

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	2
Columns in X	31
Columns in Z per Subject	2
Subjects (Blocks in V)	5000
Max Obs per Subject	259

Optimization Information	
Optimization Technique	Dual Quasi-Newton
Parameters in Optimization	28
Lower Boundaries	2
Upper Boundaries	0
Fixed Effects	Not Profiled
Starting From	GLM estimates

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Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
0	0	4	75453.057239	.	52882.67
1	0	10	75381.859044	71.19819532	15673.73
2	0	2	75374.34443	7.51461399	5047.155
3	0	2	75371.937682	2.40674789	2861.02
4	0	2	75370.754588	1.18309373	2779.355
5	0	4	75369.333169	1.42141860	5034.148
6	0	4	75349.224735	20.10843441	11679.44
7	0	3	75341.317818	7.90691734	3972.87
8	0	3	75337.187113	4.13070417	1845.939
9	0	3	75336.561757	0.62535646	444.0264
10	0	3	75336.510231	0.05152553	389.1087
11	0	6	75331.143167	5.36706462	4408.786
12	0	2	75329.014684	2.12848303	4716.171
13	0	2	75326.454791	2.55989327	357.5076
14	0	4	75315.303071	11.15171908	14275.81
15	0	2	75309.729806	5.57326501	10506.28
16	0	2	75306.126175	3.60363194	6774.221
17	0	2	75303.814136	2.31203875	6708.501
18	0	2	75300.754627	3.05950901	1867.727
19	0	2	75298.331405	2.42322134	1007.914
20	0	3	75297.839007	0.49239793	1012.565
21	0	4	75292.71052	5.12848783	5082.089
22	0	3	75290.117674	2.59284523	858.3062
23	0	2	75287.077064	3.04061011	989.5294
24	0	4	75277.637466	9.43959799	2476.139
25	0	3	75276.462208	1.17525848	504.0869
26	0	3	75276.426771	0.03543696	203.9921
27	0	4	75276.318361	0.10840977	1355.922
28	0	4	75276.094656	0.22370492	890.7092
29	0	4	75275.086657	1.00799895	3148.081
30	0	4	75266.4278	8.65885685	4909.772
31	0	3	75262.846162	3.58163869	321.2371
32	0	3	75262.801246	0.04491552	127.3743
33	0	2	75262.792673	0.00857288	154.9667
34	0	6	75262.61694	0.17573349	1034.998

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Iteration History					
Iteration	Restarts	Evaluations	Objective Function	Change	Max Gradient
35	0	4	75262.119924	0.49701539	717.6077
36	0	4	75257.706774	4.41315041	1322.726
37	0	3	75257.55126	0.15551356	126.9538
38	0	3	75257.547898	0.00336225	75.17278
39	0	2	75257.544508	0.00339039	49.38875
40	0	4	75257.535457	0.00905117	113.2835
41	0	8	75253.817097	3.71835941	329.38
42	0	3	75253.663464	0.15363349	42.95149
43	0	3	75253.660428	0.00303559	45.63894
44	0	4	75253.615109	0.04531920	200.5018
45	0	3	75253.610021	0.00508808	49.77119
46	0	4	75253.55085	0.05917094	551.3464
47	0	3	75253.528934	0.02191595	183.5265
48	0	4	75253.240174	0.28876045	58.78602
49	0	2	75253.080645	0.15952800	222.31
50	0	2	75252.826497	0.25414821	154.6809
51	0	2	75252.530996	0.29550165	112.5444
52	0	4	75251.669267	0.86172872	111.1575
53	0	3	75251.558863	0.11040412	42.26432
54	0	3	75251.557467	0.00139547	41.70858
55	0	6	75251.511328	0.04613942	261.1587

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

Fit Statistics	
-2 Log Likelihood	75251.51
AIC (smaller is better)	75307.51
AICC (smaller is better)	75307.52
BIC (smaller is better)	75489.99
CAIC (smaller is better)	75517.99
HQIC (smaller is better)	75371.47

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Fit Statistics for Conditional Distribution	
-2 log L(eventb r. effects)	67958.35
Pearson Chi-Square	105135.5
Pearson Chi-Square / DF	0.82

Covariance Parameter Estimates			
Cov Parm	Subject	Estimate	Standard Error
Intercept	pat_id	0.5918	0.02809
year	pat_id	0.05176	0.005590

