

CHIS_81_Exacerbations
CHIS CHIS_DATA_BINOMIAL_ED2
PROC SURVEYLOGISTIC - April 28, 2019

The LOGISTIC Procedure

Model Information		
Data Set	CHIS.CHIS_DATA_BINOMIAL_ED2	
Response Variable	asthmaesc	ED/UC Asthma Visit
Number of Response Levels	2	
Weight Variable	frwgt0	
Model	generalized logit	
Optimization Technique	Newton-Raphson	

Number of Observations Read	13590
Number of Observations Used	13590
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						
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	1618958.7	1535794.5
SC	1618966.2	1535877.2
-2 Log L	1618956.7	1535772.5

R-Square	0.9978	Max-rescaled R-Square	0.9978
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Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	83184.1541	10	<.0001
Score	93396.5411	10	<.0001
Wald	84855.3742	10	<.0001

Type 3 Analysis of Effects			
Effect	DF	Wald Chi-Square	Pr > ChiSq
SRSEX	1	10150.0182	<.0001
CITIZEN2	2	1957.5739	<.0001
race	5	46001.7933	<.0001
pfpl	1	10831.1435	<.0001
INS	1	644.9872	<.0001

Analysis of Maximum Likelihood Estimates								
Parameter		asthmaesc	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
Intercept		1 Asthmatic Escalation	1	-2.2623	0.00626	130449.640	<.0001	
SRSEX	Female	1 Asthmatic Escalation	1	0.2496	0.00248	10150.0182	<.0001	1.9023
CITIZEN2	Non-Citizen	1 Asthmatic Escalation	1	0.0680	0.00527	166.1847	<.0001	0.2325
CITIZEN2	US-Born Citizen	1 Asthmatic Escalation	1	-0.1749	0.00401	1898.7955	<.0001	-0.9086
race	African American	1 Asthmatic Escalation	1	0.9412	0.00640	21636.8839	<.0001	4.7254

