

Frequencies

Notes

Output Created		11-OCT-2023 18:05:57
Comments		
Input	Data	S:\Quant\data cleaning & analysis\V2\KNIV3\Analysis\FINAL Analysis 27.06.2022 - used in paper\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	Date_of_first_exercise_recorded_ USE_ME = 1 & (Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	13007
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Date_of_16wk_consultation_recorded_USE_ME /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.19
	Elapsed Time	00:00:00.19

Statistics

Date_of_16wk_consultation_recorded_U

SE_ME

N	Valid	13007
	Missing	0

Date_of_16wk_consultation_recorded_USE_ME

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	4772	36.7	36.7	36.7
	Yes	8235	63.3	63.3	100.0
	Total	13007	100.0	100.0	

Frequencies

Notes

Output Created		11-OCT-2023 18:05:58
Comments		
Input	Data	S:\Quant\data cleaning & analysis\V2\KN\V3\Analysis\FINAL Analysis 27.06.2022 - used in paper\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	Date_of_first_exercise_recorded_USE_ME = 1 & Cohort_Group = 1 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	8291
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Date_of_16wk_consultation_recorded_USE_ME /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.17
	Elapsed Time	00:00:00.17

Statistics

Date_of_16wk_consultation_recorded_U

SE_ME

N	Valid	8291
	Missing	0

Date_of_16wk_consultation_recorded_USE_ME

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	3244	39.1	39.1	39.1
	Yes	5047	60.9	60.9	100.0
	Total	8291	100.0	100.0	

Frequencies

Notes

Output Created		11-OCT-2023 18:05:58
Comments		
Input	Data	S:\Quant\data cleaning & analysis\V2\KNIV3\Analysis\FINAL Analysis 27.06.2022 - used in paper\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	Date_of_first_exercise_recorded_USE_ME = 1 & Cohort_Group = 2 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	3902
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Cases Used		Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Date_of_16wk_consultation_recorded_USE_ME /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.20
	Elapsed Time	00:00:00.19

Statistics

Date_of_16wk_consultation_recorded_U

SE_ME

N	Valid	3902
	Missing	0

Date_of_16wk_consultation_recorded_USE_ME

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1222	31.3	31.3	31.3
	Yes	2680	68.7	68.7	100.0
	Total	3902	100.0	100.0	

Frequencies

Notes

Output Created		11-OCT-2023 18:05:59
Comments		
Input	Data	S:\Quant\data cleaning & analysis\V2\KN\V3\Analysis\FINAL Analysis 27.06.2022 - used in paper\NERS_NS.sav
	Active Dataset	DataSet1

	Filter	Date_of_first_exercise_recorded_USE_ME = 1 & Cohort_Group = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	814
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Date_of_16wk_consultation_recorded_USE_ME /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.19
	Elapsed Time	00:00:00.18

Statistics

Date_of_16wk_consultation_recorded_USE_ME

N	Valid	814
	Missing	0

Date_of_16wk_consultation_recorded_USE_ME

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	306	37.6	37.6	37.6
	Yes	508	62.4	62.4	100.0
	Total	814	100.0	100.0	

Frequencies

Notes

Output Created		28-JUN-2022 23:31:51
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analysis is 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) & (Date_of_first_exercise_recorded_ USE_ME = 1) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	13008
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Cohort_Group /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.17
	Elapsed Time	00:00:00.17

Statistics

Cohort_Group

N	Valid	13008
	Missing	0

Cohort_Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cohort 1	8291	63.7	63.7	63.7
	Cohort 2	3903	30.0	30.0	93.7
	Cohort 3	814	6.3	6.3	100.0
	Total	13008	100.0	100.0	

```

* Encoding: UTF-8.

*Select those who in correct status groups and who attended first exercise session.
USE ALL.
COMPUTE filter_$=((Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) &
  (Date_of_first_exercise_recorded_USE_ME = 1)).
VARIABLE LABELS filter_$ '(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) &
  '+
  '(Date_of_first_exercise_recorded_USE_ME = 1) (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.

FREQUENCIES VARIABLES=Cohort_Group
  /ORDER=ANALYSIS.

*Level 1 predictors: IMD_Quintile, Age_at_ref2, Gender2, and Pathways_5.
*Level 2 predictor: Local_Authority.

*First of all, run model where no level-one predictors; purpose is just to see whether
there is any evidence of clustering i.e. we allow intercepts to vary by LA.
*Generalized Linear Mixed Models.
GENLINMIXED
  /DATA_STRUCTURE SUBJECTS=Local_Authority
  /FIELDS TARGET=Date_of_16wk_consultation_recorded_USE_ME TRIALS=NONE OFFSET=NONE
  /TARGET_OPTIONS DISTRIBUTION=BINOMIAL LINK=LOGIT
  /FIXED USE_INTERCEPT=TRUE
  /RANDOM USE_INTERCEPT=TRUE SUBJECTS=Local_Authority
COVARIANCE_TYPE=VARIANCE_COMPONENTS
  SOLUTION=FALSE
  /BUILD_OPTIONS TARGET_CATEGORY_ORDER=DESCENDING INPUTS_CATEGORY_ORDER=DESCENDING
  MAX_ITERATIONS=100 CONFIDENCE_LEVEL=95 DF_METHOD=RESIDUAL COVB=MODEL
PCONVERGE=0.000001 (ABSOLUTE)
  SCORING=0 SINGULAR=0.000000000001
  /EMMEANS_OPTIONS SCALE=ORIGINAL PADJUST=LSD.

