BRAND1	BRAND2	BRAND3	BRAND4	SUBJECT
Chevrolet	Nissan	XX	XX	1
Ford	Ford	Dodge	XX	2
Ford	GMC	Ford	XX	3
Toyota	Honda	Kia	XX	4
Kia	Hyundai	XX	XX	5
Toyota	Toyota	XX	XX	6
Toyota	Honda	Honda	XX	7
Chevrolet	Honda	XX	XX	8
GMC	Toyota	Hyundai	XX	9
Kia	Toyota	Toyota	XX	10
Ford	Honda	XX	XX	11
Chevrolet	Hyundai	Kia	XX	12
Toyota	Ford	XX	XX	13
Kia	Toyota	XX	XX	14
Honda	Honda	XX	XX	15
Ford	Toyota	Hyundai	XX	16
Chevrolet	Ford	Toyota	XX	17
Kia	Ford	Toyota	XX	18
Toyota	Honda	Honda	Ford	19
Toyota	Toyota	XX	XX	20
Ford	Honda	Toyota	XX	21
Ford	Kia	Kia	XX	22
Hyundai	Toyota	Ford	XX	23
Toyota	Toyota	Honda	Ford	24
Toyota	Toyota	Chevrolet	Honda	25
Honda	GMC	Honda	XX	26
Honda	Honda	Dodge	XX	27
Chevrolet	Honda	Kia	XX	28
Chevrolet	Honda	Ford	Chevrolet	29
GMC	GMC	Chevrolet	XX	30
Chevrolet	Honda	Dodge	XX	31
Chevrolet	Dodge	Dodge	XX	32
Chevrolet	GMC	Nissan	XX	33
Nissan	GMC	Honda	XX	34
Dodge	Chevrolet	Honda	XX	35
Toyota	Chevrolet	Nissan	XX	36
Toyota	Toyota	GMC	XX	37

CAR SURVEY NUMBER OF CARS PER HOUSEHOLD BY BRAND

Obs	SUBJECT	BRAND_TYPE
1	1	Chevrolet
2	1	Nissan
3	2	Ford
4	2	Ford
5	2	Dodge
6	3	Ford
7	3	GMC
8	3	Ford
9	4	Toyota
10	4	Honda
11	4	Kia
12	5	Kia
13	5	Hyundai
14	6	Toyota
15	6	Toyota
16	7	Toyota
17	7	Honda
18	7	Honda
19	8	Chevrolet
20	8	Honda
21	9	GMC
22	9	Toyota
23	9	Hyundai
24	10	Kia
25	10	Toyota
26	10	Toyota
27	11	Ford
28	11	Honda
29	12	Chevrolet
30	12	Hyundai
31	12	Kia
32	13	Toyota
33	13	Ford
34	14	Kia
35	14	Toyota
36	15	Honda
37	15	Honda

CAR SURVEY NUMBER OF CARS PER HOUSEHOLD BY BRAND

Obs	SUBJECT	BRAND_TYPE
38	16	Ford
39	16	Toyota
40	16	Hyundai
41	17	Chevrolet
42	17	Ford
43	17	Toyota
44	18	Kia
45	18	Ford
46	18	Toyota
47	19	Toyota
48	19	Honda
49	19	Honda
50	19	Ford
51	20	Toyota
52	20	Toyota
53	21	Ford
54	21	Honda
55	21	Toyota
56	22	Ford
57	22	Kia
58	22	Kia
59	23	Hyundai
60	23	Toyota
61	23	Ford
62	24	Toyota
63	24	Toyota
64	24	Honda
65	24	Ford
66	25	Toyota
67	25	Toyota
68	25	Chevrolet
69	25	Honda
70	26	Honda
71	26	GMC
72	26	Honda
73	27	Honda
74	27	Honda

