

**CHIS\_75\_BinomRegress**  
**CHIS\_MLE\_CURRENTASTHMA**  
**PROC SURVEYLOGISTIC - May 2, 2019**

**The LOGISTIC Procedure**

Model Information		
Data Set	CHIS.CHIS_DATA_BINOMIAL_D	
Response Variable	nonasthmatic	Non-Asthmatic
Number of Response Levels	2	
Weight Variable	frwgt0	
Model	generalized logit	
Optimization Technique	Newton-Raphson	

Number of Observations Read	119710
Number of Observations Used	119710
Sum of Weights Read	26984609
Sum of Weights Used	26984609

Response Profile			
Ordered Value	nonasthmatic	Total Frequency	Total Weight
1	1 Non-Asthmatic	106120	24218720
2	2 Current Asthmatic	13590	2765889

*Logits modeled use nonasthmatic='1 Non-Asthmatic' as the reference category.*

Class Level Information						
Class	Value	Design Variables				
SRSEX	Female	1				
	Male	-1				
CITIZEN2	Naturalized Citizen	-1	-1			
	Non-Citizen	1	0			
	US-Born Citizen	0	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				
INS	No	-1				
	Yes	1				

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	17838929	17219472
SC	17838938	17219578
-2 Log L	17838927	17219450

R-Square	0.9943	Max-rescaled R-Square	0.9943
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Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	619477.148	10	<.0001
Score	583309.771	10	<.0001
Wald	552426.148	10	<.0001

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
SRSEX	1	122698.298	<.0001
CITIZEN2	2	198656.359	<.0001
race	5	40708.6973	<.0001
pfpl	1	46559.9630	<.0001
INS	1	21847.1475	<.0001

Analysis of Maximum Likelihood Estimates								
Parameter		nonasthmatic	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept		2 Current Asthmatic	1	-2.3550	0.00187	1584898.36	<.0001	
SRSEX	Female	2 Current Asthmatic	1	0.2315	0.000661	122698.298	<.0001	1.9155
CITIZEN2	Non-Citizen	2 Current Asthmatic	1	-0.4262	0.00171	62391.7417	<.0001	-2.0714
CITIZEN2	US-Born Citizen	2 Current Asthmatic	1	0.5533	0.00124	197738.922	<.0001	3.5655
race	African American	2 Current Asthmatic	1	0.0762	0.00235	1051.9495	<.0001	0.3703

