

Generalized Linear Mixed Models

Notes

Output Created		28-JUN-2022 17:34:01
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analysis s 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	28917

Syntax	<pre> GENLINMIXED /DATA_STRUCTURE SUBJECTS=Local_Authority /FIELDS TARGET=Date_of_first_consultatio n_recorded TRIALS=NONE OFFSET=NONE /TARGET_OPTIONS DISTRIBUTION=BINOMIAL LINK=LOGIT /FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_two_groups ref_recode2 USE_INTERCEPT=TRUE /RANDOM EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_two_groups ref_recode2 USE_INTERCEPT=TRUE SUBJECTS=Local_Authority COVARIANCE_TYPE=VARIANCE _COMPONENTS SOLUTION=FALSE /BUILD_OPTIONS TARGET_CATEGORY_ORDER=D ESCENDING INPUTS_CATEGORY_ORDER=DE SCENDING MAX_ITERATIONS=100 CONFIDENCE_LEVEL=95 DF_METHOD=RESIDUAL COVB=MODEL PCONVERGE=0.000001(ABSOLU TE) SCORING=0 SINGULAR=0.000000000001 /EMMEANS_OPTIONS SCALE=ORIGINAL PADJUST=LSD. </pre>
Resources	Processor Time
	00:00:08.80

Elapsed Time	00:00:08.56
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Case Processing Summary

	N	Percent
Included	27859	96.3%
Excluded	1058	3.7%
Total	28917	100.0%

Model Summary

Target		Date_of_first_consultation_recorded
Probability Distribution		Binomial
Link Function		Logit
Information Criterion	Akaike Corrected	120303.680
	Bayesian	120361.317

Information criteria are based on the -2 log likelihood (120289.676) and are used to compare models. Models with smaller information criterion values fit better.

Data Structure^a

	Subjects	Target
	Local_Authority	Date_of_first_consultation_recorded
Data for First Subject	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
	1.000	yes
Total Number of Levels	22	

Only the first 10 records are displayed.^a

a. Target: Date_of_first_consultation_recorded

Classification
Overall Percent Correct = 62.2%^a

Observed		Predicted	
		yes	no
yes	Count	8672	5209
	% within Observed	62.5%	37.5%
no	Count	5328	8650
	% within Observed	38.1%	61.9%

a. Target: Date_of_first_consultation_recorded

Fixed Effects^a

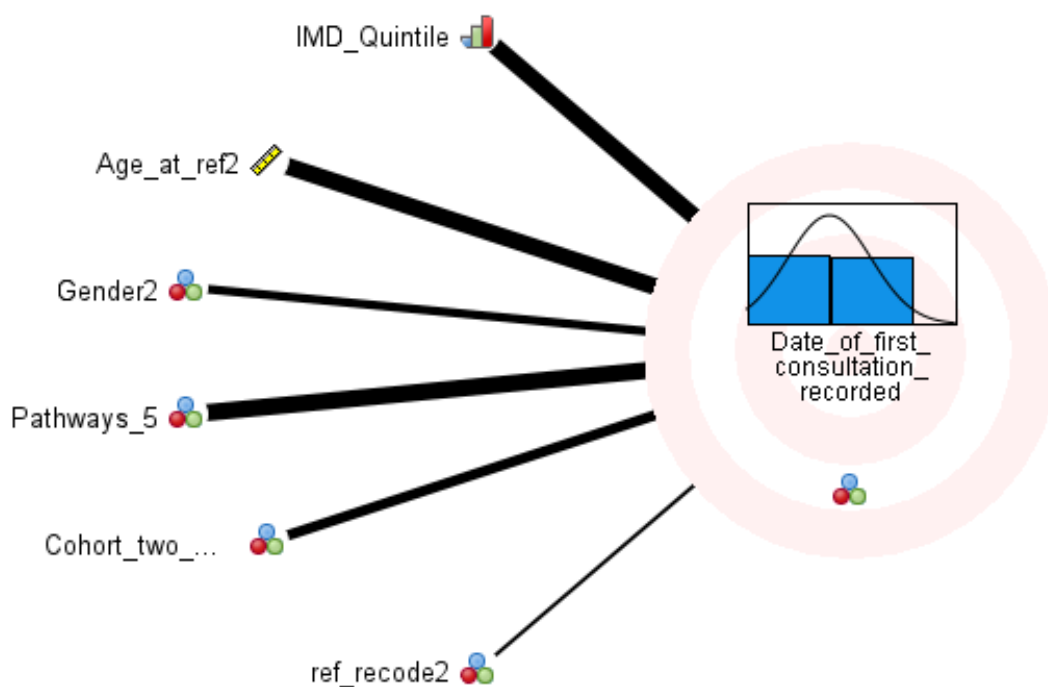
Source	F	df1	df2	Sig.
Corrected Model	23.865	14	27844	.000
IMD_Quintile	10.405	4	27844	<.001
Age_at_ref2	212.771	1	27844	.000
Gender2	6.127	1	27844	.013
Pathways_5	6.023	4	27844	<.001
Cohort_two_groups	7.639	1	27844	.006
ref_recode2	.471	3	27844	.703