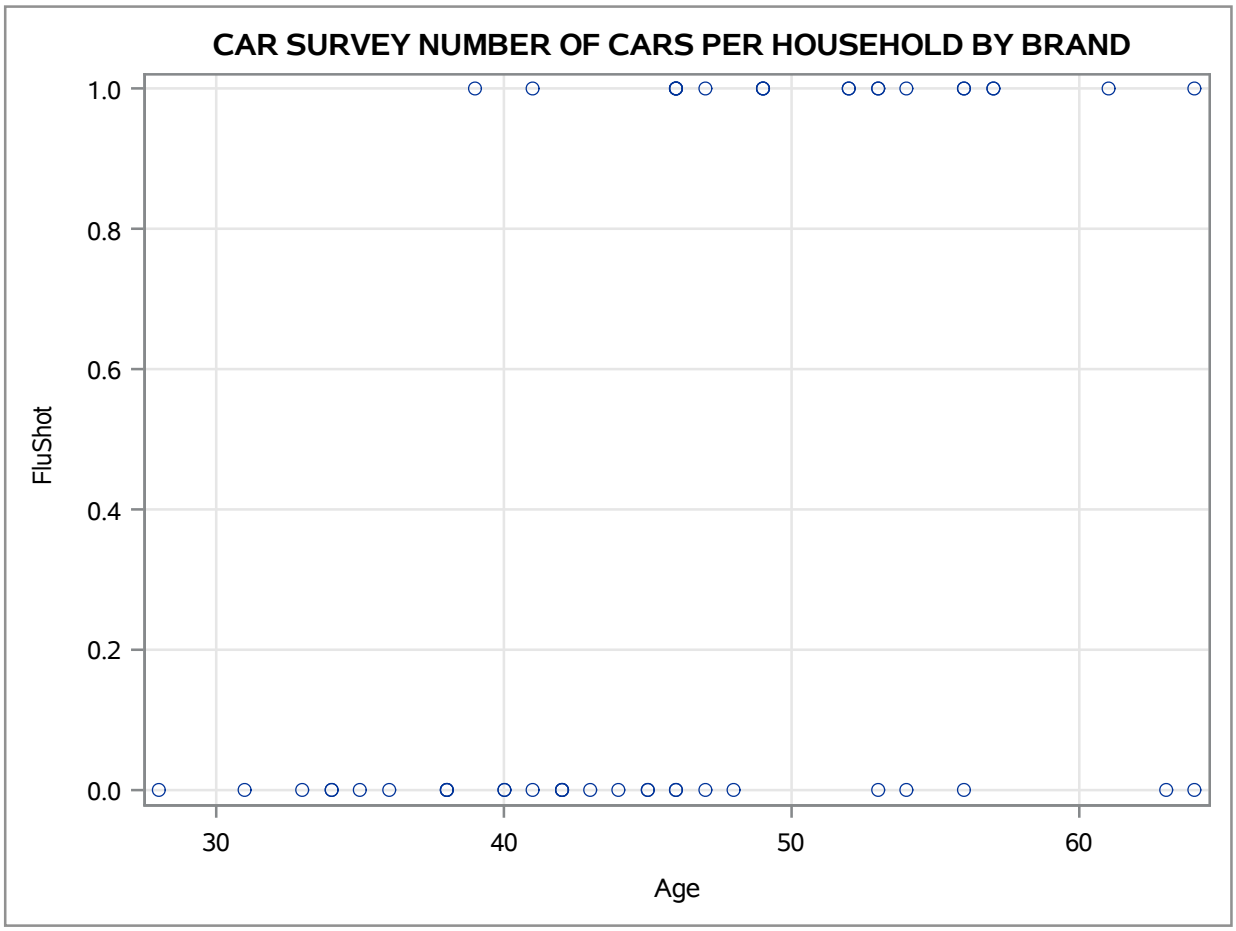
CAR SURVEY NUMBER OF CARS PER HOUSEHOLD BY BRAND

Obs	SUBJECT	BRAND_TYPE
75	27	Dodge
76	28	Chevrolet
77	28	Honda
78	28	Kia
79	29	Chevrolet
80	29	Honda
81	29	Ford
82	29	Chevrolet
83	30	GMC
84	30	GMC
85	30	Chevrolet
86	31	Chevrolet
87	31	Honda
88	31	Dodge
89	32	Chevrolet
90	32	Dodge
91	32	Dodge
92	33	Chevrolet
93	33	GMC
94	33	Nissan
95	34	Nissan
96	34	GMC
97	34	Honda
98	35	Dodge
99	35	Chevrolet
100	35	Honda
101	36	Toyota
102	36	Chevrolet
103	36	Nissan
104	37	Toyota
105	37	Toyota
106	37	GMC