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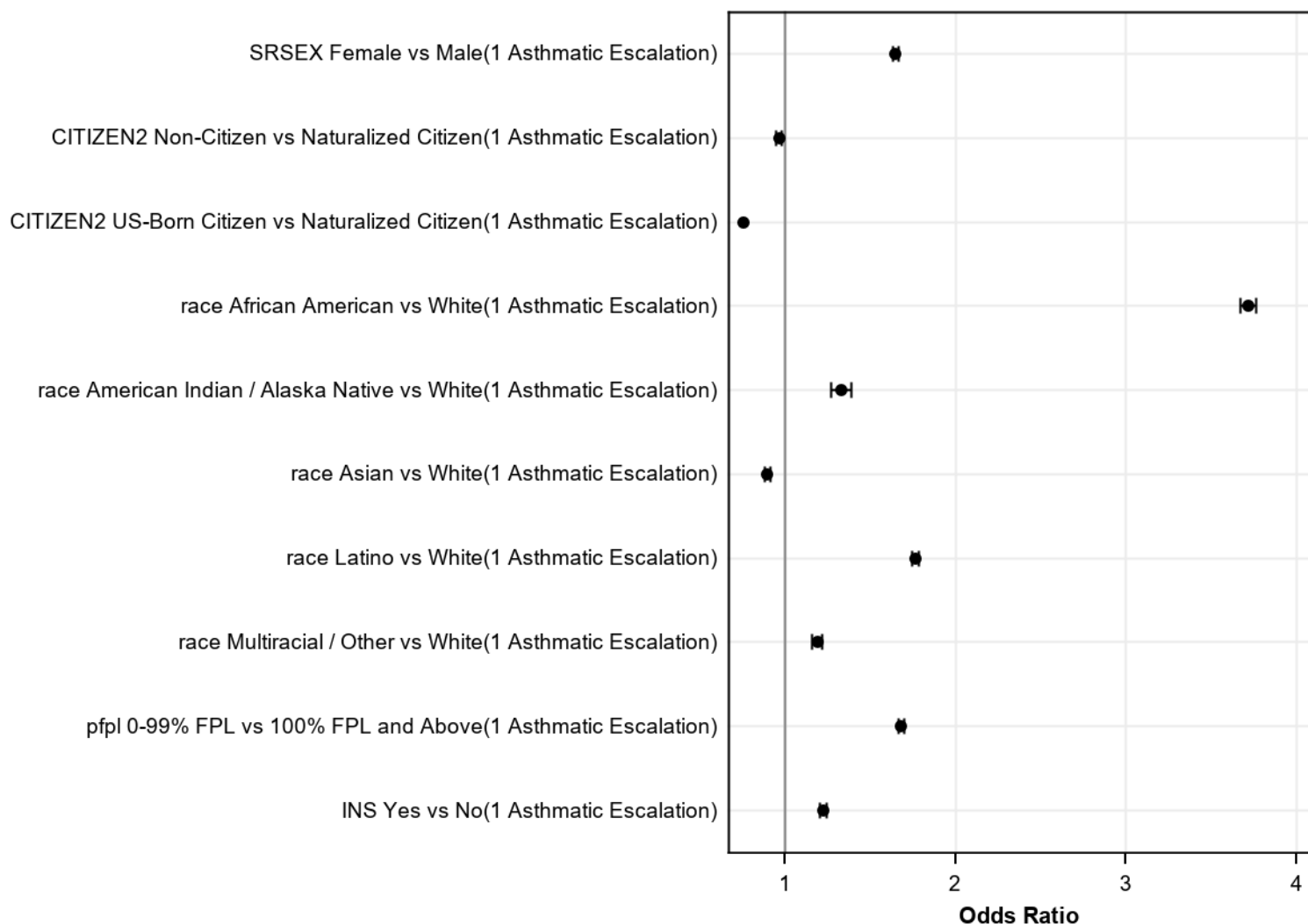
Analysis of Maximum Likelihood Estimates								
Parameter		asthmaesc	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq	Standardized Estimate
race	American Indian / Alaska Native	1 Asthmatic Escalation	1	-0.0865	0.0190	20.7592	<.0001	-0.3531
race	Asian	1 Asthmatic Escalation	1	-0.4817	0.00873	3042.2377	<.0001	-2.5020
race	Latino	1 Asthmatic Escalation	1	0.1977	0.00570	1201.8385	<.0001	1.3208
race	Multiracial / Other	1 Asthmatic Escalation	1	-0.1996	0.0107	347.7277	<.0001	-0.9004
pfpl	0-99% FPL	1 Asthmatic Escalation	1	0.2593	0.00249	10831.1435	<.0001	1.6025
INS	Yes	1 Asthmatic Escalation	1	0.0995	0.00392	644.9872	<.0001	0.4560

Odds Ratio Estimates				
Effect	asthmaesc	Point Estimate	95% Wald Confidence Limits	
SRSEX Female vs Male	1 Asthmatic Escalation	1.647	1.631	1.663
CITIZEN2 Non-Citizen vs Naturalized Citizen	1 Asthmatic Escalation	0.962	0.944	0.980
CITIZEN2 US-Born Citizen vs Naturalized Citizen	1 Asthmatic Escalation	0.754	0.744	0.765
race African American vs White	1 Asthmatic Escalation	3.714	3.667	3.762
race American Indian / Alaska Native vs White	1 Asthmatic Escalation	1.329	1.271	1.390
race Asian vs White	1 Asthmatic Escalation	0.895	0.878	0.913
race Latino vs White	1 Asthmatic Escalation	1.766	1.746	1.786
race Multiracial / Other vs White	1 Asthmatic Escalation	1.187	1.159	1.216
pfpl 0-99% FPL vs 100% FPL and Above	1 Asthmatic Escalation	1.680	1.663	1.696
INS Yes vs No	1 Asthmatic Escalation	1.220	1.202	1.239

