CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
PROC SURVEYLOGISTIC - May 4, 2019

The SURVEYLOGISTIC Procedure

Model Information		
Data Set	CHIS.CHIS_DATA_BINOMIAL_ED2	
Response Variable	asthmaesc	ED/UC Asthma Visit
Number of Response Levels	2	
Weight Variable	fnwgt0	
Model	Generalized Logit	
Optimization Technique	Newton-Raphson	

Number of Observations Read	124521
Number of Observations Used	124521
Sum of Weights Read	28246634
Sum of Weights Used	28246634

Response Profile			
Ordered Value	asthmaesc	Total Frequency	Total Weight
1	1 Asthmatic Escalation	1095	237259
2	2 No Asthma Escalation	123426	28009375

Logits modeled use asthmaesc='2 No Asthma Escalation' as the reference category.

Class Level Information		Design Variables				
Class	Value					
SRSEX	Female	1				
	Male	-1				
race	African American	1	0	0	0	0
	American Indian / Alaska Native	0	1	0	0	0
	Asian	0	0	1	0	0
	Latino	0	0	0	1	0
	Multiracial / Other	0	0	0	0	1
	White	-1	-1	-1	-1	-1
pfpl	0-99% FPL	1				
	100% FPL and Above	-1				

Variance Estimation	
Method	Jackknife
Replicate Weights	CHIS_DATA_BINOMIAL_ED2
Number of Replicates	160

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
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The SURVEYLOGISTIC Procedure

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	2740515.8	2598447.0
SC	2740531.0	2598568.3
-2 Log L	2740513.8	2598431.0

R-Square	0.0050	Max-rescaled R-Square	0.0543

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	68.01	6.4127	1026.04	<.0001
Score	10.80	7	160	<.0001
Wald	19.00	7	160	<.0001
NOTE: Second-order Rao-Scott design correction 0.0916 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
SRSEX	30.77	1	160	<.0001
race	13.48	5	160	<.0001
pfpl	23.60	1	160	<.0001

Analysis of Maximum Likelihood Estimates							
Parameter		asthmaesc	Estimate	Standard Error	t Value	Pr > |t|	Standardized Estimate
Intercept		1 Asthmatic Escalation	-4.5112	0.1225	-36.83	<.0001	
SRSEX	Female	1 Asthmatic Escalation	0.4845	0.0873	5.55	<.0001	4.0224
race	African American	1 Asthmatic Escalation	1.0205	0.1666	6.13	<.0001	4.9819
race	American Indian / Alaska Native	1 Asthmatic Escalation	0.3917	0.4218	0.93	0.3544	1.6384
race	Asian	1 Asthmatic Escalation	-0.9139	0.2346	-3.90	0.0001	-5.2761
race	Latino	1 Asthmatic Escalation	-0.2303	0.1523	-1.51	0.1324	-1.6766
race	Multiracial / Other	1 Asthmatic Escalation	0.1112	0.2443	0.46	0.6495	0.4980
pfpl	0-99% FPL	1 Asthmatic Escalation	0.3503	0.0721	4.86	<.0001	2.1680
NOTE: The degrees of freedom for the t tests is 160.							

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
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The SURVEYLOGISTIC Procedure

Odds Ratio Estimates				
Effect	asthmaesc	Point Estimate	95% Confidence Limits	
SRSEX Female vs Male	1 Asthmatic Escalation	2.636	1.867	3.721
race African American vs White	1 Asthmatic Escalation	4.054	2.770	5.933
race American Indian / Alaska Native vs White	1 Asthmatic Escalation	2.162	0.787	5.941
race Asian vs White	1 Asthmatic Escalation	0.586	0.347	0.990
race Latino vs White	1 Asthmatic Escalation	1.161	0.832	1.620
race Multiracial / Other vs White	1 Asthmatic Escalation	1.633	0.913	2.923
pfpl 0-99% FPL vs 100% FPL and Above	1 Asthmatic Escalation	2.015	1.516	2.679
NOTE: The degrees of freedom in computing the confidence limits is 160.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	0.4	Somers' D	0.002
Percent Discordant	0.2	Gamma	0.434
Percent Tied	99.5	Tau-a	0.002
Pairs	20101233902	c	0.501

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
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The SURVEYLOGISTIC Procedure