CAR SURVEY NUMBER OF CARS PER HOUSEHOLD BY BRAND

The FREQ Procedure

BRAND_TYPE	Frequency	Percent
Toyota	24	22.64
Honda	21	19.81
Ford	15	14.15
Chevrolet	14	13.21
Kia	9	8.49
GMC	8	7.55
Dodge	6	5.66
Hyundai	5	4.72
Nissan	4	3.77


CAR SURVEY NUMBER OF CARS PER HOUSEHOLD BY BRAND
FluShot
1.0
0.8
0.6
0.4
0.2
0.0
30
40
50
60
Age

The LOGISTIC Procedure

Model Information		
Data Set	WORK.HEALTH	
Response Variable	FluShot	FluShot
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	50
Number of Observations Used	50

Response Profile		
Ordered Value	**FluShot**	**Total Frequency**
1	1	21
2	0	29

Probability modeled is FluShot='1'.

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

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	70.029	60.162
SC	71.941	63.986
-2 Log L	68.029	56.162

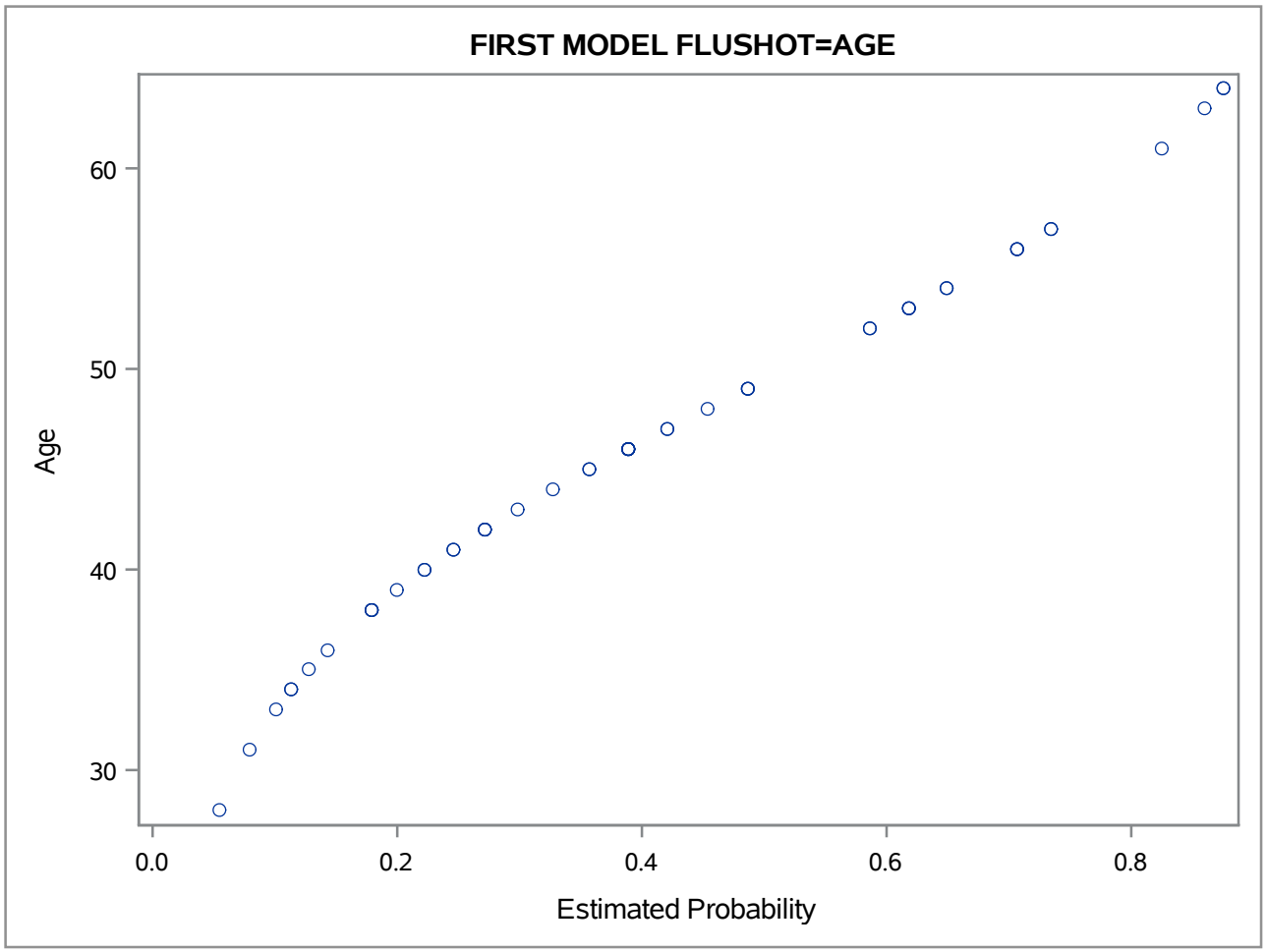
Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	11.8669	1	0.0006
Score	10.7916	1	0.0010
Wald	8.7838	1	0.0030