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Odds Ratios with 95% Wald Confidence Limits

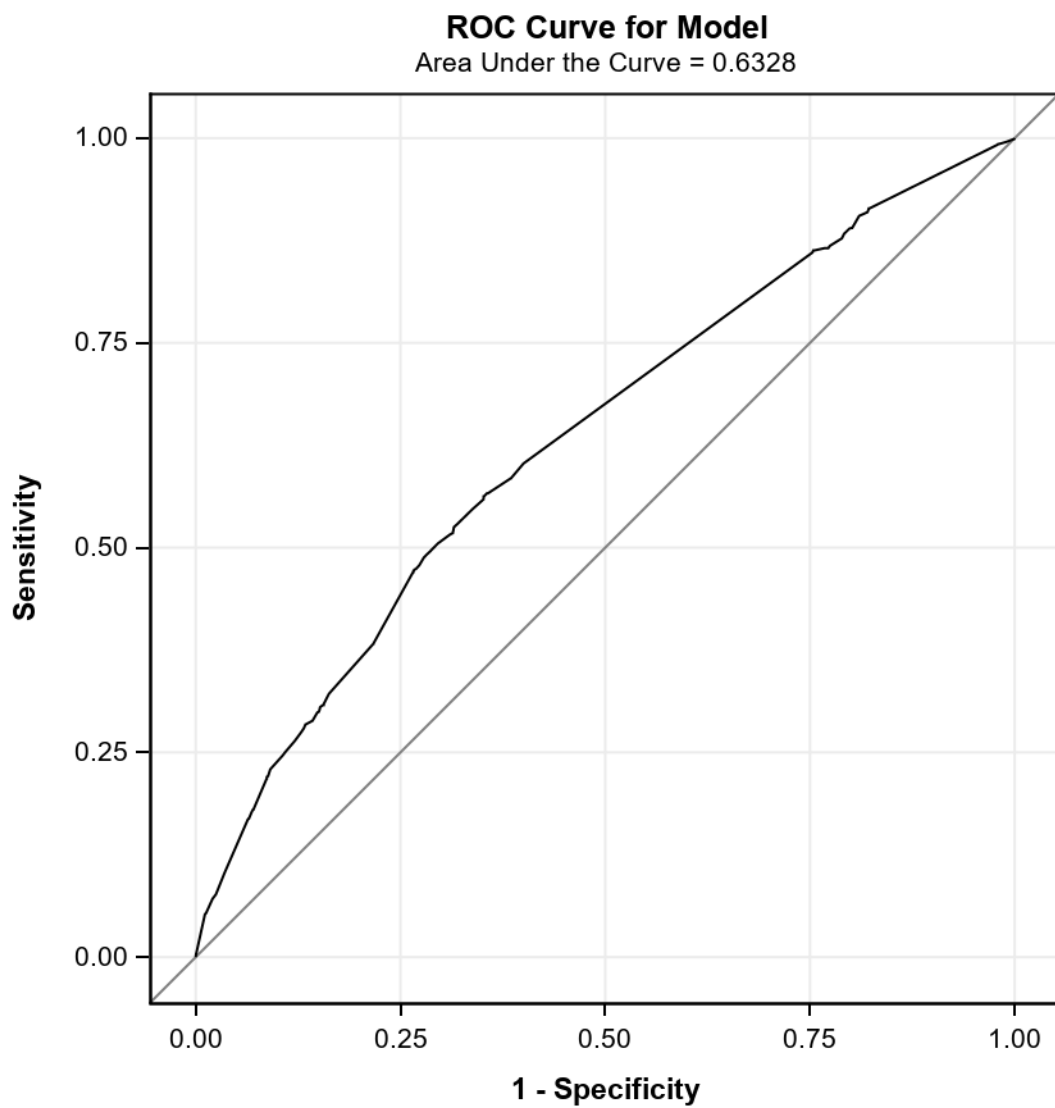


Association of Predicted Probabilities and Observed Responses

Percent Concordant	57.4	Somers' D	0.266
Percent Discordant	30.9	Gamma	0.301
Percent Tied	11.7	Tau-a	0.039
Pairs	13682025	c	0.633