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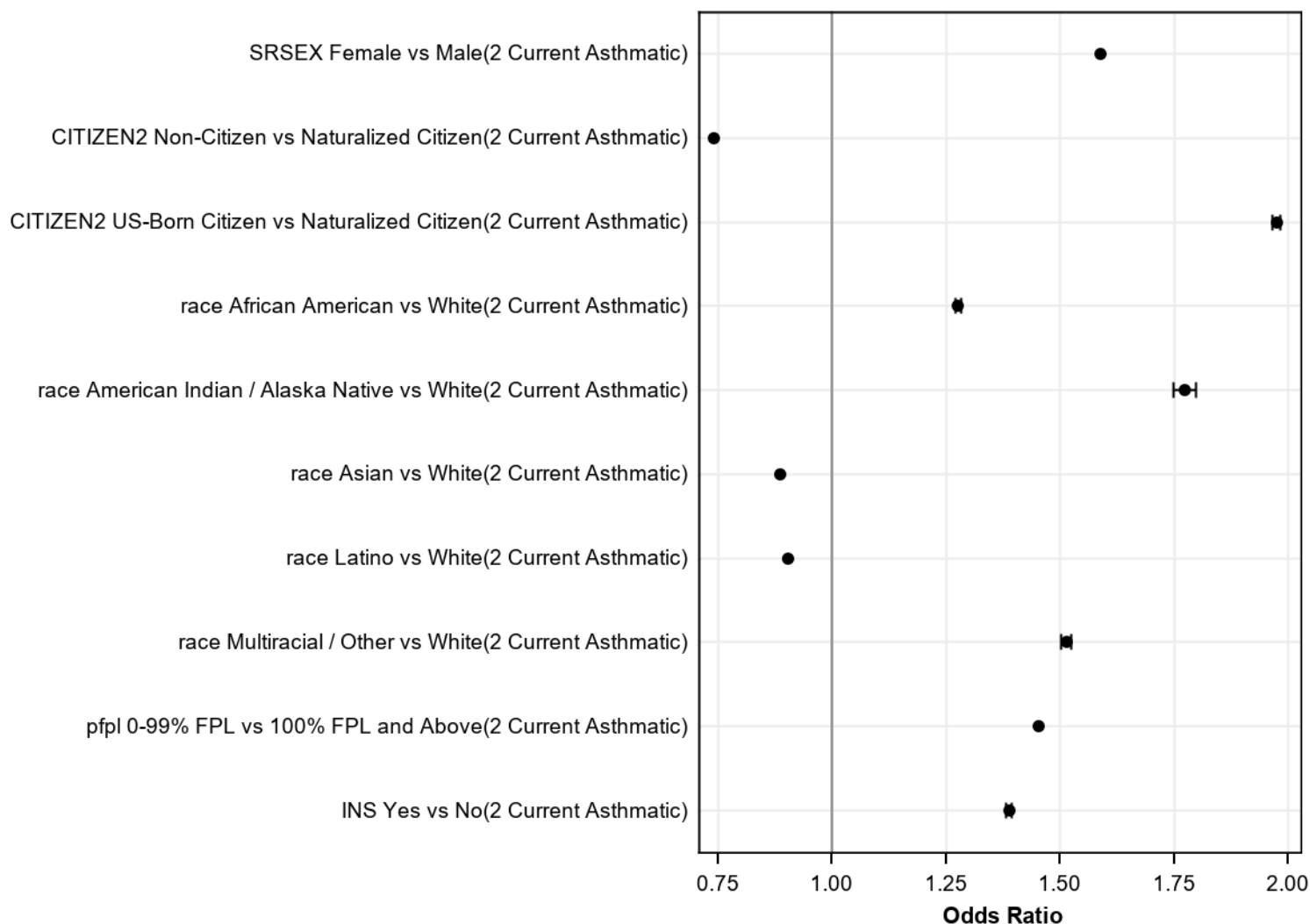
Analysis of Maximum Likelihood Estimates								
Parameter		nonasthmatic	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
race	American Indian / Alaska Native	2 Current Asthmatic	1	0.4049	0.00583	4823.4507	<.0001	1.6880
race	Asian	2 Current Asthmatic	1	-0.2897	0.00229	16041.1789	<.0001	-1.6669
race	Latino	2 Current Asthmatic	1	-0.2696	0.00177	23286.9466	<.0001	-1.9590
race	Multiracial / Other	2 Current Asthmatic	1	0.2463	0.00305	6539.8262	<.0001	1.0970
pfpl	0-99% FPL	2 Current Asthmatic	1	0.1865	0.000864	46559.9630	<.0001	1.1559
INS	Yes	2 Current Asthmatic	1	0.1641	0.00111	21847.1475	<.0001	0.9581

Odds Ratio Estimates				
Effect	nonasthmatic	Point Estimate	95% Wald Confidence Limits	
SRSEX Female vs Male	2 Current Asthmatic	1.589	1.585	1.593
CITIZEN2 Non-Citizen vs Naturalized Citizen	2 Current Asthmatic	0.741	0.737	0.746
CITIZEN2 US-Born Citizen vs Naturalized Citizen	2 Current Asthmatic	1.975	1.966	1.983
race African American vs White	2 Current Asthmatic	1.277	1.271	1.283
race American Indian / Alaska Native vs White	2 Current Asthmatic	1.774	1.749	1.798
race Asian vs White	2 Current Asthmatic	0.886	0.881	0.890
race Latino vs White	2 Current Asthmatic	0.903	0.900	0.906
race Multiracial / Other vs White	2 Current Asthmatic	1.513	1.503	1.524
pfpl 0-99% FPL vs 100% FPL and Above	2 Current Asthmatic	1.452	1.447	1.457
INS Yes vs No	2 Current Asthmatic	1.388	1.382	1.394