Analysis of Maximum Likelihood Estimates					
Parameter	**DF**	**Estimate**	**Standard Error**	**Wald Chi-Square**	**Pr > ChiSq**
Intercept	1	-6.5910	2.1564	9.3418	0.0022
Age	1	0.1334	0.0450	8.7838	0.0030

The LOGISTIC Procedure

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	78.5	**Somers' D**	0.596
Percent Discordant	18.9	**Gamma**	0.612
Percent Tied	2.6	**Tau-a**	0.296
Pairs	609	**c**	0.798

Odds Ratio Estimates and Wald Confidence Intervals				
Effect	**Unit**	**Estimate**	**95% Confidence Limits**	
Age	1.0000	1.143	1.046	1.248


FIRST MODEL FLUSHOT=AGE
Age
60
50
40
30
0.0
0.2
0.4
0.6
0.8
Estimated Probability

FIRST MODEL FLUSHOT=AGE HealthAwareness HealthIns

The LOGISTIC Procedure

Model Information		
Data Set	WORK.LOG_FLU_OUT	Predicted Values and Diagnostic Statistics
Response Variable	FluShot	FluShot
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	50
Number of Observations Used	50

Response Profile		
Ordered Value	**FluShot**	**Total Frequency**
1	1	21
2	0	29

Probability modeled is FluShot='1'.

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

Model Fit Statistics		
Criterion	**Intercept Only**	**Intercept and Covariates**
AIC	70.029	28.963
SC	71.941	36.611
-2 Log L	68.029	20.963

Testing Global Null Hypothesis: BETA=0			
Test	**Chi-Square**	**DF**	**Pr > ChiSq**
Likelihood Ratio	47.0665	3	<.0001
Score	30.0257	3	<.0001
Wald	8.0438	3	0.0451

FIRST MODEL FLUSHOT=AGE HealthAwareness HealthIns

The LOGISTIC Procedure

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-27.6137	9.6802	8.1374	0.0043
Age	1	0.3289	0.1217	7.3000	0.0069
HealthAwareness	1	0.1288	0.0766	2.8287	0.0926
HealthIns	1	5.0760	2.2583	5.0524	0.0246

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	96.1	Somers' D	0.921
Percent Discordant	3.9	Gamma	0.921
Percent Tied	0.0	Tau-a	0.458
Pairs	609	c	0.961