```

Generalized Linear Mixed Models

Notes

Output Created		28-JUN-2022 23:31:51
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analysis is 27.06.2022\NERS_NS.sav

Active Dataset	DataSet1
Filter	(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) & (Date_of_first_exercise_recorded_USE_ME = 1) (FILTER)
Weight	<none>
Split File	<none>
N of Rows in Working Data File	13008

Syntax		GENLINMIXED /DATA_STRUCTURE SUBJECTS=Local_Authority /FIELDS TARGET=Date_of_16wk_consultat ion_recorded_USE_ME TRIALS=NONE OFFSET=NONE /TARGET_OPTIONS DISTRIBUTION=BINOMIAL LINK=LOGIT /FIXED USE_INTERCEPT=TRUE /RANDOM USE_INTERCEPT=TRUE SUBJECTS=Local_Authority COVARIANCE_TYPE=VARIANCE _COMPONENTS SOLUTION=FALSE /BUILD_OPTIONS TARGET_CATEGORY_ORDER=D ESCENDING INPUTS_CATEGORY_ORDER=D ESCENDING 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.
Resources	Processor Time	00:00:03.84
	Elapsed Time	00:00:02.76

Case Processing Summary

	N	Percent
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Included	13008	100.0%
Excluded	0	0.0%
Total	13008	100.0%

Model Summary

Target	Date_of_16wk_consultation_recorded_USE_ME	
Probability Distribution	Binomial	
Link Function	Logit	
Information Criterion	Akaike Corrected	58333.516
	Bayesian	58340.989

Information criteria are based on the -2 log likelihood (58331.516) and are used to compare models. Models with smaller information criterion values fit better.

Data Structure^a

	Subjects	Target
	Local_Authority	Date_of_16wk_consultation_recorded_USE_ME
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_16wk_consultation_recorded_USE_ME

Classification
Overall Percent Correct = 66.2%^a

Observed		Predicted	
		Yes	No
Yes	Count	6966	1269
	% within Observed	84.6%	15.4%
No	Count	3126	1647
	% within Observed	65.5%	34.5%

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects^a

Source	F	df1	df2	Sig.
Corrected Model ^b	.	0	.	.

Probability distribution: Binomial

Link function: Logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

b. The fixed effects include intercept only.

Fixed Coefficients^a

Model Term	Coefficient	Std. Error	t	Sig.	95% Confidence Interval		Exp(Coefficient)
					Lower	Upper	
Intercept	.623	.1782	3.495	<.001	.274	.972	1.86

Probability distribution: Binomial

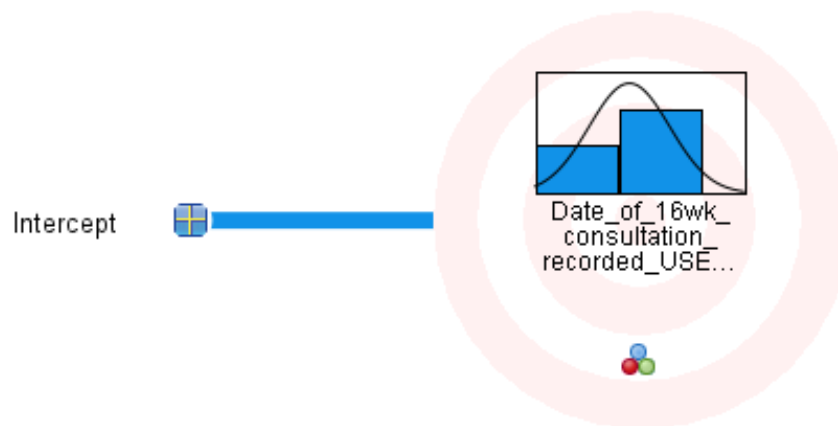
Link function: Logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Coefficients

Coefficient
Estimate

Positive



Random Effect Covariances

Random Effect Block 1

Random Effect Block	Intercept
Intercept	.689

Covariance Structure: Variance
components

Subject Specification: Local_Authority

Covariance Parameters

Covariance Parameters Summary

Covariance Parameters	Residual Effect	0
	Random Effects	1
Design Matrix Columns	Fixed Effects	1
	Random Effects	1 ^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)	.689	.217	3.171	.002	.371	1.278

Covariance Structure: Variance components

Subject Specification: Local_Authority

*Run single-level model first - results should be simialr to log reg run already.

*Generalized Linear Mixed Models.

GENLINMIXED

/FIELDS TARGET=Date_of_16wk_consultation_recorded_USE_ME TRIALS=NONE OFFSET=NONE

/TARGET_OPTIONS DISTRIBUTION=MULTINOMIAL LINK=LOGIT

/FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group

USE_INTERCEPT=TRUE

/BUILD_OPTIONS TARGET_CATEGORY_ORDER=DESCENDING INPUTS_CATEGORY_ORDER=DESCENDING

MAX_ITERATIONS=100 CONFIDENCE_LEVEL=95 DF_METHOD=RESIDUAL COVB=MODEL

PCONVERGE=0.000001 (ABSOLUTE)

```

SCORING=0 SINGULAR=0.000000000001
/EMMEANS_OPTIONS SCALE=ORIGINAL PADJUST=LSD.

```

Generalized Linear Mixed Models

Notes

Output Created		28-JUN-2022 23:32:19
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analysis is 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) & (Date_of_first_exercise_recorded_ USE_ME = 1) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	13008

Syntax		GENLINMIXED /FIELDS TARGET=Date_of_16wk_consultat ion_recorded_USE_ME TRIALS=NONE OFFSET=NONE /TARGET_OPTIONS DISTRIBUTION=MULTINOMIAL LINK=LOGIT /FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group USE_INTERCEPT=TRUE /BUILD_OPTIONS TARGET_CATEGORY_ORDER=D ESCENDING INPUTS_CATEGORY_ORDER=D ESCENDING 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.
Resources	Processor Time	00:00:03.62
	Elapsed Time	00:00:02.56

Warnings

glmm: One or more records are not used in the analysis because they have one or more fields with invalid or missing values.

Case Processing Summary

	N	Percent
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Included	12524	96.3%
Excluded	484	3.7%
Total	13008	100.0%

Model Summary

Target	Date_of_16wk_consultation_recorded_USE_ME	
Measurement Level	Nominal	
Probability Distribution	Multinomial	
Link Function	Generalized logit	
Information Criterion	Akaike Corrected	8731.112
	Bayesian	8827.743

Information criteria are based on the -2 log likelihood (8705.082) and are used to compare models. Models with smaller information criterion values fit better.