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**Odds Ratios with 95% Wald Confidence Limits**

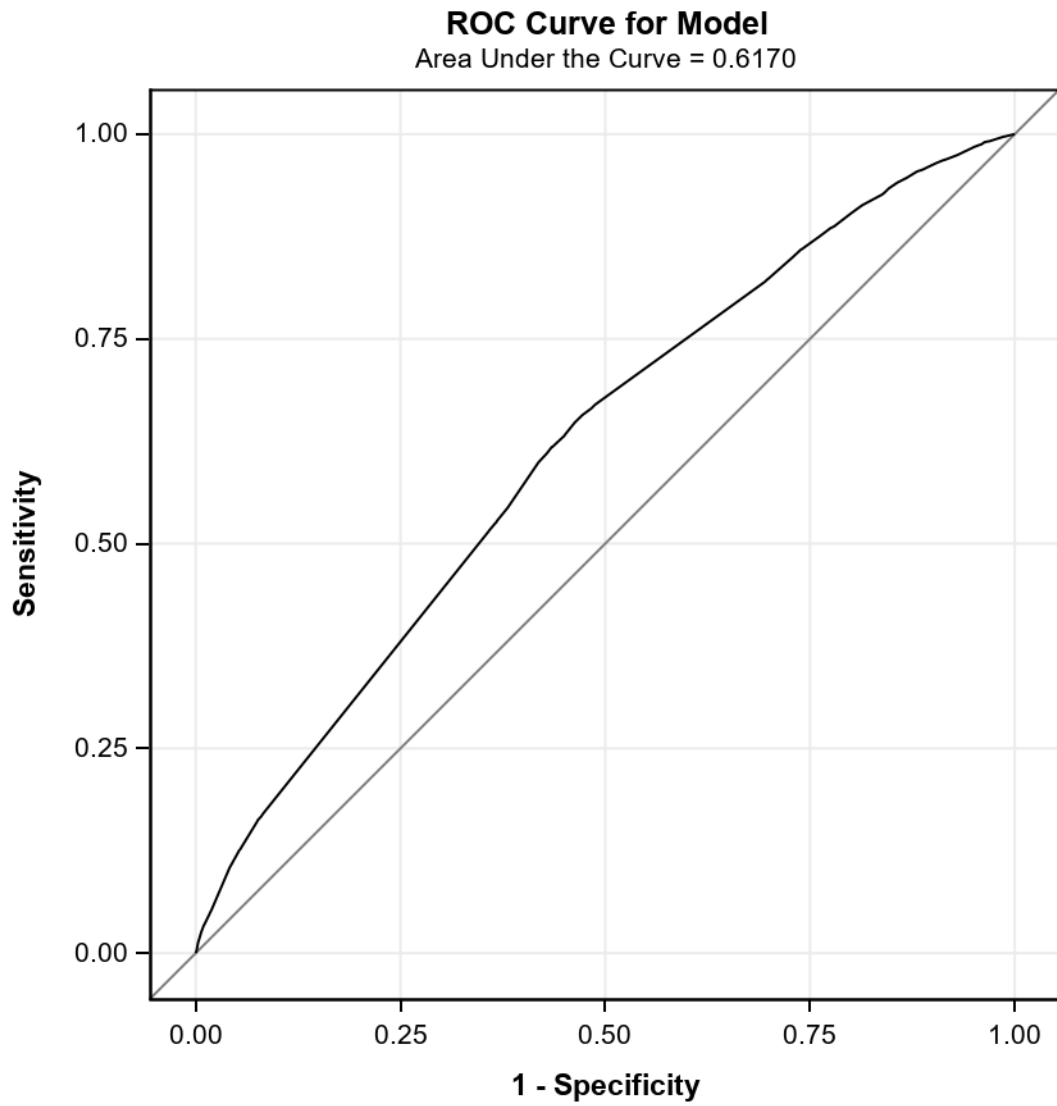


**Association of Predicted Probabilities and  
Observed Responses**

Percent Concordant	55.0	Somers' D	0.234
Percent Discordant	31.6	Gamma	0.270
Percent Tied	13.4	Tau-a	0.047
Pairs	1442170800	c	0.617

