The GLIMMIX Procedure

Model Information	
Data Set	WORK.ATS5K
Response Variable	eventb
Response Distribution	Binomial
Link Function	Logit
Variance Function	Default
Variance Matrix Blocked By	pat_id
Estimation Technique	Maximum Likelihood
Likelihood Approximation	Laplace
Degrees of Freedom Method	Containment

Class Level Information		
Class	**Levels**	**Values**
pat_id	5000	not printed
region	4	1 2 3 4
Trt_Step	6	1 2 3 4 5 0
gender	3	1 2 0
Insurance	6	2 3 4 5 6 1

Number of Observations Read	128560
Number of Observations Used	128560

Dimensions	
G-side Cov. Parameters	1
Columns in X	31
Columns in Z per Subject	1
Subjects (Blocks in V)	5000
Max Obs per Subject	259

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	27
Lower Boundaries	1
Upper Boundaries	0
Fixed Effects	Not Profiled
Starting From	GLM estimates

The GLIMMIX Procedure

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	75575.374704	.	21182.31
1	0	9	75556.862871	18.51183241	13093.29
2	0	4	75547.453485	9.40938650	3262.295
3	0	3	75547.098008	0.35547690	339.9192
4	0	8	75524.71342	22.38458769	2906.591
5	0	2	75523.893225	0.82019561	1109.701
6	0	2	75522.757917	1.13530733	3089.32
7	0	4	75506.782858	15.97505930	914.6226
8	0	3	75505.86431	0.91854830	1390.933
9	0	4	75501.41888	4.44543018	6471.41
10	0	4	75487.835335	13.58354444	7782.703
11	0	3	75479.801667	8.03366797	917.886
12	0	3	75479.731949	0.06971855	223.0642
13	0	4	75478.648017	1.08393117	4564.624
14	0	3	75477.997989	0.65002873	593.3147
15	0	4	75467.570538	10.42745072	2280.913
16	0	3	75466.278086	1.29245232	314.1532
17	0	2	75464.712028	1.56605733	1841.569
18	0	3	75464.393414	0.31861431	135.6586
19	0	4	75464.253036	0.14037823	1032.962
20	0	2	75464.067881	0.18515467	131.9117
21	0	4	75463.156628	0.91125334	2668.095
22	0	2	75461.863381	1.29324641	249.5871
23	0	2	75459.895576	1.96780507	2240.685
24	0	3	75458.550516	1.34505994	432.3497
25	0	3	75458.508234	0.04228248	56.09093
26	0	4	75458.460544	0.04768993	252.5107
27	0	2	75458.392083	0.06846128	53.83333
28	0	2	75458.274785	0.11729717	531.1754
29	0	4	75457.44134	0.83344525	2278.266
30	0	4	75454.247132	3.19420819	147.8347
31	0	3	75454.243322	0.00381007	49.63531
32	0	6	75453.902393	0.34092861	1367.729
33	0	2	75453.667606	0.23478766	715.5822
34	0	3	75453.59842	0.06918553	43.17924

The GLIMMIX Procedure

Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
35	**0**	6	75452.26022	1.33820031	662.6797
36	**0**	3	75452.123379	0.13684043	34.55987
37	**0**	2	75452.120682	0.00269712	240.9524
38	**0**	4	75452.108707	0.01197570	37.79444
39	**0**	2	75452.092997	0.01570988	44.19701
40	**0**	2	75452.089428	0.00356827	47.43106

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

Fit Statistics	
-2 Log Likelihood	75452.09
AIC (smaller is better)	75506.09
AICC (smaller is better)	75506.10
BIC (smaller is better)	75682.05
CAIC (smaller is better)	75709.05
HQIC (smaller is better)	75567.76

Fit Statistics for Conditional Distribution	
-2 log L(eventb | r. effects)	69300.29
Pearson Chi-Square	108057.0
Pearson Chi-Square / DF	0.84