Probability distribution: Binomial

Link function: Logit^a

a. Target: Date_of_first_consultation_recorded

Fixed Effects



Fixed Coefficients^a

Model Term	Coefficient	Std. Error	t	Sig.	95% Confidence Interval		E
					Lower	Upper	
Intercept	-1.324	.1532	-8.643	.000	-1.624	-1.024	
IMD_Quintile=5	.287	.0484	5.927	<.001	.192	.382	
IMD_Quintile=4	.199	.0459	4.327	<.001	.109	.289	
IMD_Quintile=3	.196	.0454	4.319	<.001	.107	.285	
IMD_Quintile=2	.101	.0446	2.257	.024	.013	.188	
IMD_Quintile=1	0 ^b	.	.	.	.	.
Age_at_ref2	.019	.0013	14.587	.000	.017	.022	
Gender2=2	.103	.0416	2.475	.013	.021	.185	

Gender2=1	0 ^b	.	.	.	.	.	.
Pathways_5=6	-.160	.0859	-1.865	.062	-.329	.008	.
Pathways_5=5	-.141	.0953	-1.474	.140	-.327	.046	.
Pathways_5=3	.087	.1090	.801	.423	-.126	.301	.
Pathways_5=2	.248	.0830	2.985	.003	.085	.411	.
Pathways_5=1	0 ^b	.	.	.	.	.	.
Cohort_two_groups=2	-.412	.1492	-2.764	.006	-.705	-.120	.
Cohort_two_groups=1	0 ^b	.	.	.	.	.	.
ref_recode2=4	-.009	.0749	-.116	.908	-.156	.138	.
ref_recode2=3	.070	.0769	.905	.366	-.081	.220	.
ref_recode2=2	.049	.0706	.694	.488	-.089	.187	.
ref_recode2=1	0 ^b	.	.	.	.	.	.