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Estimated Covariance Matrix					
Parameter	Intercept_2 Current Asthmatic	SRSEXFemale_2 Current Asthmatic	CITIZEN2Non-Citizen_2 Current As	CITIZEN2US-Born Citizen_2 Curren	raceAfrican American_2 Current A
Intercept_2 Current Asthmatic	3.499E-6	-8.51E-8	5.939E-7	-9.61E-7	-8.68E-7
SRSEXFemale_2 Current Asthmatic	-8.51E-8	4.369E-7	9.682E-9	8.96E-9	-1.16E-8
CITIZEN2Non-Citizen_2 Current As	5.939E-7	9.682E-9	2.911E-6	-1.07E-6	1.374E-7
CITIZEN2US-Born Citizen_2 Curren	-9.61E-7	8.96E-9	-1.07E-6	1.548E-6	-3.17E-7
raceAfrican American_2 Current A	-8.68E-7	-1.16E-8	1.374E-7	-3.17E-7	5.526E-6
raceAmerican Indian / Alaska Nat	6.219E-6	1.01E-8	1.986E-7	-4.27E-7	-6.8E-6
raceAsian_2 Current Asthmatic	-1.75E-6	-1.04E-8	-8.4E-8	8.57E-7	2.114E-7
raceLatino_2 Current Asthmatic	-2.19E-6	1.47E-10	-4.89E-7	4.553E-7	7.535E-7
raceMultiracial / Other_2 Curren	7.534E-8	8.85E-9	1.517E-7	-3E-7	-6.78E-7
pfpl0-99% FPL_2 Current Asthmati	2.892E-7	-3.43E-8	-1.91E-7	1.225E-7	-8.52E-8
INSYes_2 Current Asthmatic	-8.42E-7	-4.77E-8	2.442E-7	-1.19E-7	-3.96E-8

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Estimated Covariance Matrix						
Parameter	raceAmerican Indian / Alaska Nat	raceAsian_2 Current Asthmatic	raceLatino_2 Current Asthmatic	raceMultiracial / Other_2 Curren	pfpl0-99% FPL_2 Current Asthmati	INSYes_2 Current Asthmatic
Intercept_2 Current Asthmatic	6.219E-6	-1.75E-6	-2.19E-6	7.534E-8	2.892E-7	-8.42E-7
SRSEXFemale_2 Current Asthmatic	1.01E-8	-1.04E-8	1.47E-10	8.85E-9	-3.43E-8	-4.77E-8
CITIZEN2Non-Citizen_2 Current As	1.986E-7	-8.4E-8	-4.89E-7	1.517E-7	-1.91E-7	2.442E-7
CITIZEN2US-Born Citizen_2 Curren	-4.27E-7	8.57E-7	4.553E-7	-3E-7	1.225E-7	-1.19E-7
raceAfrican American_2 Current A	-6.8E-6	2.114E-7	7.535E-7	-6.78E-7	-8.52E-8	-3.96E-8
raceAmerican Indian / Alaska Nat	0.000034	-6.96E-6	-6.36E-6	-7.76E-6	-1.24E-7	4.4E-8
raceAsian_2 Current Asthmatic	-6.96E-6	5.231E-6	1.232E-6	-7.04E-7	1.176E-7	-6.69E-8
raceLatino_2 Current Asthmatic	-6.36E-6	1.232E-6	3.122E-6	-1.99E-7	-9.14E-8	1.072E-7
raceMultiracial / Other_2 Curren	-7.76E-6	-7.04E-7	-1.99E-7	9.274E-6	3.693E-8	2.45E-8
pfpl0-99% FPL_2 Current Asthmati	-1.24E-7	1.176E-7	-9.14E-8	3.693E-8	7.471E-7	5.9E-8
INSYes_2 Current Asthmatic	4.4E-8	-6.69E-8	1.072E-7	2.45E-8	5.9E-8	1.232E-6

