joint tests. The joint test for an effect is a test that all of the parameters associated with that effect are zero. Such joint tests might not be equivalent to Type 3 effect tests under GLM parameterization.

Analysis of Maximum Likelihood Estimates									
Parameter			DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio	Label
BOOZE_cat	0		1	0.11959	0.06323	3.5769	0.0586	.	BOOZE_cat 0
BOOZE_cat	2		1	0.05703	0.09632	0.3506	0.5537	.	BOOZE_cat 2
BOOZE_cat	3		1	0.16469	0.12520	1.7303	0.1884	.	BOOZE_cat 3
SEX	2		1	-0.59715	0.07349	66.0304	<.0001	.	SEX 2
BOOZE_cat*SEX	0	2	1	-0.12309	0.09582	1.6502	0.1989	.	BOOZE_cat 0 * SEX 2
BOOZE_cat*SEX	2	2	1	-0.28536	0.21723	1.7256	0.1890	.	BOOZE_cat 2 * SEX 2
BOOZE_cat*SEX	3	2	1	0.30386	0.34523	0.7747	0.3788	.	BOOZE_cat 3 * SEX 2
AGEYRS			1	0.09207	0.00272	1144.7855	<.0001	1.096	
RACE	2		1	-0.07331	0.07105	1.0645	0.3022	0.929	RACE 2
RACE	3		1	-0.38395	0.20229	3.6026	0.0577	0.681	RACE 3
ASPIRIN	1		1	0.09429	0.04690	4.0420	0.0444	1.099	ASPIRIN 1
DIAB	1		1	0.58740	0.06895	72.5801	<.0001	1.799	DIAB 1
AVGSMK			1	0.02092	0.00153	186.9933	<.0001	1.021	
BMI			1	-0.02199	0.00494	19.7888	<.0001	0.978	
RECEX	1		1	-0.02163	0.07036	0.0945	0.7585	0.979	RECEX 1
RECEX	3		1	0.25933	0.04789	29.3296	<.0001	1.296	RECEX 3

Analysis of Maximum Likelihood Estimates								
Parameter			DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio
HTN_REP			1	0.36331	0.04591	62.6195	<.0001	1.438

Hazard Ratios for BOOZE_cat			
Description	Point Estimate	95% Wald Confidence Limits	
BOOZE_cat 0 vs 1 At SEX=1	1.127	0.996	1.276
BOOZE_cat 2 vs 1 At SEX=1	1.059	0.877	1.279
BOOZE_cat 3 vs 1 At SEX=1	1.179	0.922	1.507
BOOZE_cat 0 vs 1 At SEX=2	0.997	0.863	1.150
BOOZE_cat 2 vs 1 At SEX=2	0.796	0.543	1.166
BOOZE_cat 3 vs 1 At SEX=2	1.598	0.850	3.002