Covariance Parameter Estimates			
Cov Parm	Subject	Estimate	Standard Error
Intercept	pat_id	0.6861	0.02759

Solutions for Fixed Effects												
Effect	region	Trt_Step	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
Intercept					-2.2507	1.3134	4988	-1.71	0.0867	0.05	-4.8255	0.3242
year					-0.5039	0.03976	124E3	-12.67	<.0001	0.05	-0.5818	-0.4260
year*year					0.1455	0.01772	124E3	8.21	<.0001	0.05	0.1108	0.1802
year*year*year					-0.01452	0.002064	124E3	-7.04	<.0001	0.05	-0.01857	-0.01048
Trt_Step		1			-0.5011	0.04302	124E3	-11.65	<.0001	0.05	-0.5855	-0.4168
Trt_Step		2			-1.1734	0.06440	124E3	-18.22	<.0001	0.05	-1.2996	-1.0471

The GLIMMIX Procedure

Solutions for Fixed Effects												
Effect	region	Trt_Step	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
Trt_Step		3			-0.8962	0.06151	124E3	-14.57	<.0001	0.05	-1.0168	-0.7756
Trt_Step		4			-0.9159	0.06251	124E3	-14.65	<.0001	0.05	-1.0384	-0.7934
Trt_Step		5			0.7312	0.09054	124E3	8.08	<.0001	0.05	0.5538	0.9087
Trt_Step		0			0	.	.	.	.	.	.	.
year*Trt_Step		1			-0.1476	0.02208	124E3	-6.68	<.0001	0.05	-0.1908	-0.1043
year*Trt_Step		2			-0.1822	0.03695	124E3	-4.93	<.0001	0.05	-0.2546	-0.1098
year*Trt_Step		3			-0.07320	0.02990	124E3	-2.45	0.0144	0.05	-0.1318	-0.01460
year*Trt_Step		4			-0.02069	0.02759	124E3	-0.75	0.4534	0.05	-0.07477	0.03340
year*Trt_Step		5			-0.03407	0.03666	124E3	-0.93	0.3527	0.05	-0.1059	0.03779
year*Trt_Step		0			0	.	.	.	.	.	.	.
age					0.002119	0.000981	124E3	2.16	0.0307	0.05	0.000197	0.004042
gender			1		0.6799	1.3130	124E3	0.52	0.6045	0.05	-1.8934	3.2533
gender			2		0.8962	1.3127	124E3	0.68	0.4948	0.05	-1.6766	3.4690
gender			0		0	.	.	.	.	.	.	.
region	1				-0.2196	0.04609	124E3	-4.76	<.0001	0.05	-0.3099	-0.1293
region	2				-0.1748	0.04362	124E3	-4.01	<.0001	0.05	-0.2602	-0.08926
region	3				-0.2723	0.06076	124E3	-4.48	<.0001	0.05	-0.3914	-0.1532
region	4				0	.	.	.	.	.	.	.
CCI					0.07688	0.02812	124E3	2.73	0.0063	0.05	0.02176	0.1320
Insurance				2	-0.2150	0.2665	124E3	-0.81	0.4198	0.05	-0.7374	0.3073
Insurance				3	0.07467	0.08320	124E3	0.90	0.3695	0.05	-0.08841	0.2377
Insurance				4	-0.2697	0.2258	124E3	-1.19	0.2324	0.05	-0.7124	0.1729
Insurance				5	0.1116	0.05222	124E3	2.14	0.0327	0.05	0.009210	0.2139
Insurance				6	0.08206	0.2532	124E3	0.32	0.7459	0.05	-0.4143	0.5784
Insurance				1	0	.	.	.	.	.	.	.