Estimated Covariance Matrix				
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	raceAfrican American_1 Asthmatic	raceAmerican Indian / Alaska Nat
Intercept_1 Asthmatic Escalation	0.015003	-0.00511	-0.00846	0.02629
SRSEXFemale_1 Asthmatic Escalati	-0.00511	0.00763	0.003451	-0.00021
raceAfrican American_1 Asthmatic	-0.00846	0.003451	0.02775	-0.03439
raceAmerican Indian / Alaska Nat	0.02629	-0.00021	-0.03439	0.177887
raceAsian_1 Asthmatic Escalation	0.00078	-0.00317	-0.0019	-0.03975
raceLatino_1 Asthmatic Escalatio	-0.00879	0.000361	0.00158	-0.02782
raceMultiracial / Other_1 Asthma	0.002652	-0.00369	0.001555	-0.04398
pfpl0-99% FPL_1 Asthmatic Escala	0.000439	0.00023	0.000413	-0.00319

Estimated Covariance Matrix				
Parameter	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfpl0-99% FPL_1 Asthmatic Escala
Intercept_1 Asthmatic Escalation	0.00078	-0.00879	0.002652	0.000439
SRSEXFemale_1 Asthmatic Escalati	-0.00317	0.000361	-0.00369	0.00023
raceAfrican American_1 Asthmatic	-0.0019	0.00158	0.001555	0.000413
raceAmerican Indian / Alaska Nat	-0.03975	-0.02782	-0.04398	-0.00319
raceAsian_1 Asthmatic Escalation	0.055041	-0.00315	-0.01255	0.001728
raceLatino_1 Asthmatic Escalatio	-0.00315	0.023188	-0.00126	-0.00243
raceMultiracial / Other_1 Asthma	-0.01255	-0.00126	0.059698	0.000695
pfpl0-99% FPL_1 Asthmatic Escala	0.001728	-0.00243	0.000695	0.005199

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
PROC SURVEYLOGISTIC - May 4, 2019

The SURVEYLOGISTIC Procedure

Estimated Correlation Matrix				
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	raceAfrican American_1 Asthmatic	raceAmerican Indian / Alaska Nat
Intercept_1 Asthmatic Escalation	1.0000	-0.4775	-0.4146	0.5089
SRSEXFemale_1 Asthmatic Escalati	-0.4775	1.0000	0.2372	-0.0058
raceAfrican American_1 Asthmatic	-0.4146	0.2372	1.0000	-0.4895
raceAmerican Indian / Alaska Nat	0.5089	-0.0058	-0.4895	1.0000
raceAsian_1 Asthmatic Escalation	0.0271	-0.1546	-0.0485	-0.4017
raceLatino_1 Asthmatic Escalatio	-0.4713	0.0271	0.0623	-0.4331
raceMultiracial / Other_1 Asthma	0.0886	-0.1731	0.0382	-0.4268
pfpl0-99% FPL_1 Asthmatic Escala	0.0497	0.0364	0.0343	-0.1050

Estimated Correlation Matrix				
Parameter	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfpl0-99% FPL_1 Asthmatic Escala
Intercept_1 Asthmatic Escalation	0.0271	-0.4713	0.0886	0.0497
SRSEXFemale_1 Asthmatic Escalati	-0.1546	0.0271	-0.1731	0.0364
raceAfrican American_1 Asthmatic	-0.0485	0.0623	0.0382	0.0343
raceAmerican Indian / Alaska Nat	-0.4017	-0.4331	-0.4268	-0.1050
raceAsian_1 Asthmatic Escalation	1.0000	-0.0881	-0.2190	0.1022
raceLatino_1 Asthmatic Escalatio	-0.0881	1.0000	-0.0340	-0.2210
raceMultiracial / Other_1 Asthma	-0.2190	-0.0340	1.0000	0.0394
pfpl0-99% FPL_1 Asthmatic Escala	0.1022	-0.2210	0.0394	1.0000

Classification Table									
	Correct		Incorrect		Percentages				
Prob Level	Event	Non-Event	Event	Non-Event	Correct	Sensi-tivity	Speci-ficity	Pos Pred	Neg Pred
0.852	23	123E3	264	1072	98.9	2.1	99.8	8.0	99.1

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
PROC SURVEYLOGISTIC - May 4, 2019

The SURVEYLOGISTIC Procedure

Domain Analysis for domain analyzeData=1

Model Information		
Data Set	CHIS.CHIS_DATA_BINOMIAL_ED2	
Response Variable	asthmaesc	ED/UC Asthma Visit
Number of Response Levels	2	
Weight Variable	fnwgt0	
Model	Generalized Logit	
Optimization Technique	Newton-Raphson	

Number of Observations Read	124521
Number of Observations Used	124521
Sum of Weights Read	2765889
Sum of Weights Used	2765889

Response Profile			
Ordered Value	asthmaesc	Total Frequency	Total Weight
1	1 Asthmatic Escalation	1095	237258.9
2	2 No Asthma Escalation	12495	2528630.5

Logits modeled use asthmaesc='2 No Asthma Escalation' as the reference category.