Classification

Overall Percent Correct = 63.8%^a

Observed		Predicted	
		Yes	No
Yes	Count	7591	317
	% within Observed	96.0%	4.0%
No	Count	4219	397
	% within Observed	91.4%	8.6%

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects^a

Source	F	df1	df2	Sig.
Corrected Model	25.364	12	12511	.000
IMD_Quintile	10.833	4	12511	<.001
Age_at_ref2	121.172	1	12511	.000
Gender2	.309	1	12511	.578
Pathways_5	10.182	4	12511	<.001
Cohort_Group	31.299	2	12511	<.001

Yes	Intercept	-.324	.09 13	- 3.55 3	<.0 01	- .50 3	- .14 5	.723	.604	.865
	IMD_Quintile=5	.283	.06 64	4.26 1	<.0 01	.15 3	.41 3	1.327	1.16 5	1.51 1
	IMD_Quintile=4	.037	.06 21	.596	.55 1	- .08 5	.15 9	1.038	.919	1.17 2
	IMD_Quintile=3	-.050	.06 14	- .808	.41 9	- .17 0	.07 1	.952	.844	1.07 3
	IMD_Quintile=2	-.104	.06 30	- 1.65 7	.09 8	- .22 8	.01 9	.901	.796	1.01 9
	IMD_Quintile=1	0 ^b	.	.	.	.	.	.	.	.
	Age_at_ref2	.014	.00 13	11.0 08	.00 0	.01 2	.01 7	1.015	1.01 2	1.01 7
	Gender2=2	-.022	.04 02	- .556	.57 8	- .10 1	.05 6	.978	.904	1.05 8
	Gender2=1	0 ^b	.	.	.	.	.	.	.	.
	Pathways_5=6	-.188	.05 79	- 3.25 3	.00 1	- .30 2	- .07 5	.828	.739	.928
	Pathways_5=5	-.157	.08 33	- 1.88 9	.05 9	- .32 1	.00 6	.854	.726	1.00 6
	Pathways_5=3	-.362	.09 78	- 3.69 9	<.0 01	- .55 4	- .17 0	.696	.575	.844
	Pathways_5=2	-.262	.05 06	- 5.17 6	<.0 01	- .36 1	- .16 3	.769	.697	.850
	Pathways_5=1	0 ^b	.	.	.	.	.	.	.	.
	Cohort_Group=3	.076	.08 05	.945	.34 5	- .08 2	.23 4	1.079	.921	1.26 4

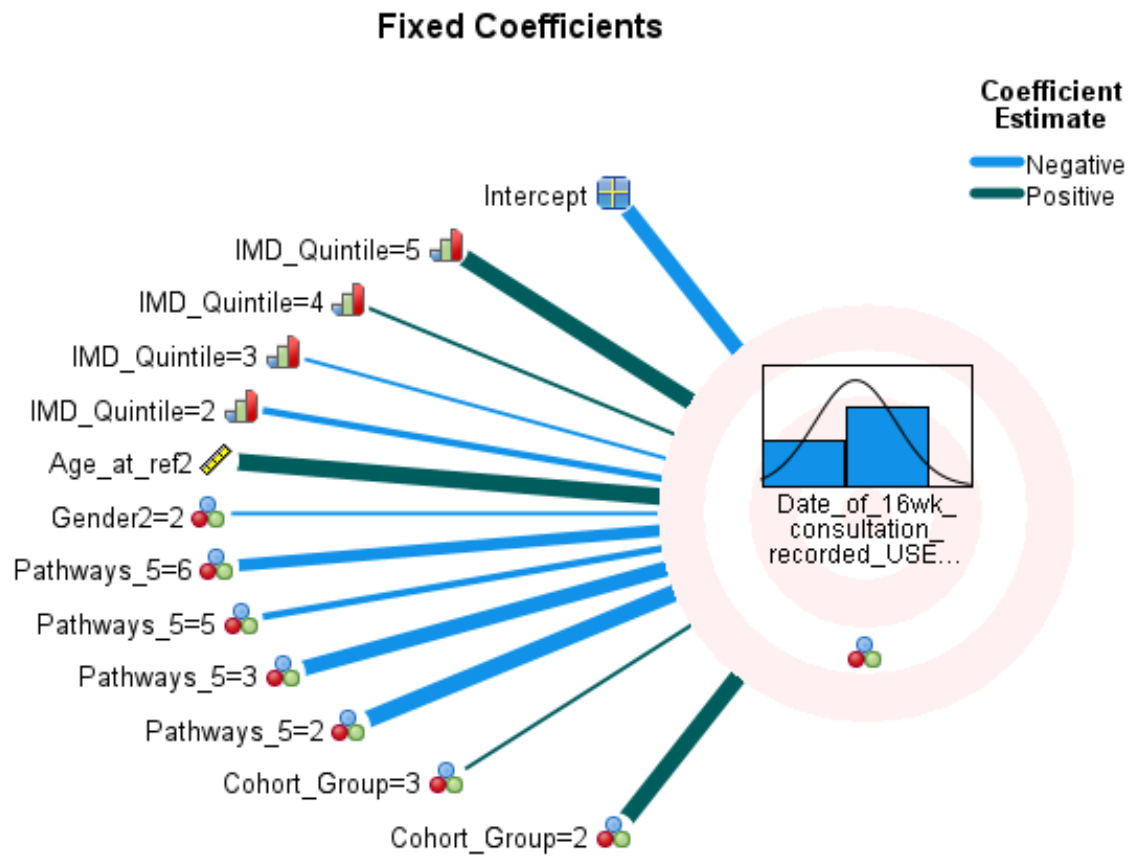
	Cohort_Group=2	.342	.0433	7.905	<.001	.257	.427	1.408	1.293	1.533
	Cohort_Group=1	0 ^b	.	.	.	.	.	.	.	.