The GLIMMIX Procedure

Odds Ratio Estimates

region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	_CCI
				1.851	32.521	0.3258					1.851	31.521	0.3258
				1.851	31.521	1.3258					1.851	31.521	0.3258
	1			1.851	31.521	0.3258		0			1.851	31.521	0.3258
	2			1.851	31.521	0.3258		0			1.851	31.521	0.3258
	3			1.851	31.521	0.3258		0			1.851	31.521	0.3258
	4			1.851	31.521	0.3258		0			1.851	31.521	0.3258
	5			1.851	31.521	0.3258		0			1.851	31.521	0.3258
	1			2.851	31.521	0.3258		1			1.851	31.521	0.3258
	2			2.851	31.521	0.3258		2			1.851	31.521	0.3258
	3			2.851	31.521	0.3258		3			1.851	31.521	0.3258
	4			2.851	31.521	0.3258		4			1.851	31.521	0.3258
	5			2.851	31.521	0.3258		5			1.851	31.521	0.3258
	0			2.851	31.521	0.3258		0			1.851	31.521	0.3258
		1		1.851	31.521	0.3258			0		1.851	31.521	0.3258
		2		1.851	31.521	0.3258			0		1.851	31.521	0.3258
1				1.851	31.521	0.3258	4				1.851	31.521	0.3258
2				1.851	31.521	0.3258	4				1.851	31.521	0.3258
3				1.851	31.521	0.3258	4				1.851	31.521	0.3258
			2	1.851	31.521	0.3258				1	1.851	31.521	0.3258
			3	1.851	31.521	0.3258				1	1.851	31.521	0.3258
			4	1.851	31.521	0.3258				1	1.851	31.521	0.3258
			5	1.851	31.521	0.3258				1	1.851	31.521	0.3258
			6	1.851	31.521	0.3258				1	1.851	31.521	0.3258

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

The GLIMMIX Procedure

Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	Estimate
				1.851	32.521	0.3258					1.851	31.521	1.002
				1.851	31.521	1.3258					1.851	31.521	1.080
	1			1.851	31.521	0.3258		0			1.851	31.521	0.461
	2			1.851	31.521	0.3258		0			1.851	31.521	0.221
	3			1.851	31.521	0.3258		0			1.851	31.521	0.356
	4			1.851	31.521	0.3258		0			1.851	31.521	0.385
	5			1.851	31.521	0.3258		0			1.851	31.521	1.951
	1			2.851	31.521	0.3258		1			1.851	31.521	0.809
	2			2.851	31.521	0.3258		2			1.851	31.521	0.782
	3			2.851	31.521	0.3258		3			1.851	31.521	0.872
	4			2.851	31.521	0.3258		4			1.851	31.521	0.919
	5			2.851	31.521	0.3258		5			1.851	31.521	0.906
	0			2.851	31.521	0.3258		0			1.851	31.521	0.938
		1		1.851	31.521	0.3258			0		1.851	31.521	1.974
		2		1.851	31.521	0.3258			0		1.851	31.521	2.450
1				1.851	31.521	0.3258	4				1.851	31.521	0.803
2				1.851	31.521	0.3258	4				1.851	31.521	0.840
3				1.851	31.521	0.3258	4				1.851	31.521	0.762
			2	1.851	31.521	0.3258				1	1.851	31.521	0.807
			3	1.851	31.521	0.3258				1	1.851	31.521	1.078
			4	1.851	31.521	0.3258				1	1.851	31.521	0.764
			5	1.851	31.521	0.3258				1	1.851	31.521	1.118
			6	1.851	31.521	0.3258				1	1.851	31.521	1.086