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Estimated Correlation Matrix					
Parameter	Intercept_2 Current Asthmatic	SRSEXFemale_2 Current Asthmatic	CITIZEN2Non-Citizen_2 Current As	CITIZEN2US-Born Citizen_2 Curren	raceAfrican American_2 Current A
Intercept_2 Current Asthmatic	1.0000	-0.0689	0.1861	-0.4128	-0.1973
SRSEXFemale_2 Current Asthmatic	-0.0689	1.0000	0.0086	0.0109	-0.0075
CITIZEN2Non-Citizen_2 Current As	0.1861	0.0086	1.0000	-0.5028	0.0343
CITIZEN2US-Born Citizen_2 Curren	-0.4128	0.0109	-0.5028	1.0000	-0.1082
raceAfrican American_2 Current A	-0.1973	-0.0075	0.0343	-0.1082	1.0000
raceAmerican Indian / Alaska Nat	0.5703	0.0026	0.0200	-0.0589	-0.4961
raceAsian_2 Current Asthmatic	-0.4100	-0.0069	-0.0215	0.3012	0.0393
raceLatino_2 Current Asthmatic	-0.6618	0.0001	-0.1622	0.2071	0.1814
raceMultiracial / Other_2 Curren	0.0132	0.0044	0.0292	-0.0791	-0.0947
pfpl0-99% FPL_2 Current Asthmati	0.1788	-0.0600	-0.1298	0.1139	-0.0419
INSYes_2 Current Asthmatic	-0.4054	-0.0651	0.1290	-0.0860	-0.0152



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Estimated Correlation Matrix						
Parameter	raceAmerican Indian / Alaska Nat	raceAsian_2 Current Asthmatic	raceLatino_2 Current Asthmatic	raceMultiracial / Other_2 Curren	pfpl0-99% FPL_2 Current Asthmati	INSYes_2 Current Asthmatic
Intercept_2 Current Asthmatic	0.5703	-0.4100	-0.6618	0.0132	0.1788	-0.4054
SRSEXFemale_2 Current Asthmatic	0.0026	-0.0069	0.0001	0.0044	-0.0600	-0.0651
CITIZEN2Non-Citizen_2 Current As	0.0200	-0.0215	-0.1622	0.0292	-0.1298	0.1290
CITIZEN2US-Born Citizen_2 Curren	-0.0589	0.3012	0.2071	-0.0791	0.1139	-0.0860
raceAfrican American_2 Current A	-0.4961	0.0393	0.1814	-0.0947	-0.0419	-0.0152
raceAmerican Indian / Alaska Nat	1.0000	-0.5221	-0.6176	-0.4370	-0.0245	0.0068
raceAsian_2 Current Asthmatic	-0.5221	1.0000	0.3048	-0.1011	0.0595	-0.0264
raceLatino_2 Current Asthmatic	-0.6176	0.3048	1.0000	-0.0370	-0.0599	0.0547
raceMultiracial / Other_2 Curren	-0.4370	-0.1011	-0.0370	1.0000	0.0140	0.0072
pfpl0-99% FPL_2 Current Asthmati	-0.0245	0.0595	-0.0599	0.0140	1.0000	0.0615
INSYes_2 Current Asthmatic	0.0068	-0.0264	0.0547	0.0072	0.0615	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	0	106E3	0	13590	88.6	0.0	100.0	.	88.6

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### Predicted Probabilities for nonasthmatic=2 Current Asthmatic

At race=White pfpl=100% FPL and Above INS=No