Probability distribution: Multinomial

Link function: Generalized logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

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



Covariance Parameters

Covariance Parameters Summary

Covariance Parameters	Residual Effect	1
	Random Effects	0
Design Matrix Columns	Fixed Effects	17
	Random Effects	0 ^a
Common Subjects		1

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	1.041	.000	.	.	1.041	1.041

Covariance Structure: Scaled Identity

Subject Specification: (None)

*In this model, I've added all of the predictors but just allowed the intercept to vary.

*NB I've not included the LHB variable as this seems non-sensical as it is coded using the LA variable.

*Generalized Linear Mixed Models.

GENLINMIXED

/DATA_STRUCTURE SUBJECTS=Local_Authority

/FIELDS TARGET=Date_of_16wk_consultation_recorded USE_ME TRIALS=NONE OFFSET=NONE

/TARGET_OPTIONS DISTRIBUTION=MULTINOMIAL LINK=LOGIT

/FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group

USE_INTERCEPT=TRUE

/RANDOM USE_INTERCEPT=TRUE SUBJECTS=Local_Authority

COVARIANCE_TYPE=VARIANCE_COMPONENTS

SOLUTION=FALSE

/BUILD_OPTIONS TARGET_CATEGORY_ORDER=DESCENDING INPUTS_CATEGORY_ORDER=DESCENDING

MAX_ITERATIONS=100 CONFIDENCE_LEVEL=95 DF_METHOD=RESIDUAL COVB=MODEL

PCONVERGE=0.000001 (ABSOLUTE)

SCORING=0 SINGULAR=0.000000000001

/EMMEANS_OPTIONS SCALE=ORIGINAL PADJUST=LSD.

Generalized Linear Mixed Models

Notes

Output Created		28-JUN-2022 23:32:49
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analysis 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) & (Date_of_first_exercise_recorded_USE_ME = 1) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	13008

Syntax		GENLINMIXED /DATA_STRUCTURE SUBJECTS=Local_Authority /FIELDS TARGET=Date_of_16wk_consultat ion_recorded_USE_ME TRIALS=NONE OFFSET=NONE /TARGET_OPTIONS DISTRIBUTION=MULTINOMIAL LINK=LOGIT /FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group USE_INTERCEPT=TRUE /RANDOM USE_INTERCEPT=TRUE SUBJECTS=Local_Authority COVARIANCE_TYPE=VARIANCE _COMPONENTS SOLUTION=FALSE /BUILD_OPTIONS TARGET_CATEGORY_ORDER=D ESCENDING INPUTS_CATEGORY_ORDER=D ESCENDING 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.
Resources	Processor Time	00:00:07.09
	Elapsed Time	00:00:06.00

Warnings

glimm: One or more records are not used in the analysis because they have one or more fields with invalid or missing values.

Case Processing Summary

	N	Percent
Included	12524	96.3%
Excluded	484	3.7%
Total	13008	100.0%

Model Summary

Model Summary		
Target		Date_of_16wk_consultation_rec orded_USE_ME
Measurement Level		Nominal
Probability Distribution		Multinomial
Link Function		Generalized logit
Information Criterion	Akaike Corrected	56466.545
	Bayesian	56473.979

Information criteria are based on the -2 log likelihood (56464.544) and are used to compare models. Models with smaller information criterion values fit better.

Data Structure^a

[illegible]

	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_16wk_consultation_recorded_USE_ME

Classification

Overall Percent Correct = 67.6%^a

Observed		Predicted	
		Yes	No
Yes	Count	6633	1275
	% within Observed	83.9%	16.1%
No	Count	2781	1835
	% within Observed	60.2%	39.8%

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects^a

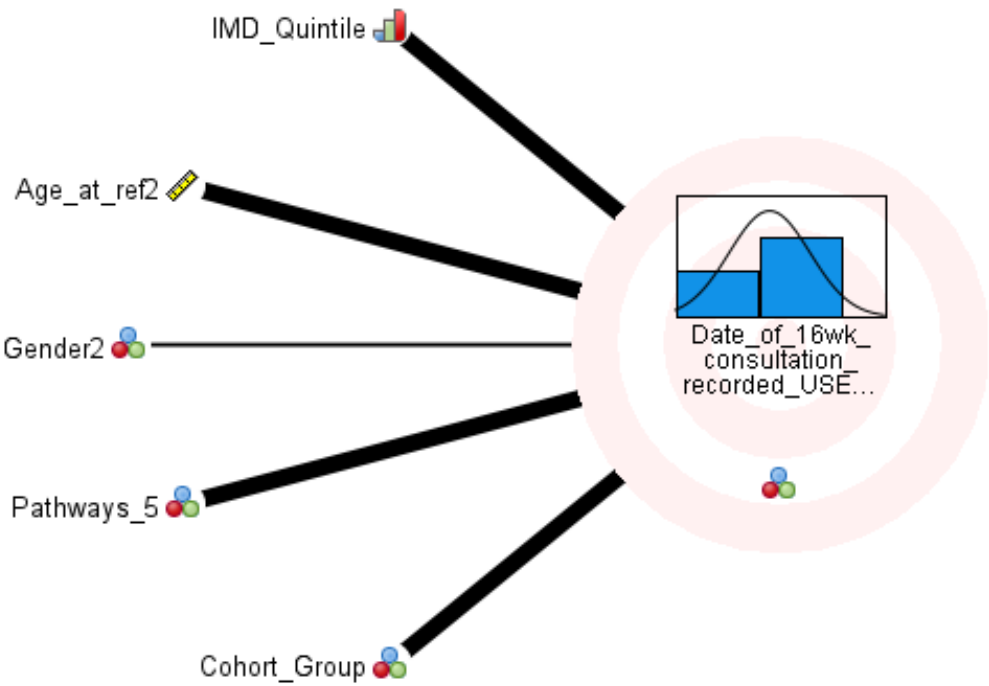
Source	F	df1	df2	Sig.
Corrected Model	27.107	12	12511	.000
IMD_Quintile	7.817	4	12511	<.001
Age_at_ref2	155.274	1	12511	.000
Gender2	.533	1	12511	.465
Pathways_5	6.403	4	12511	<.001
Cohort_Group	15.925	2	12511	<.001