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Estimated Covariance Matrix					
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	CITIZEN2Non-Citizen_1 Asthmatic	CITIZEN2US-Born Citizen_1 Asthma	raceAfrican American_1 Asthmatic
Intercept_1 Asthmatic Escalation	0.000039	-2.55E-6	5.736E-6	-0.00001	-0.00001
SRSEXFemale_1 Asthmatic Escalati	-2.55E-6	6.136E-6	-6.69E-8	2.206E-7	-4.81E-7
CITIZEN2Non-Citizen_1 Asthmatic	5.736E-6	-6.69E-8	0.000028	-9.58E-6	1.466E-6
CITIZEN2US-Born Citizen_1 Asthma	-0.00001	2.206E-7	-9.58E-6	0.000016	-4.11E-6
raceAfrican American_1 Asthmatic	-0.00001	-4.81E-7	1.466E-6	-4.11E-6	0.000041
raceAmerican Indian / Alaska Nat	0.000064	-3.46E-7	2.032E-6	-5.2E-6	-0.00007
raceAsian_1 Asthmatic Escalation	-0.00002	7.088E-7	1.03E-6	0.000011	2.229E-6
raceLatino_1 Asthmatic Escalatio	-0.00002	9.029E-8	-5.84E-6	5.235E-6	0.000013
raceMultiracial / Other_1 Asthma	5.158E-6	-1.5E-7	9.013E-7	-3.87E-6	-5.34E-6
pfpl0-99% FPL_1 Asthmatic Escala	1.513E-6	-3.91E-7	-1.71E-6	1.147E-6	-9.32E-7
INSYes_1 Asthmatic Escalation	-0.00001	-7.51E-7	2.32E-6	-1.04E-6	-4.62E-7

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Estimated Covariance Matrix						
Parameter	raceAmerican Indian / Alaska Nat	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfp10-99% FPL_1 Asthmatic Escala	INSYes_1 Asthmatic Escalation
Intercept_1 Asthmatic Escalation	0.000064	-0.00002	-0.00002	5.158E-6	1.513E-6	-0.00001
SRSEXFemale_1 Asthmatic Escalati	-3.46E-7	7.088E-7	9.029E-8	-1.5E-7	-3.91E-7	-7.51E-7
CITIZEN2Non-Citizen_1 Asthmatic	2.032E-6	1.03E-6	-5.84E-6	9.013E-7	-1.71E-6	2.32E-6
CITIZEN2US-Born Citizen_1 Asthma	-5.2E-6	0.000011	5.235E-6	-3.87E-6	1.147E-6	-1.04E-6
raceAfrican American_1 Asthmatic	-0.00007	2.229E-6	0.000013	-5.34E-6	-9.32E-7	-4.62E-7
raceAmerican Indian / Alaska Nat	0.000361	-0.00008	-0.00007	-0.00008	-1.52E-6	2.501E-6
raceAsian_1 Asthmatic Escalation	-0.00008	0.000076	0.00001	-0.00002	1.861E-6	-1.25E-6
raceLatino_1 Asthmatic Escalatio	-0.00007	0.00001	0.000033	-5.25E-6	-9.13E-7	7.849E-7
raceMultiracial / Other_1 Asthma	-0.00008	-0.00002	-5.25E-6	0.000115	2.906E-7	-7.35E-7
pfp10-99% FPL_1 Asthmatic Escala	-1.52E-6	1.861E-6	-9.13E-7	2.906E-7	6.207E-6	4.026E-7
INSYes_1 Asthmatic Escalation	2.501E-6	-1.25E-6	7.849E-7	-7.35E-7	4.026E-7	0.000015