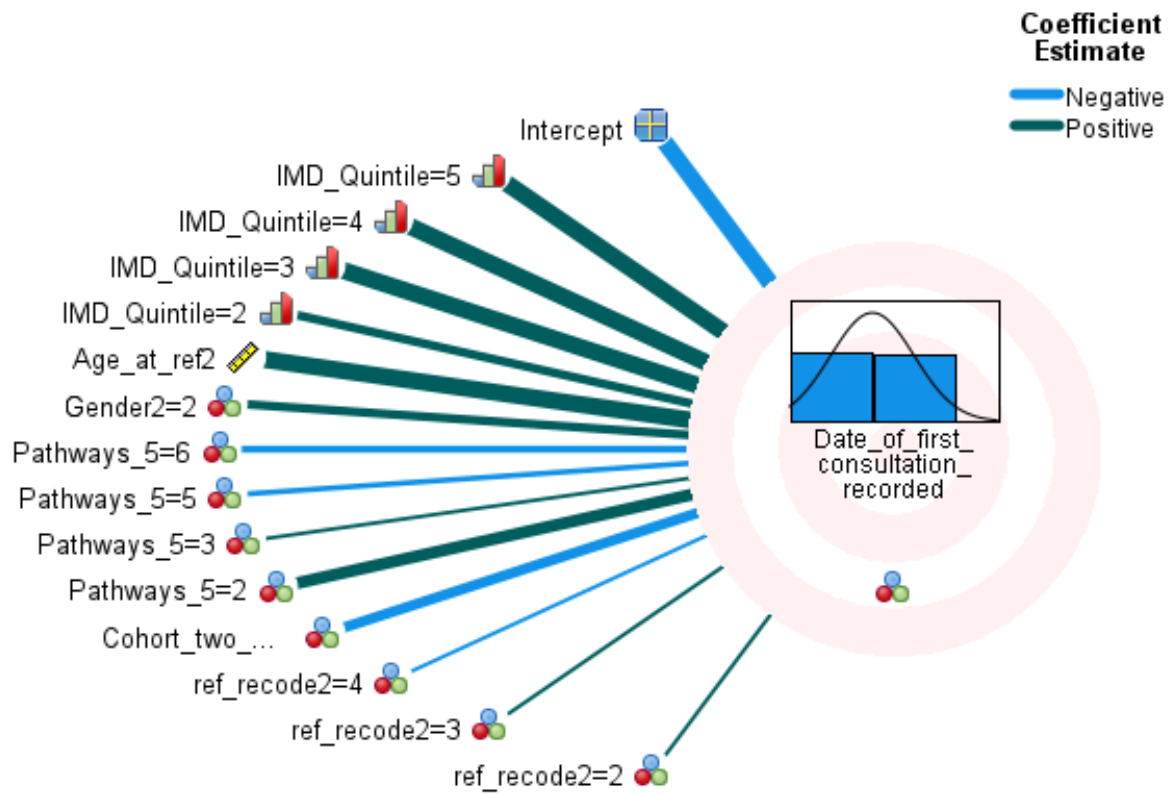
Probability distribution: Binomial

Link function: Logit^a

a. Target: Date_of_first_consultation_recorded

b. This coefficient is set to zero because it is redundant.

Fixed Coefficients



Random Effect Covariances

Random Effect Block	Intercept	IMD_ Quintile=5	IMD_ Quintile=4	IMD_ Quintile=3	IMD_ Quintile=2
Intercept	.126	.000	.000	.000	.00
IMD_ Quintile=5	.000	.003	.000	.000	.00

IMD_Quintile=4	.000	.000	.003	.000	.000
IMD_Quintile=3	.000	.000	.000	.003	.000
IMD_Quintile=2	.000	.000	.000	.000	.000
IMD_Quintile=1	.000	.000	.000	.000	.000
Age_at_ref2	.000	.000	.000	.000	.000
Gender2=2	.000	.000	.000	.000	.000
Gender2=1	.000	.000	.000	.000	.000
Pathways_5=6	.000	.000	.000	.000	.000
Pathways_5=5	.000	.000	.000	.000	.000

Pathways_5=3	.000	.000	.000	.000	.000
Pathways_5=2	.000	.000	.000	.000	.000
Pathways_5=1	.000	.000	.000	.000	.000
Cohort_two_groups=2	.000	.000	.000	.000	.000
Cohort_two_groups=1	.000	.000	.000	.000	.000
ref_recode2=4	.000	.000	.000	.000	.000
ref_recode2=3	.000	.000	.000	.000	.000
ref_recode2=2	.000	.000	.000	.000	.000
ref_recode2=1	.000	.000	.000	.000	.000

Covariance Parameters

Covariance Parameters Summary

Covariance Parameters	Residual Effect	0
	Random Effects	7
Design Matrix Columns	Fixed Effects	20
	Random Effects	20 ^a
Common Subjects		22

Common subjects are based on the subject specifications for the residual and random effects and are used to chunk the data for better performance.

a. This is the number of columns per common subject.

Residual Effect

Residual Effect	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower	Upper
Variance	1.000	.	.	.	.	.