Probability distribution: Multinomial

Link function: Generalized logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects



Fixed Coefficients^a

		Coefficient	Std. Error	t	Sig.	95% Confidence Interval		Exp(Coefficient)	95% Confidence Interval for Exp(Coefficient)	
Date_of_16wk_consultation_recorded_USE_ME	Model Term					Lower	Upper		Lower	Upper
Yes	Intercept	-.595	.2006	-2.965	.003	-.988	-.202	.552	.372	.817
	IMD_Quintile=5	.357	.0723	4.941	<.001	.216	.499	1.430	1.241	1.647

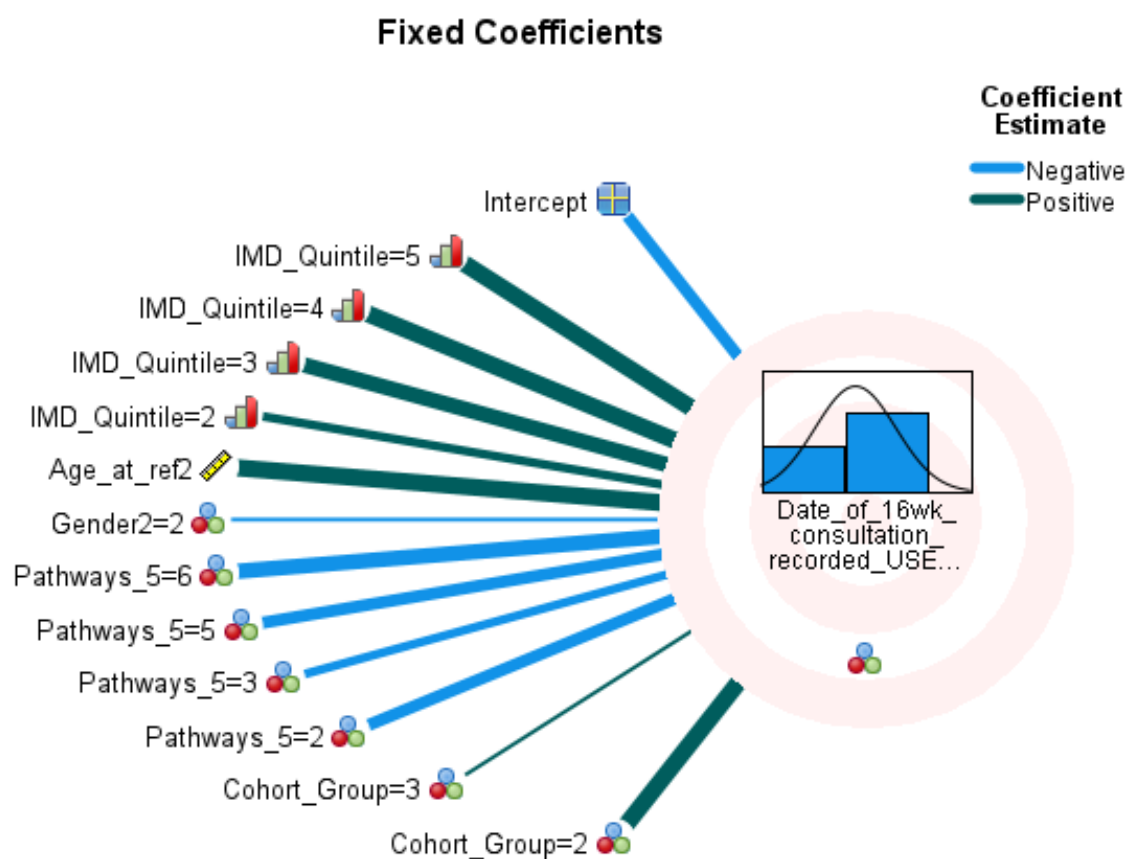
IMD_Quintile=4	.305	.0682	4.477	<.001	.172	.439	1.357	1.187	1.551
IMD_Quintile=3	.259	.0670	3.870	<.001	.128	.391	1.296	1.136	1.478
IMD_Quintile=2	.156	.0669	2.338	.019	.025	.287	1.169	1.026	1.333
IMD_Quintile=1	0 ^b	.	.	.	.	.	.	.	.
Age_at_ref2	.017	.0014	12.461	.000	.015	.020	1.018	1.015	1.020
Gender2=2	-.031	.0418	-.730	.465	-.113	.051	.970	.894	1.053
Gender2=1	0 ^b	.	.	.	.	.	.	.	.
Pathways_5=6	-.222	.0618	-3.597	<.001	-.344	-.101	.801	.709	.904
Pathways_5=5	-.281	.0895	-3.140	.002	-.456	-.106	.755	.634	.900
Pathways_5=3	-.235	.1020	-2.304	.021	-.435	-.035	.791	.647	.966
Pathways_5=2	-.153	.0529	-2.886	.004	-.256	-.049	.858	.774	.952
Pathways_5=1	0 ^b	.	.	.	.	.	.	.	.
Cohort_Group=3	.103	.0850	1.210	.226	-.064	.269	1.108	.938	1.309
Cohort_Group=2	.260	.0462	5.635	<.001	.170	.351	1.297	1.185	1.420
Cohort_Group=1	0 ^b	.	.	.	.	.	.	.	.

Probability distribution: Multinomial

Link function: Generalized logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

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



Random Effect Covariances

Random Effect Block 1

Date_of_16wk_consultation_recor

ded_USE_ME	Random Effect Block	Intercept
Yes	Intercept	.673

Covariance Structure: Variance components

Subject Specification: Local_Authority

Covariance Parameters

Covariance Parameters Summary

Covariance Parameters	Residual Effect	0
	Random Effects	1
Design Matrix Columns	Fixed Effects	17
	Random Effects	1 ^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

Date_of_16wk_consultation_recor		Random Effect			
ded_USE_ME	Random Effect Covariance	Estimate	Std. Error	Z	Sig.
Yes	Var(Intercept)	.673	.212	3.169	.002

Covariance Structure: Variance components

Subject Specification: Local_Authority

*This is the same model but with slopes also allowed to vary.