Class Level Information		Design Variables				
Class	Value					
SRSEX	Female	1				
	Male	-1				
race	African American	1	0	0	0	0
	American Indian / Alaska Native	0	1	0	0	0
	Asian	0	0	1	0	0
	Latino	0	0	0	1	0
	Multiracial / Other	0	0	0	0	1
	White	-1	-1	-1	-1	-1
pfpl	0-99% FPL	1				
	100% FPL and Above	-1				

CHIS_82_Exacerbations
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The SURVEYLOGISTIC Procedure

Domain Analysis for domain analyzeData=1

Domain Summary	
Number of Observations	124521
Number of Observations in Domain	13590
Number of Observations not in Domain	110931
Sum of Weights in Domain	2765889.4

Variance Estimation	
Method	Jackknife
Replicate Weights	CHIS_DATA_BINOMIAL_ED2
Number of Replicates	160

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	1618958.7	1538281.1
SC	1618971.5	1538383.7
-2 Log L	1618956.7	1538265.1

R-Square	0.0288	Max-rescaled R-Square	0.0649

Testing Global Null Hypothesis: BETA=0				
Test	F Value	Num DF	Den DF	Pr > F
Likelihood Ratio	44.13	6.2773	1004.37	<.0001
Score	8.60	7	160	<.0001
Wald	14.35	7	160	<.0001
NOTE: Second-order Rao-Scott design correction 0.1151 applied to the Likelihood Ratio test.				

Type 3 Analysis of Effects				
Effect	F Value	Num DF	Den DF	Pr > F
SRSEX	8.49	1	160	0.0041
race	11.58	5	160	<.0001
pfpl	13.89	1	160	0.0003

CHIS_82_Exacerbations
CHIS   CHIS_DATA_BINOMIAL_ED2
PROC SURVEYLOGISTIC - May 4, 2019

The SURVEYLOGISTIC Procedure

Domain Analysis for domain analyzeData=1

Analysis of Maximum Likelihood Estimates							
Parameter		asthmaesc	Estimate	Standard Error	t Value	Pr > |t|	Standardized Estimate
Intercept		1 Asthmatic Escalation	-2.3047	0.1312	-17.57	<.0001	
SRSEX	Female	1 Asthmatic Escalation	0.2573	0.0883	2.91	0.0041	0.6480
race	African American	1 Asthmatic Escalation	0.9015	0.1676	5.38	<.0001	1.4953
race	American Indian / Alaska Native	1 Asthmatic Escalation	-0.1568	0.4450	-0.35	0.7250	-0.2114
race	Asian	1 Asthmatic Escalation	-0.3491	0.2407	-1.45	0.1489	-0.5989
race	Latino	1 Asthmatic Escalation	0.2389	0.1610	1.48	0.1398	0.5272
race	Multiracial / Other	1 Asthmatic Escalation	-0.2367	0.2684	-0.88	0.3792	-0.3528
pfpl	0-99% FPL	1 Asthmatic Escalation	0.2669	0.0716	3.73	0.0003	0.5450
NOTE: The degrees of freedom for the t tests is 160.							

Odds Ratio Estimates				
Effect	asthmaesc	Point Estimate	95% Confidence Limits	
SRSEX Female vs Male	1 Asthmatic Escalation	1.673	1.180	2.371
race African American vs White	1 Asthmatic Escalation	3.667	2.469	5.447
race American Indian / Alaska Native vs White	1 Asthmatic Escalation	1.273	0.437	3.703
race Asian vs White	1 Asthmatic Escalation	1.050	0.611	1.804
race Latino vs White	1 Asthmatic Escalation	1.890	1.367	2.614
race Multiracial / Other vs White	1 Asthmatic Escalation	1.175	0.612	2.257
pfpl 0-99% FPL vs 100% FPL and Above	1 Asthmatic Escalation	1.705	1.285	2.263
NOTE: The degrees of freedom in computing the confidence limits is 160.				