Solutions for Fixed Effects												
Effect	region	Trt_Step	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > |t|	Alpha	Lower	Upper
Intercept					-2.2304	1.3629	4988	-1.64	0.1018	0.05	-4.9022	0.4414
year					-0.5140	0.04121	4999	-12.47	<.0001	0.05	-0.5948	-0.4332
year*year					0.1413	0.01881	119E3	7.51	<.0001	0.05	0.1044	0.1781
year*year*year					-0.01684	0.002228	119E3	-7.56	<.0001	0.05	-0.02121	-0.01247
Trt_Step		1			-0.4929	0.04302	119E3	-11.46	<.0001	0.05	-0.5772	-0.4086
Trt_Step		2			-1.1679	0.06445	119E3	-18.12	<.0001	0.05	-1.2942	-1.0415
Trt_Step		3			-0.8989	0.06174	119E3	-14.56	<.0001	0.05	-1.0199	-0.7779
Trt_Step		4			-0.9165	0.06268	119E3	-14.62	<.0001	0.05	-1.0393	-0.7936
Trt_Step		5			0.7341	0.09208	119E3	7.97	<.0001	0.05	0.5536	0.9145
Trt_Step		0			0	.	.	.	.	.	.	.
year*Trt_Step		1			-0.1539	0.02246	119E3	-6.85	<.0001	0.05	-0.1979	-0.1099
year*Trt_Step		2			-0.1921	0.03741	119E3	-5.14	<.0001	0.05	-0.2654	-0.1188
year*Trt_Step		3			-0.07189	0.03072	119E3	-2.34	0.0193	0.05	-0.1321	-0.01169
year*Trt_Step		4			-0.02284	0.02844	119E3	-0.80	0.4219	0.05	-0.07857	0.03289
year*Trt_Step		5			-0.03917	0.03917	119E3	-1.00	0.3173	0.05	-0.1159	0.03760
year*Trt_Step		0			0	.	.	.	.	.	.	.
age					0.002067	0.000983	119E3	2.10	0.0354	0.05	0.000142	0.003993
gender			1		0.6953	1.3624	119E3	0.51	0.6098	0.05	-1.9750	3.3656
gender			2		0.9008	1.3621	119E3	0.66	0.5084	0.05	-1.7690	3.5705
gender			0		0	.	.	.	.	.	.	.
region	1				-0.2161	0.04611	119E3	-4.69	<.0001	0.05	-0.3064	-0.1257
region	2				-0.1816	0.04370	119E3	-4.16	<.0001	0.05	-0.2673	-0.09594
region	3				-0.2680	0.06057	119E3	-4.42	<.0001	0.05	-0.3867	-0.1493
region	4				0

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Solutions for Fixed Effects												
Effect	region	Trt_Step	gender	Insurance	Estimate	Standard Error	DF	t Value	Pr > t	Alpha	Lower	Upper
CCI					0.06196	0.02834	119E3	2.19	0.0288	0.05	0.006424	0.1175
Insurance				2	-0.2177	0.2647	119E3	-0.82	0.4108	0.05	-0.7364	0.3011
Insurance				3	0.09603	0.08399	119E3	1.14	0.2529	0.05	-0.06859	0.2606
Insurance				4	-0.2692	0.2281	119E3	-1.18	0.2380	0.05	-0.7162	0.1779
Insurance				5	0.08668	0.05243	119E3	1.65	0.0983	0.05	-0.01608	0.1894
Insurance				6	0.08085	0.2539	119E3	0.32	0.7501	0.05	-0.4168	0.5785
Insurance				1	0

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Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	_CCI
				1.851	31.521	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	31.521	0.3258					1.851	31.521	1.002
				1.851	31.521	1.3258					1.851	31.521	1.064
	1			1.851	31.521	0.3258		0			1.851	31.521	0.459
	2			1.851	31.521	0.3258		0			1.851	31.521	0.218
	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	0.383
	5			1.851	31.521	0.3258		0			1.851	31.521	1.938
	1			2.851	31.521	0.3258		1			1.851	31.521	0.750
	2			2.851	31.521	0.3258		2			1.851	31.521	0.722
	3			2.851	31.521	0.3258		3			1.851	31.521	0.815
	4			2.851	31.521	0.3258		4			1.851	31.521	0.855
	5			2.851	31.521	0.3258		5			1.851	31.521	0.842
	0			2.851	31.521	0.3258		0			1.851	31.521	0.875
		1		1.851	31.521	0.3258			0		1.851	31.521	2.004
		2		1.851	31.521	0.3258			0		1.851	31.521	2.461
1				1.851	31.521	0.3258	4				1.851	31.521	0.806
2				1.851	31.521	0.3258	4				1.851	31.521	0.834
3				1.851	31.521	0.3258	4				1.851	31.521	0.765
			2	1.851	31.521	0.3258				1	1.851	31.521	0.804
			3	1.851	31.521	0.3258				1	1.851	31.521	1.101
			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	1.091
			6	1.851	31.521	0.3258				1	1.851	31.521	1.084

Effects of continuous variables are assessed as one unit offsets from the mean.