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Estimated Correlation Matrix					
Parameter	Intercept_1 Asthmatic Escalation	SRSEXFemale_1 Asthmatic Escalati	CITIZEN2Non-Citizen_1 Asthmatic	CITIZEN2US-Born Citizen_1 Asthma	raceAfrican American_1 Asthmatic
Intercept_1 Asthmatic Escalation	1.0000	-0.1644	0.1737	-0.3984	-0.3403
SRSEXFemale_1 Asthmatic Escalati	-0.1644	1.0000	-0.0051	0.0222	-0.0304
CITIZEN2Non-Citizen_1 Asthmatic	0.1737	-0.0051	1.0000	-0.4527	0.0435
CITIZEN2US-Born Citizen_1 Asthma	-0.3984	0.0222	-0.4527	1.0000	-0.1599
raceAfrican American_1 Asthmatic	-0.3403	-0.0304	0.0435	-0.1599	1.0000
raceAmerican Indian / Alaska Nat	0.5385	-0.0073	0.0203	-0.0683	-0.5448
raceAsian_1 Asthmatic Escalation	-0.2862	0.0328	0.0224	0.3096	0.0399
raceLatino_1 Asthmatic Escalatio	-0.6713	0.0064	-0.1942	0.2287	0.3659
raceMultiracial / Other_1 Asthma	0.0769	-0.0057	0.0160	-0.0902	-0.0780
pfpI0-99% FPL_1 Asthmatic Escala	0.0970	-0.0634	-0.1302	0.1147	-0.0584
INSYes_1 Asthmatic Escalation	-0.4571	-0.0774	0.1123	-0.0662	-0.0184

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Estimated Correlation Matrix						
Parameter	raceAmerican Indian / Alaska Nat	raceAsian_1 Asthmatic Escalation	raceLatino_1 Asthmatic Escalatio	raceMultiracial / Other_1 Asthma	pfpl0-99% FPL_1 Asthmatic Escala	INSYes_1 Asthmatic Escalation
Intercept_1 Asthmatic Escalation	0.5385	-0.2862	-0.6713	0.0769	0.0970	-0.4571
SRSEXFemale_1 Asthmatic Escalati	-0.0073	0.0328	0.0064	-0.0057	-0.0634	-0.0774
CITIZEN2Non-Citizen_1 Asthmatic	0.0203	0.0224	-0.1942	0.0160	-0.1302	0.1123
CITIZEN2US-Born Citizen_1 Asthma	-0.0683	0.3096	0.2287	-0.0902	0.1147	-0.0662
raceAfrican American_1 Asthmatic	-0.5448	0.0399	0.3659	-0.0780	-0.0584	-0.0184
raceAmerican Indian / Alaska Nat	1.0000	-0.4736	-0.6118	-0.4181	-0.0320	0.0336
raceAsian_1 Asthmatic Escalation	-0.4736	1.0000	0.2018	-0.1694	0.0855	-0.0367
raceLatino_1 Asthmatic Escalatio	-0.6118	0.2018	1.0000	-0.0860	-0.0642	0.0351
raceMultiracial / Other_1 Asthma	-0.4181	-0.1694	-0.0860	1.0000	0.0109	-0.0175
pfpl0-99% FPL_1 Asthmatic Escala	-0.0320	0.0855	-0.0642	0.0109	1.0000	0.0413
INSYes_1 Asthmatic Escalation	0.0336	-0.0367	0.0351	-0.0175	0.0413	1.0000

Classification Table									
Prob Level	Correct		Incorrect		Percentages				
	Event	Non- Event	Event	Non- Event	Correct	Sensi- tivity	Speci- ficity	Pos Pred	Neg Pred
0.852	0	12495	0	1095	91.9	0.0	100.0	.	91.9

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Predicted Probabilities for asthmaesc=1 Asthmatic Escalation

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