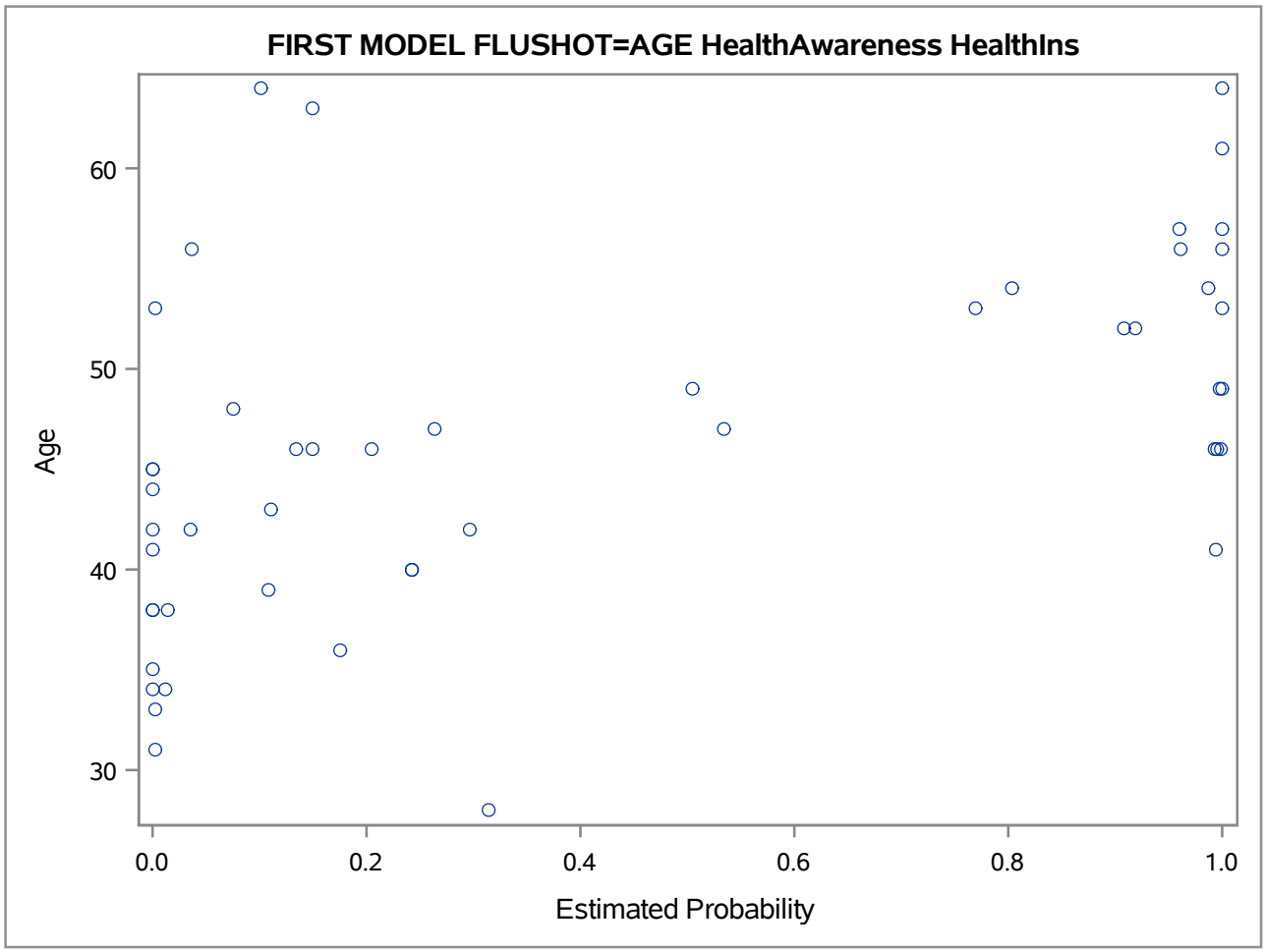
Odds Ratio Estimates and Wald Confidence Intervals				
Effect	Unit	Estimate	95% Confidence Limits	
Age	1.0000	1.389	1.095	1.764
HealthAwareness	1.0000	1.138	0.979	1.322
HealthIns	1.0000	160.137	1.915	>999.999

Partition for the Hosmer and Lemeshow Test					
		FluShot = 1		FluShot = 0	
Group	Total	Observed	Expected	Observed	Expected
1	5	0	0.00	5	5.00
2	5	0	0.00	5	5.00
3	5	0	0.07	5	4.93
4	5	1	0.43	4	4.57
5	5	1	0.81	4	4.19
6	5	0	1.36	5	3.64
7	5	4	3.52	1	1.48
8	5	5	4.82	0	0.18
9	5	5	4.98	0	0.02
10	5	5	5.00	0	0.00

FIRST MODEL FLUSHOT=AGE HealthAwareness HealthIns

The LOGISTIC Procedure

Hosmer and Lemeshow Goodness-of-Fit Test		
Chi-Square	DF	Pr > ChiSq
3.2303	8	0.9191


FIRST MODEL FLUSHOT=AGE HealthAwareness HealthIns
Age
60
50
40
30
0.0
0.2
0.4
0.6
0.8
1.0
Estimated Probability

FIRST MODEL FLUSHOT = AGE HealthAwareness HealthIns FORWARD

The LOGISTIC Procedure

Model Information		
Data Set	WORK.FULLLOGFLUOUT	Predicted Values and Diagnostic Statistics
Response Variable	FluShot	FluShot
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	50
Number of Observations Used	50

Response Profile		
Ordered Value	**FluShot**	**Total Frequency**
1	1	21
2	0	29

Probability modeled is FluShot='1'.