GENLINMIXED

```

/ DATA_STRUCTURE SUBJECTS=Local_Authority
/ FIELDS TARGET=Date_of_16wk_consultation_recorded_USE_ME TRIALS=NONE OFFSET=NONE
/ TARGET_OPTIONS DISTRIBUTION=BINOMIAL LINK=LOGIT
/ FIXED EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group
USE_INTERCEPT=TRUE

```

```

/RANDOM EFFECTS=IMD_Quintile Age_at_ref2 Gender2 Pathways_5 Cohort_Group
USE_INTERCEPT=TRUE
SUBJECTS=Local_Authority COVARIANCE_TYPE=VARIANCE_COMPONENTS SOLUTION=FALSE
/BUILD_OPTIONS TARGET_CATEGORY_ORDER=DESCENDING INPUTS_CATEGORY_ORDER=DESCENDING
MAX_ITERATIONS=100 CONFIDENCE_LEVEL=95 DF_METHOD=RESIDUAL COVB=MODEL
PCONVERGE=0.000001 (ABSOLUTE)
SCORING=0 SINGULAR=0.000000000001
/EMMEANS_OPTIONS SCALE=ORIGINAL PADJUST=LSD.

```

Generalized Linear Mixed Models

Notes

Output Created		28-JUN-2022 23:33:33
Comments		
Input	Data	S:\Quant\data cleaning\V2\KN\V3\Analysis\Analys is 27.06.2022\NERS_NS.sav
	Active Dataset	DataSet1
	Filter	(Cohort_Group = 1 | Cohort_Group = 2 | Cohort_Group = 3) & (Date_of_first_exercise_recorded_ USE_ME = 1) (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	13008

Syntax

```
GENLINMIXED
  /DATA_STRUCTURE
SUBJECTS=Local_Authority
  /FIELDS
TARGET=Date_of_16wk_consultat
ion_recorded_USE_ME
TRIALS=NONE OFFSET=NONE
  /TARGET_OPTIONS
DISTRIBUTION=BINOMIAL
LINK=LOGIT
  /FIXED EFFECTS=IMD_Quintile
Age_at_ref2 Gender2 Pathways_5
Cohort_Group
USE_INTERCEPT=TRUE
  /RANDOM
EFFECTS=IMD_Quintile
Age_at_ref2 Gender2 Pathways_5
Cohort_Group
USE_INTERCEPT=TRUE
  SUBJECTS=Local_Authority
COVARIANCE_TYPE=VARIANCE
_COMPONENTS
SOLUTION=FALSE
  /BUILD_OPTIONS
TARGET_CATEGORY_ORDER=D
ESCENDING
INPUTS_CATEGORY_ORDER=D
ESCENDING
  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.
```

Resources

Processor Time

00:00:06.36

Elapsed Time	00:00:05.96
--------------	-------------

Warnings

glmm: One or more records are not used in the analysis because they have one or more fields with invalid or missing values.

glmm: Valid values for events (target) and trials variables are non-negative and positive integers respectively, and the number of trials cannot be less than the number of events.

Case Processing Summary

	N	Percent
Included	12524	96.3%
Excluded	484	3.7%
Total	13008	100.0%

Model Summary

Target	Date_of_16wk_consultation_rec orded_USE_ME
Probability Distribution	Binomial
Link Function	Logit
Information Criterion	<u>Akaike Corrected</u> 58411.264
	Bayesian 58455.863

Information criteria are based on the -2 log likelihood (58399.257) and are used to compare models. Models with smaller information criterion values fit better.

Data Structure^a

	Subjects	Target
	Local_Authority	Date_of_16wk_con sultation_recorded_ USE_ME
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_16wk_consultation_recorded_USE_ME

Classification
Overall Percent Correct = 71.4%^a

Observed		Predicted	
		Yes	No
Yes	Count	6663	1245
	% within Observed	84.3%	15.7%
No	Count	2332	2284
	% within Observed	50.5%	49.5%

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects^a

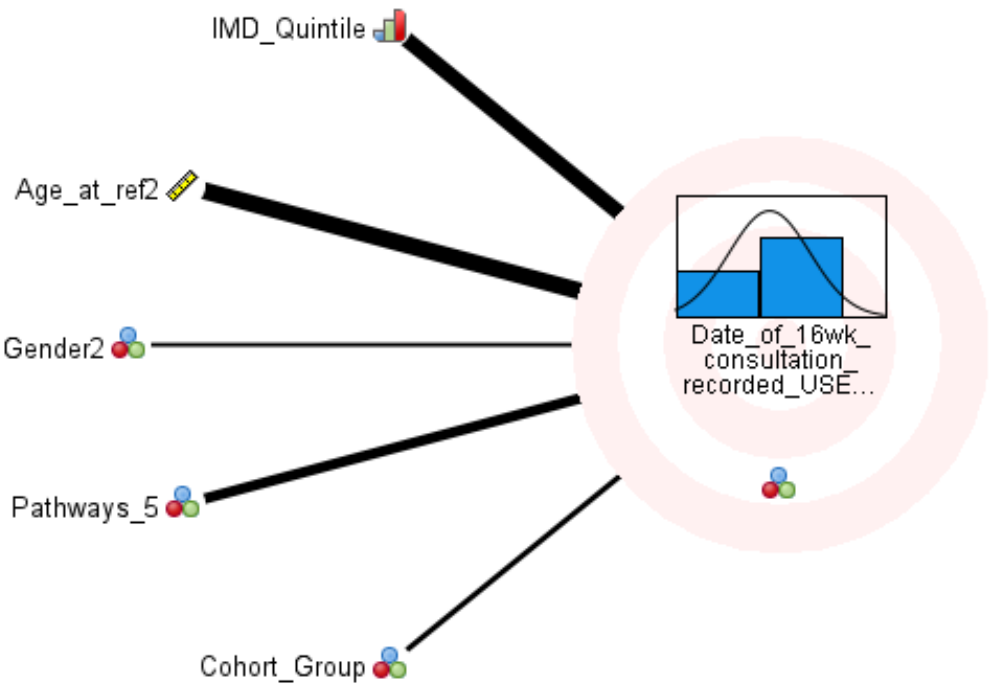
Source	F	df1	df2	Sig.
Corrected Model	11.810	12	12511	.000
IMD_Quintile	5.317	4	12511	<.001
Age_at_ref2	81.503	1	12511	.000
Gender2	1.129	1	12511	.288
Pathways_5	3.375	4	12511	.009
Cohort_Group	1.665	2	12511	.189