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Odds Ratio Estimates													
region	Trt_Step	gender	Insurance	year	age	CCI	_region	_Trt_Step	_gender	_Insurance	_year	_age	DF
				1.851	31.521	0.3258					1.851	31.521	119E3
				1.851	31.521	1.3258					1.851	31.521	119E3
	1			1.851	31.521	0.3258		0			1.851	31.521	119E3
	2			1.851	31.521	0.3258		0			1.851	31.521	119E3
	3			1.851	31.521	0.3258		0			1.851	31.521	119E3
	4			1.851	31.521	0.3258		0			1.851	31.521	119E3
	5			1.851	31.521	0.3258		0			1.851	31.521	119E3
	1			2.851	31.521	0.3258		1			1.851	31.521	119E3
	2			2.851	31.521	0.3258		2			1.851	31.521	119E3
	3			2.851	31.521	0.3258		3			1.851	31.521	119E3
	4			2.851	31.521	0.3258		4			1.851	31.521	119E3
	5			2.851	31.521	0.3258		5			1.851	31.521	119E3
	0			2.851	31.521	0.3258		0			1.851	31.521	119E3
		1		1.851	31.521	0.3258			0		1.851	31.521	119E3
		2		1.851	31.521	0.3258			0		1.851	31.521	119E3
1				1.851	31.521	0.3258	4				1.851	31.521	119E3
2				1.851	31.521	0.3258	4				1.851	31.521	119E3
3				1.851	31.521	0.3258	4				1.851	31.521	119E3
			2	1.851	31.521	0.3258				1	1.851	31.521	119E3
			3	1.851	31.521	0.3258				1	1.851	31.521	119E3
			4	1.851	31.521	0.3258				1	1.851	31.521	119E3
			5	1.851	31.521	0.3258				1	1.851	31.521	119E3
			6	1.851	31.521	0.3258				1	1.851	31.521	119E3

Effects of continuous variables are assessed as one unit offsets from the mean.

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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	1.006 1.125
	1			1.851	31.521	0.3258		0			1.851	31.521	0.431 0.489
	2			1.851	31.521	0.3258		0			1.851	31.521	0.197 0.241
	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	0.353 0.417
	5			1.851	31.521	0.3258		0			1.851	31.521	1.715 2.189
	1			2.851	31.521	0.3258		1			1.851	31.521	0.713 0.790
	2			2.851	31.521	0.3258		2			1.851	31.521	0.668 0.781
	3			2.851	31.521	0.3258		3			1.851	31.521	0.763 0.870
	4			2.851	31.521	0.3258		4			1.851	31.521	0.804 0.910
	5			2.851	31.521	0.3258		5			1.851	31.521	0.776 0.913
	0			2.851	31.521	0.3258		0			1.851	31.521	0.845 0.907
		1		1.851	31.521	0.3258			0		1.851	31.521	0.139 28.951
		2		1.851	31.521	0.3258			0		1.851	31.521	0.171 35.536
1				1.851	31.521	0.3258	4				1.851	31.521	0.736 0.882
2				1.851	31.521	0.3258	4				1.851	31.521	0.765 0.909
3				1.851	31.521	0.3258	4				1.851	31.521	0.679 0.861
			2	1.851	31.521	0.3258				1	1.851	31.521	0.479 1.351
			3	1.851	31.521	0.3258				1	1.851	31.521	0.934 1.298
			4	1.851	31.521	0.3258				1	1.851	31.521	0.489 1.195
			5	1.851	31.521	0.3258				1	1.851	31.521	0.984 1.209
			6	1.851	31.521	0.3258				1	1.851	31.521	0.659 1.783

Effects of continuous variables are assessed as one unit offsets from the mean.
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Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
year	1	4999	198.53	<.0001
year*year	1	119E3	56.40	<.0001
year*year*year	1	119E3	57.10	<.0001
Trt_Step	5	119E3	162.06	<.0001
year*Trt_Step	5	119E3	13.96	<.0001
age	1	119E3	4.43	0.0354
gender	2	119E3	16.81	<.0001

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Type III Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
region	3	119E3	10.69	<.0001
CCI	1	119E3	4.78	0.0288
Insurance	5	119E3	1.24	0.2857