Forward Selection Procedure

Step 0. Intercept entered:

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

-2 Log L	=	68.029

Residual Chi-Square Test		
Chi-Square	**DF**	**Pr > ChiSq**
30.0257	3	<.0001

Step 1. Effect HealthIns entered:

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

FIRST MODEL FLUSHOT = AGE HealthAwareness HealthIns FORWARD

The LOGISTIC Procedure

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	70.029	45.175
SC	71.941	48.999
-2 Log L	68.029	41.175

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	26.8546	1	<.0001
Score	21.1119	1	<.0001
Wald	9.6872	1	0.0019

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
16.2965	2	0.0003

Step 2. Effect Age entered:

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

Model Fit Statistics		
Criterion	Intercept Only	Intercept and Covariates
AIC	70.029	30.586
SC	71.941	36.322
-2 Log L	68.029	24.586

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	43.4431	2	<.0001
Score	27.5641	2	<.0001
Wald	8.6366	2	0.0133

FIRST MODEL FLUSHOT = AGE HealthAwareness HealthIns FORWARD

The LOGISTIC Procedure

Residual Chi-Square Test		
Chi-Square	DF	Pr > ChiSq
3.3630	1	0.0667

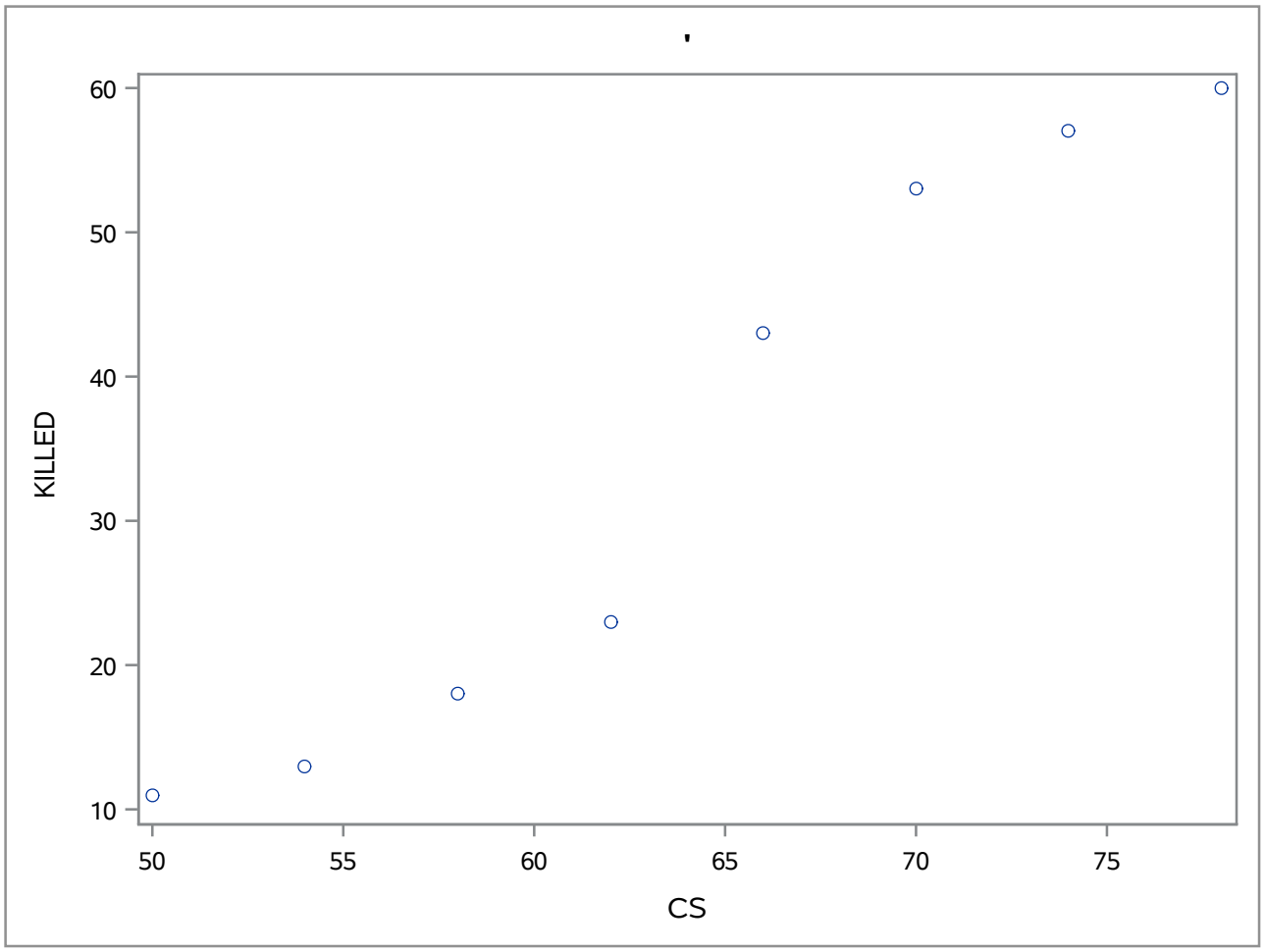
Note: No (additional) effects met the 0.05 significance level for entry into the model.