Probability distribution: Binomial

Link function: Logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

Fixed Effects



Fixed Coefficients^a

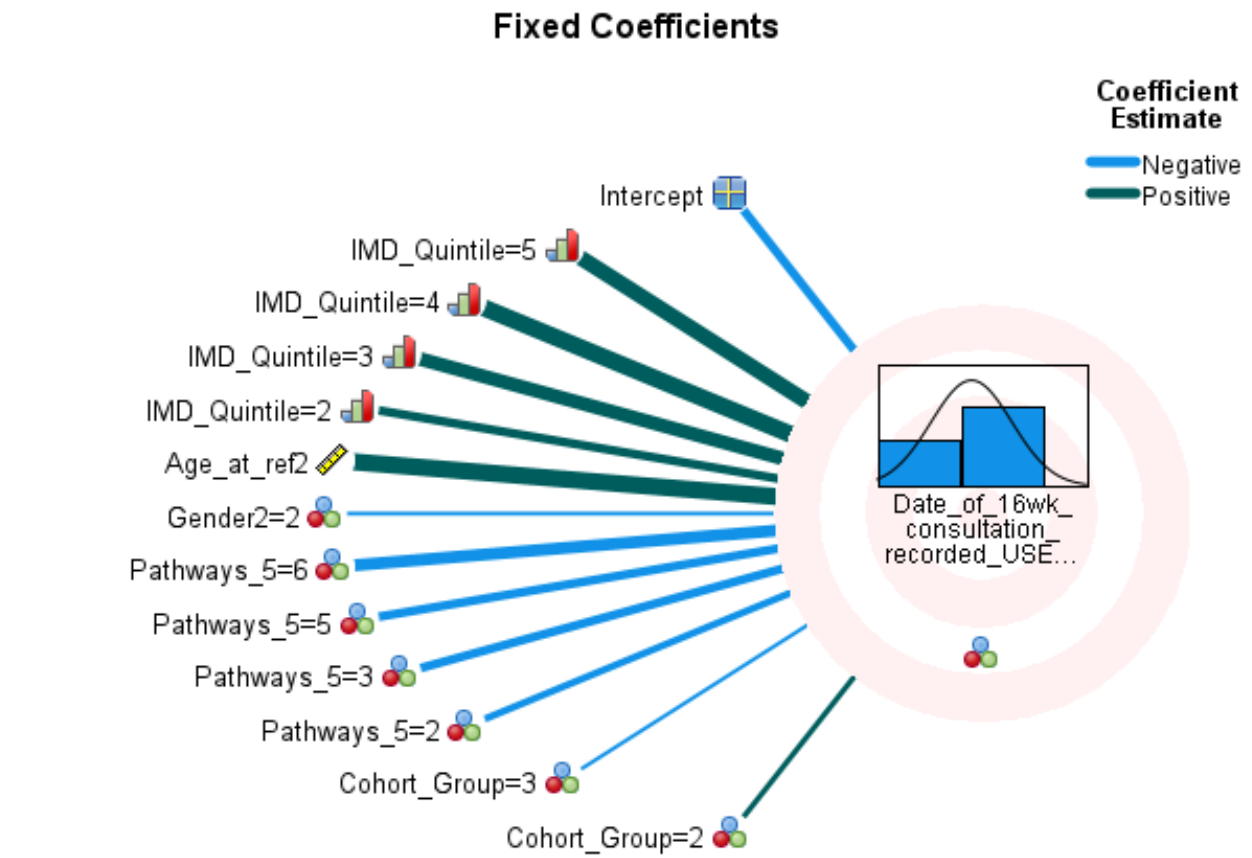
Model Term	Coefficient	Std. Error	t	Sig.	95% Confidence Interval		Exp(Coefficient)	95% Confidence Interval for Exp(Coefficient)	
					Lower	Upper		Lower	Upper
Intercept	-.626	.2828	-2.213	.027	-1.180	-.072	.535	.307	.931
IMD_Quintile=5	.331	.0884	3.746	<.001	.158	.505	1.393	1.171	1.656
IMD_Quintile=4	.335	.0839	3.989	<.001	.170	.499	1.398	1.186	1.647
IMD_Quintile=3	.274	.0828	3.310	<.001	.112	.436	1.315	1.118	1.547
IMD_Quintile=2	.166	.0824	2.019	.043	.005	.328	1.181	1.005	1.388
IMD_Quintile=1	0 ^b	.	.	.	.	.	.	.	.
Age_at_ref2	.018	.0020	9.028	.000	.014	.022	1.018	1.014	1.022
Gender2=2	-.047	.0438	-1.062	.288	-.132	.039	.955	.876	1.040
Gender2=1	0 ^b	.	.	.	.	.	.	.	.
Pathways_5=6	-.324	.1034	-3.132	.002	-.526	-.121	.723	.591	.886
Pathways_5=5	-.321	.1251	-2.569	.010	-.566	-.076	.725	.568	.927
Pathways_5=3	-.278	.1408	-1.973	.049	-.554	-.002	.757	.575	.998
Pathways_5=2	-.173	.0950	-1.826	.068	-.360	.013	.841	.698	1.013
Pathways_5=1	0 ^b	.	.	.	.	.	.	.	.
Cohort_Group=3	-.115	.3121	-.368	.713	-.727	.497	.892	.484	1.644
Cohort_Group=2	.420	.2931	1.434	.152	-.154	.995	1.522	.857	2.704
Cohort_Group=1	0 ^b	.	.	.	.	.	.	.	.