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

The GLIMMIX Procedure

Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	DF
				1.851	32.521	0.3258					1.851	31.521	124E3
				1.851	31.521	1.3258					1.851	31.521	124E3
	1			1.851	31.521	0.3258		0			1.851	31.521	124E3
	2			1.851	31.521	0.3258		0			1.851	31.521	124E3
	3			1.851	31.521	0.3258		0			1.851	31.521	124E3
	4			1.851	31.521	0.3258		0			1.851	31.521	124E3
	5			1.851	31.521	0.3258		0			1.851	31.521	124E3
	1			2.851	31.521	0.3258		1			1.851	31.521	124E3
	2			2.851	31.521	0.3258		2			1.851	31.521	124E3
	3			2.851	31.521	0.3258		3			1.851	31.521	124E3
	4			2.851	31.521	0.3258		4			1.851	31.521	124E3
	5			2.851	31.521	0.3258		5			1.851	31.521	124E3
	0			2.851	31.521	0.3258		0			1.851	31.521	124E3
		1		1.851	31.521	0.3258			0		1.851	31.521	124E3
		2		1.851	31.521	0.3258			0		1.851	31.521	124E3
1				1.851	31.521	0.3258	4				1.851	31.521	124E3
2				1.851	31.521	0.3258	4				1.851	31.521	124E3
3				1.851	31.521	0.3258	4				1.851	31.521	124E3
			2	1.851	31.521	0.3258				1	1.851	31.521	124E3
			3	1.851	31.521	0.3258				1	1.851	31.521	124E3
			4	1.851	31.521	0.3258				1	1.851	31.521	124E3
			5	1.851	31.521	0.3258				1	1.851	31.521	124E3
			6	1.851	31.521	0.3258				1	1.851	31.521	124E3

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

The GLIMMIX Procedure

Odds Ratio Estimates

region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	95% Confidence Limits	
				1.851	32.521	0.3258					1.851	31.521	1.000	1.004
				1.851	31.521	1.3258					1.851	31.521	1.022	1.141
	1			1.851	31.521	0.3258		0			1.851	31.521	0.433	0.491
	2			1.851	31.521	0.3258		0			1.851	31.521	0.200	0.244
	3			1.851	31.521	0.3258		0			1.851	31.521	0.327	0.388
	4			1.851	31.521	0.3258		0			1.851	31.521	0.355	0.418
	5			1.851	31.521	0.3258		0			1.851	31.521	1.731	2.199
	1			2.851	31.521	0.3258		1			1.851	31.521	0.772	0.848
	2			2.851	31.521	0.3258		2			1.851	31.521	0.726	0.842
	3			2.851	31.521	0.3258		3			1.851	31.521	0.820	0.927
	4			2.851	31.521	0.3258		4			1.851	31.521	0.868	0.972
	5			2.851	31.521	0.3258		5			1.851	31.521	0.842	0.976
	0			2.851	31.521	0.3258		0			1.851	31.521	0.911	0.966
		1		1.851	31.521	0.3258			0		1.851	31.521	0.151	25.876
		2		1.851	31.521	0.3258			0		1.851	31.521	0.187	32.105
1				1.851	31.521	0.3258	4				1.851	31.521	0.734	0.879
2				1.851	31.521	0.3258	4				1.851	31.521	0.771	0.915
3				1.851	31.521	0.3258	4				1.851	31.521	0.676	0.858
			2	1.851	31.521	0.3258				1	1.851	31.521	0.478	1.360
			3	1.851	31.521	0.3258				1	1.851	31.521	0.915	1.268
			4	1.851	31.521	0.3258				1	1.851	31.521	0.490	1.189
			5	1.851	31.521	0.3258				1	1.851	31.521	1.009	1.239
			6	1.851	31.521	0.3258				1	1.851	31.521	0.661	1.783

Effects of continuous variables are assessed as one unit offsets from the mean.
The AT suboption modifies the reference value and the UNIT suboption modifies the offsets.

Type III Tests of Fixed Effects

Effect	Num DF	Den DF	F Value	Pr > F
year	1	124E3	203.90	<.0001
year*year	1	124E3	67.45	<.0001
year*year*year	1	124E3	49.53	<.0001
Trt_Step	5	124E3	164.07	<.0001
year*Trt_Step	5	124E3	13.26	<.0001
age	1	124E3	4.67	0.0307
gender	2	124E3	18.64	<.0001

The GLIMMIX Procedure

Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
region	3	124E3	10.80	<.0001
CCI	1	124E3	7.47	0.0063
Insurance	5	124E3	1.52	0.1804