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	54.5	Somers' D	0.252
Percent Discordant	29.3	Gamma	0.300
Percent Tied	16.1	Tau-a	0.037
Pairs	13682025	c	0.626

The SURVEYLOGISTIC Procedure

Domain Analysis for domain analyzeData=1

Estimated Covariance Matrix				
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	raceAfrican American_1 Asthmatic	raceAmerican Indian / Alaska Nat
Intercept_1 Asthmatic Escalation	0.01721	-0.00524	-0.00879	0.031373
SRSEXFemale_1 Asthmatic Escalati	-0.00524	0.007797	0.00289	-0.00003
raceAfrican American_1 Asthmatic	-0.00879	0.00289	0.028101	-0.0376
raceAmerican Indian / Alaska Nat	0.031373	-0.00003	-0.0376	0.198035
raceAsian_1 Asthmatic Escalation	-0.00163	-0.00054	0.000771	-0.0415
raceLatino_1 Asthmatic Escalatio	-0.0105	0.000151	0.002856	-0.03604
raceMultiracial / Other_1 Asthma	0.004762	-0.00587	0.000331	-0.04726
pfpl0-99% FPL_1 Asthmatic Escala	0.000329	0.000109	-0.00027	-0.00444

Estimated Covariance Matrix				
Parameter	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfpl0-99% FPL_1 Asthmatic Escala
Intercept_1 Asthmatic Escalation	-0.00163	-0.0105	0.004762	0.000329
SRSEXFemale_1 Asthmatic Escalati	-0.00054	0.000151	-0.00587	0.000109
raceAfrican American_1 Asthmatic	0.000771	0.002856	0.000331	-0.00027
raceAmerican Indian / Alaska Nat	-0.0415	-0.03604	-0.04726	-0.00444
raceAsian_1 Asthmatic Escalation	0.057914	-0.00293	-0.01721	0.001527
raceLatino_1 Asthmatic Escalatio	-0.00293	0.025918	-0.00086	-0.00029
raceMultiracial / Other_1 Asthma	-0.01721	-0.00086	0.072019	0.000854
pfpl0-99% FPL_1 Asthmatic Escala	0.001527	-0.00029	0.000854	0.005129

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CHIS   CHIS_DATA_BINOMIAL_ED2
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Domain Analysis for domain analyzeData=1

Estimated Correlation Matrix				
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	raceAfrican American_1 Asthmatic	raceAmerican Indian / Alaska Nat
Intercept_1 Asthmatic Escalation	1.0000	-0.4523	-0.3999	0.5374
SRSEXFemale_1 Asthmatic Escalati	-0.4523	1.0000	0.1952	-0.0009
raceAfrican American_1 Asthmatic	-0.3999	0.1952	1.0000	-0.5041
raceAmerican Indian / Alaska Nat	0.5374	-0.0009	-0.5041	1.0000
raceAsian_1 Asthmatic Escalation	-0.0515	-0.0253	0.0191	-0.3875
raceLatino_1 Asthmatic Escalatio	-0.4974	0.0106	0.1058	-0.5030
raceMultiracial / Other_1 Asthma	0.1353	-0.2479	0.0074	-0.3957
pfpl0-99% FPL_1 Asthmatic Escala	0.0350	0.0172	-0.0221	-0.1393

Estimated Correlation Matrix				
Parameter	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfpl0-99% FPL_1 Asthmatic Escala
Intercept_1 Asthmatic Escalation	-0.0515	-0.4974	0.1353	0.0350
SRSEXFemale_1 Asthmatic Escalati	-0.0253	0.0106	-0.2479	0.0172
raceAfrican American_1 Asthmatic	0.0191	0.1058	0.0074	-0.0221
raceAmerican Indian / Alaska Nat	-0.3875	-0.5030	-0.3957	-0.1393
raceAsian_1 Asthmatic Escalation	1.0000	-0.0757	-0.2664	0.0886
raceLatino_1 Asthmatic Escalatio	-0.0757	1.0000	-0.0198	-0.0253
raceMultiracial / Other_1 Asthma	-0.2664	-0.0198	1.0000	0.0444
pfpl0-99% FPL_1 Asthmatic Escala	0.0886	-0.0253	0.0444	1.0000

Classification Table									
	Correct		Incorrect		Percentages				
Prob Level	Event	Non-Event	Event	Non-Event	Correct	Sensi-tivity	Speci-ficity	Pos Pred	Neg Pred
0.852	210	123E3	378	885	99.0	19.2	99.7	35.7	99.3