Probability distribution: Binomial

Link function: Logit^a

a. Target: Date_of_16wk_consultation_recorded_USE_ME

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



Random Effect Covariances

Random Effect Block	Intercept	IMD_Quintile=5	IMD_Quintile=4	IMD_Quintile=3	IMD_Quintile=2
Intercept	.552	.000	.000	.000	.000
IMD_Quintile=5	.000	.018	.000	.000	.000
IMD_Quintile=4	.000	.000	.018	.000	.000
IMD_Quintile=3	.000	.000	.000	.018	.000
IMD_Quintile=2	.000	.000	.000	.000	.018
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_Group=3	.000	.000	.000	.000	.000
Cohort_Group=2	.000	.000	.000	.000	.000
Cohort_Group=1	.000	.000	.000	.000	.000

Covariance Structure: Variance components

Subject Specification: Local_Authority

Covariance Parameters

Covariance Parameters Summary

Covariance Parameters	Residual Effect	0
	Random Effects	6
Design Matrix Columns	Fixed Effects	17
	Random Effects	17 ^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)

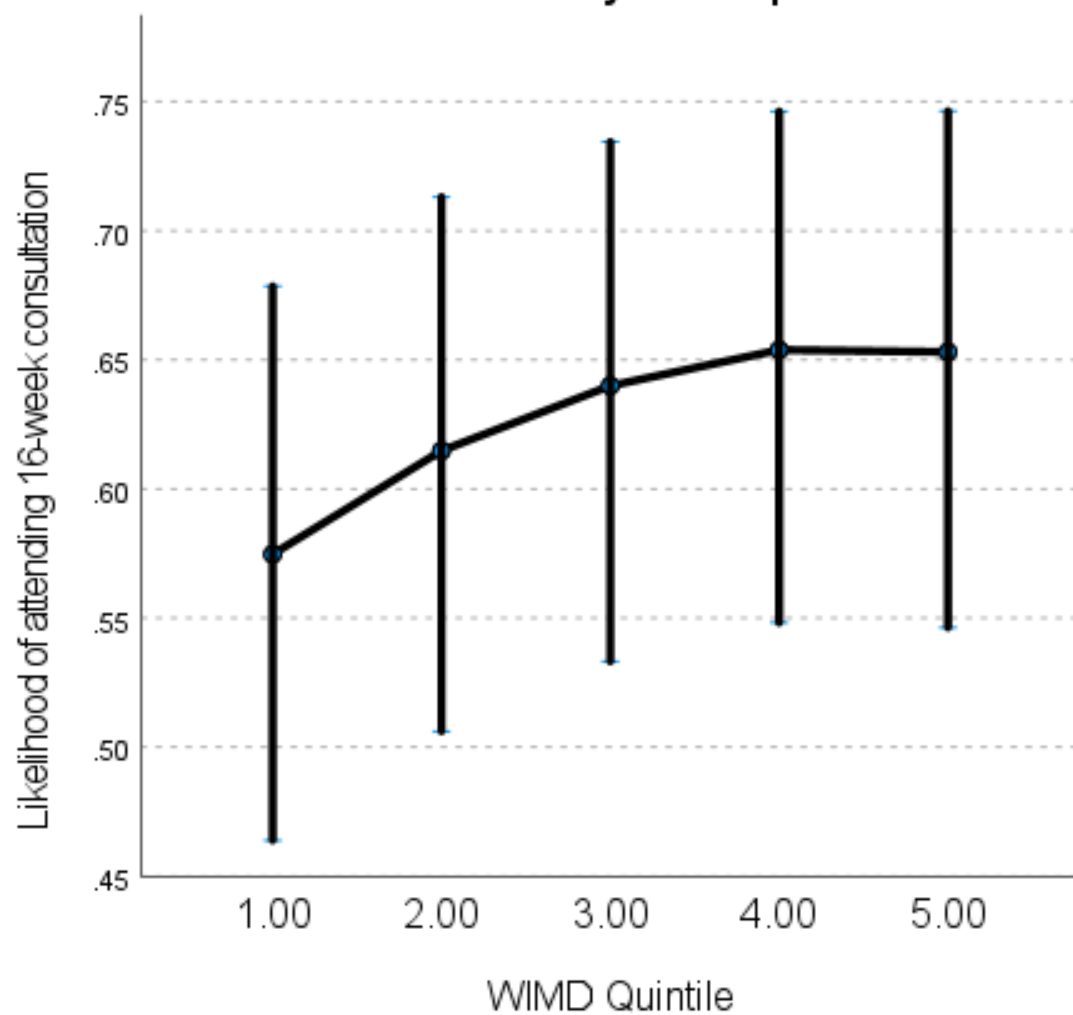
Random Effect						
Random Effect Covariance	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower	Upper
Var(Intercept)	.552	.315	1.754	.079	.181	1.6
Var(IMD_Quintile)	.018	.011	1.590	.112	.005	.0
Var(Age_at_ref2)	3.800E-5	2.331E-5	1.630	.103	1.141E-5	.0
Var(Gender2)	.000	.006	.045	.964	2.792E-23	28487839679248
						.0
Var(Pathways_5)	.060	.022	2.765	.006	.030	.1
Var(Cohort_Group)	.884	.227	3.887	<.001	.534	1.4

Covariance Structure: Variance components

Subject Specification: Local_Authority

Estimated Marginal Means for Top Significant Fixed Effects

Adherence 2 by WIMD quintile



Adherence 2 by pathway