Covariance Structure: Scaled Identity

Subject Specification: (None)

Random Effect

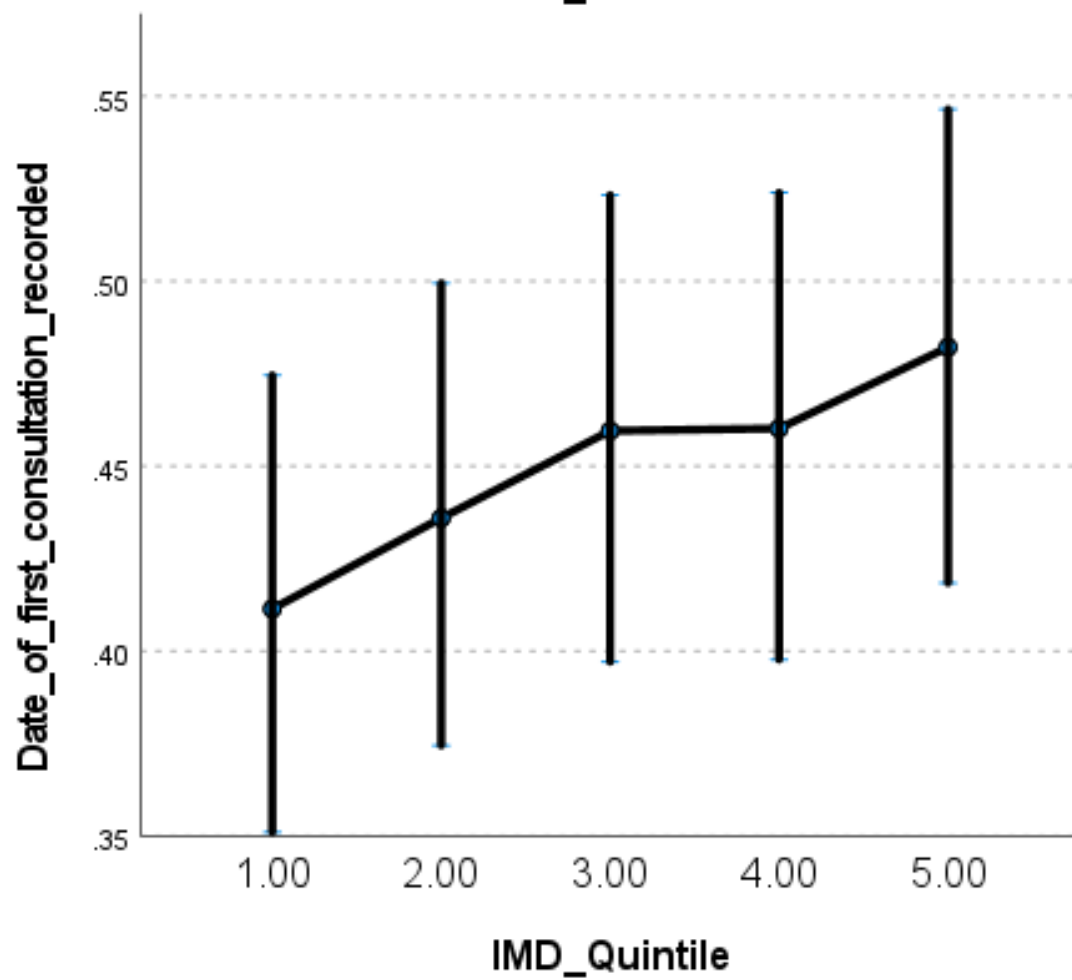
Random Effect Covariance	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower	Upper
Var(Intercept)	.126	.098	1.278	.201	.027	.582
Var(IMD_Quintile)	.003	.003	1.007	.314	.000	.022
Var(Age_at_ref2)	2.304E-5	1.122E-5	2.054	.040	8.871E-6	5.983E-5
Var(Gender2)	.011	.006	1.923	.054	.004	.031
Var(Pathways_5)	.057	.015	3.827	<.001	.034	.095
Var(Cohort_two_groups)	.197	.078	2.529	.011	.091	.427
Var(ref_recode2)	.042	.011	3.847	<.001	.025	.069