Summary of Forward Selection						
Step	Effect Entered	DF	Number In	Score Chi-Square	Pr > ChiSq	Variable Label
1	HealthIns	1	1	21.1119	<.0001	HealthIns
2	Age	1	2	13.8896	0.0002	Age

Analysis of Maximum Likelihood Estimates					
Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-20.1939	6.8630	8.6579	0.0033
Age	1	0.2946	0.1061	7.7104	0.0055
HealthIns	1	5.8876	2.1015	7.8490	0.0051

Odds Ratio Estimates			
Effect	Point Estimate	95% Wald Confidence Limits	
Age	1.343	1.091	1.653
HealthIns	360.538	5.863	>999.999

Association of Predicted Probabilities and Observed Responses			
Percent Concordant	95.4	Somers' D	0.915
Percent Discordant	3.9	Gamma	0.921
Percent Tied	0.7	Tau-a	0.455
Pairs	609	c	0.957


60
50
40
30
20
10
KILLED
50
55
60
65
70
75
CS

The NLIN Procedure
Dependent Variable KILLED

Grid Search			
K	Yo	R	Sum of Squares
60.0000	0.0100	0.0100	12638.9
60.0000	0.0100	0.1600	1390.2
60.0000	0.0100	0.3100	8081.0
60.0000	0.0100	0.4600	8090.0

The NLIN Procedure
Dependent Variable KILLED
Method: Gauss-Newton

Iterative Phase				
Iter	K	Yo	R	Sum of Squares
0	60.0000	0.0100	0.1600	1390.2
1	62.4769	0.0242	0.1278	238.0
2	67.0682	0.0133	0.1324	158.8
3	67.1811	0.00892	0.1379	156.5
4	67.1517	0.00725	0.1412	145.5
5	67.1375	0.00531	0.1460	136.5
6	67.1232	0.00385	0.1511	124.6
7	67.1738	0.00218	0.1597	122.4
8	67.0614	0.00187	0.1647	83.6046
9	67.9779	0.00217	0.1621	82.8280
10	67.9212	0.00219	0.1623	82.6217
11	68.0088	0.00224	0.1618	82.6195
12	67.9981	0.00224	0.1619	82.6192
13	68.0027	0.00224	0.1618	82.6192
14	68.0021	0.00224	0.1618	82.6192

NOTE: Convergence criterion met.

Estimation Summary	
Method	Gauss-Newton
Iterations	14
Subiterations	9
Average Subiterations	0.642857
R	9.432E-6
PPC(Yo)	0.000039
RPC(Yo)	0.000036
Object	2.52E-9
Objective	82.61921
Observations Read	8
Observations Used	8
Observations Missing	0