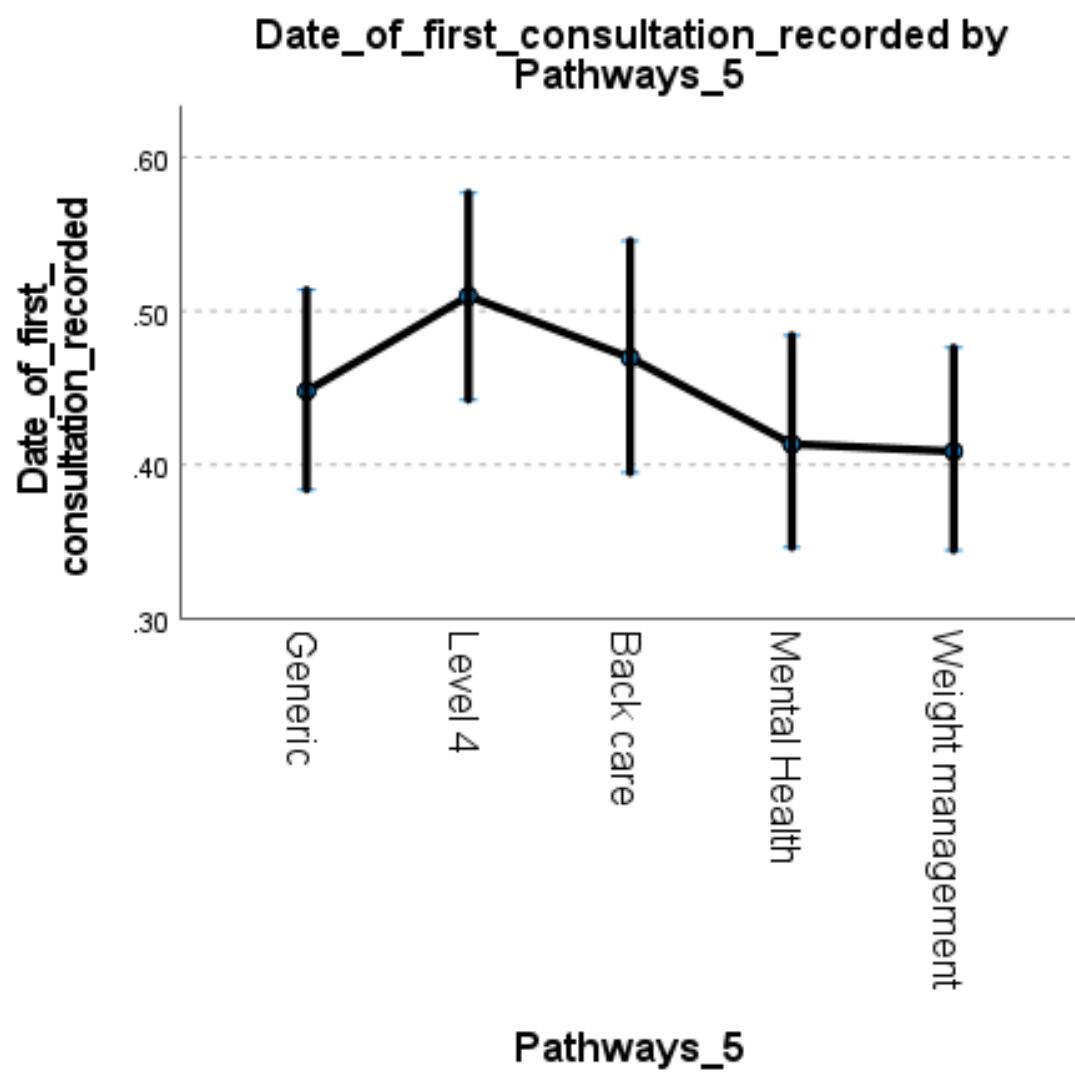
Covariance Structure: Variance components

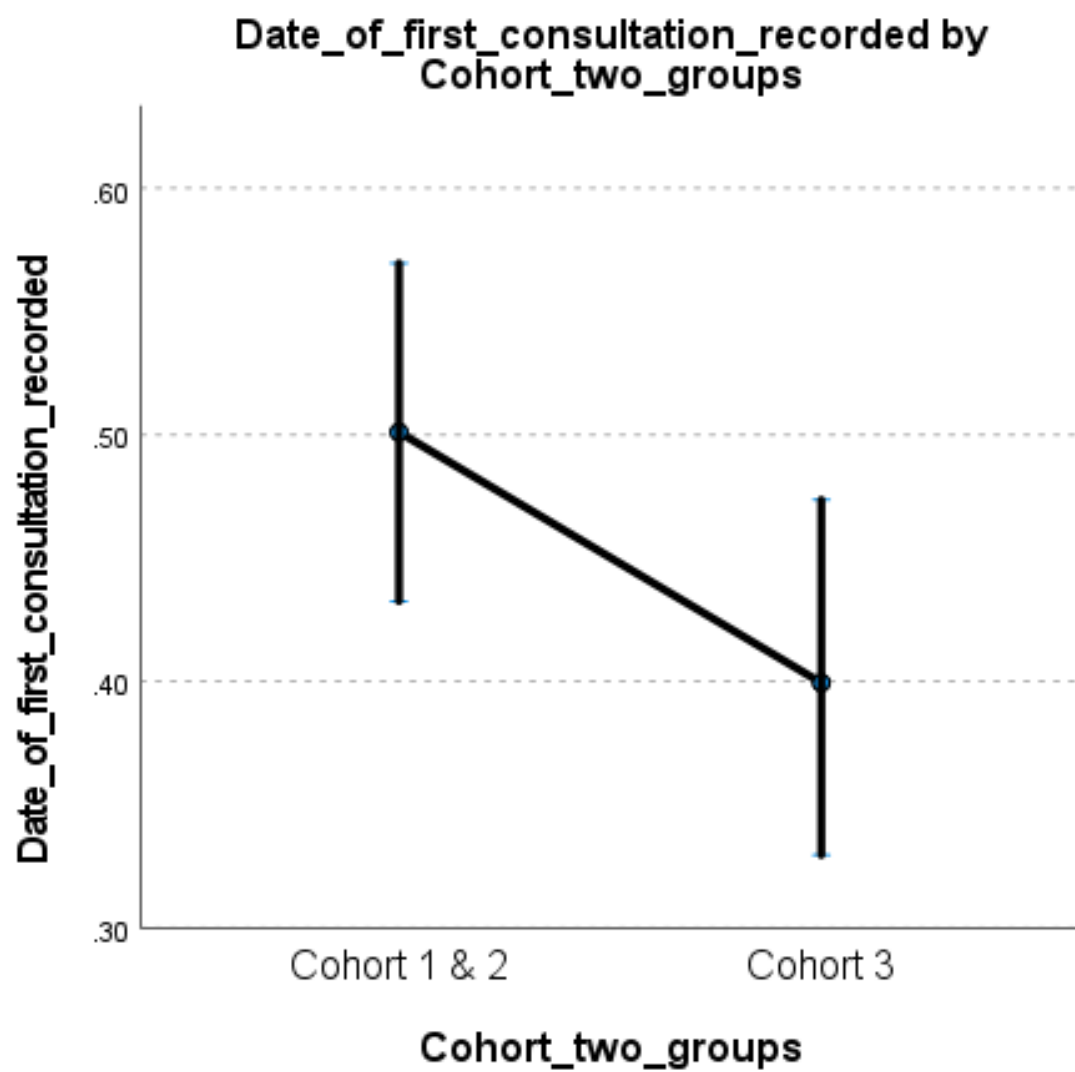
Subject Specification: Local_Authority

Estimated Marginal Means for Top Significant Fixed Effects

Date_of_first_consultation_recorded by
IMD_Quintile







Date_of_first_consultation_recorded by Gender2