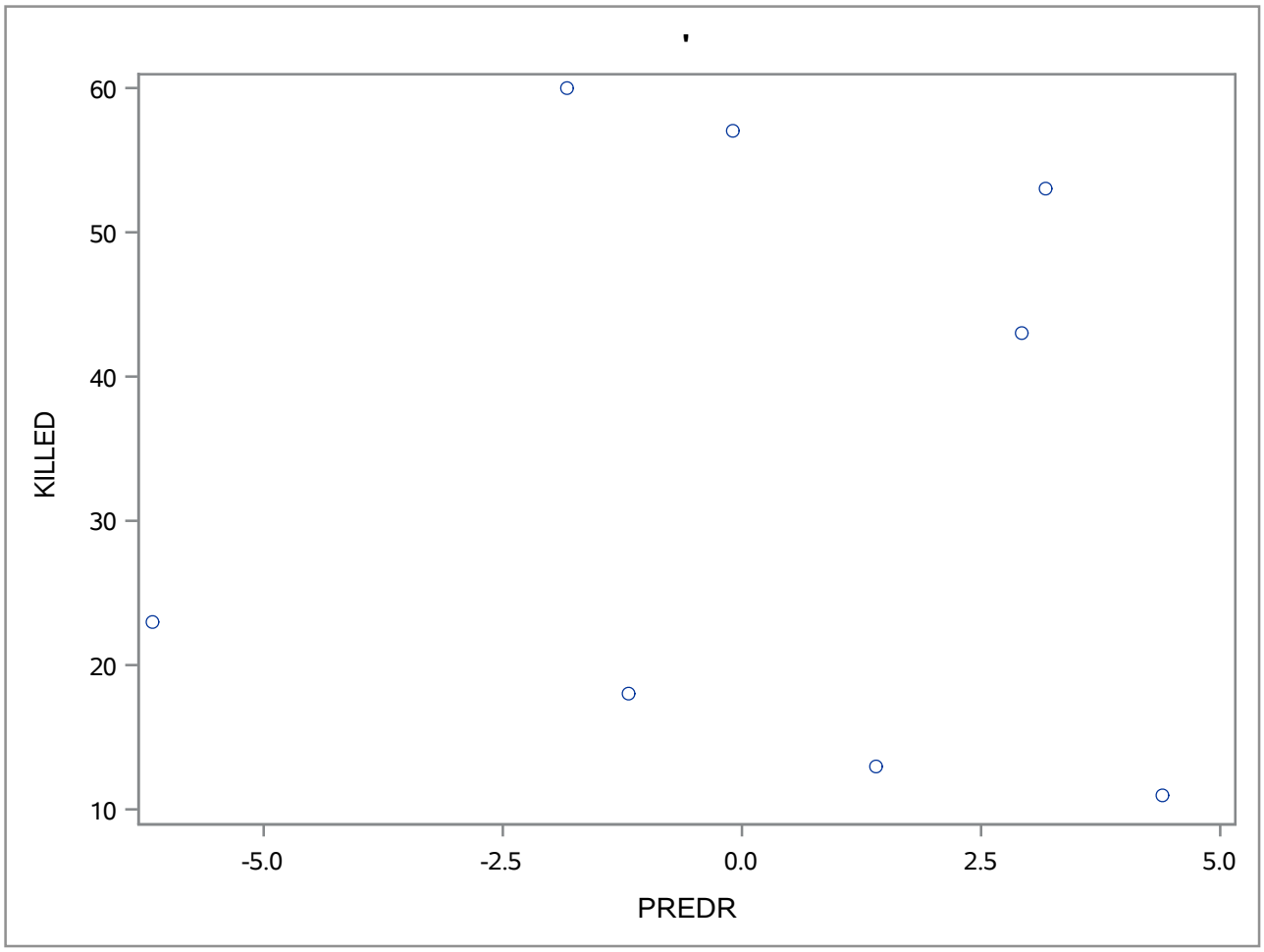
The NLIN Procedure

Note: An intercept was not specified for this model.

Source	DF	Sum of Squares	Mean Square	F Value	Approx Pr > F
Model	3	12567.4	4189.1	253.52	<.0001
Error	5	82.6192	16.5238		
Uncorrected Total	8	12650.0			

Parameter	Estimate	Approx Std Error	Approximate 95% Confidence Limits	
K	68.0021	7.6687	48.2891	87.7151
Yo	0.00224	0.00458	-0.00954	0.0140
R	0.1618	0.0344	0.0733	0.2504

Approximate Correlation Matrix			
	K	**Yo**	**R**
K	1.0000000	0.8053658	-0.8356282
Yo	0.8053658	1.0000000	-0.9970150
R	-0.8356282	-0.9970150	1.0000000


60
50
40
30
20
10
KILLED
-5.0
-2.5
0.0
2.5
5.0
PREDR