

## Full model - main terms only

## The LOGISTIC Procedure

## Model Information

Data Set	WORK.TIMESINCEVAX	
Response Variable	breakthrough	breakthrough
Number of Response Levels	2	
Model	binary logit	
Optimization Technique	Fisher's scoring	

Number of Observations Read	3084648
Number of Observations Used	3084648

## Response Profile

Ordered Value	breakthrough	Total Frequency
1	1	29677
2	0	3054971

Probability modeled is breakthrough=1.

## Class Level Information

Class	Value	Design Variables	
gender_code	F	1	0
	M	0	1
	U	0	0
vaccination_code	Janssen	1	0
	Moderna	0	1
	Pfizer	0	0

### Model Convergence Status

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

### Model Fit Statistics

Criterion	Intercept	Intercept
	Only	and Covariates
AIC	334698.88	9549.493
SC	334711.82	9665.971
-2 Log L	334696.88	9531.493

## Full model - main terms only

## The LOGISTIC Procedure

## Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	325165.390	8	<.0001
Score	1679665.60	8	<.0001
Wald	3214.6038	8	<.0001

## Type 3 Analysis of Effects

Effect	DF	Wald Chi-Square	Pr > ChiSq
gender_code	2	2.9164	0.2327
vaccination_code	2	137.1142	<.0001
followup_time	1	3008.6617	<.0001
time_since_vax	1	3008.2678	<.0001
age	1	47.4954	<.0001
age*age	1	75.7164	<.0001

## Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-7.9145	0.5500	207.0352	<.0001
gender_code F	1	-0.6116	0.4435	1.9020	0.1679
gender_code M	1	-0.6834	0.4444	2.3642	0.1241
vaccination_code Janssen	1	1.0964	0.1529	51.4167	<.0001
vaccination_code Moderna	1	-0.7146	0.0856	69.6325	<.0001
followup_time	1	-4.3512	0.0793	3008.6617	<.0001
time_since_vax	1	131.8	2.4035	3008.2678	<.0001
age	1	0.0928	0.0135	47.4954	<.0001
age*age	1	-0.00112	0.000129	75.7164	<.0001

# Association of Predicted Probabilities and Observed Responses

Percent Concordant	99.7	Somers' D	0.995
Percent Discordant	0.3	Gamma	0.995
Percent Tied	0.0	Tau-a	0.019
Pairs	90662374367	c	0.997

## Odds Ratio Estimates and Profile-Likelihood Confidence Intervals

Effect		Unit	Estimate	95% Confidence Limits	
gender_code	F vs U	1.0000	0.542	0.251	1.468
gender_code	M vs U	1.0000	0.505	0.233	1.368
vaccination_code	Janssen vs Pfizer	1.0000	2.993	2.207	4.022
vaccination_code	Moderna vs Pfizer	1.0000	0.489	0.413	0.578
followup_time		1.0000	0.013	0.011	0.015
time_since_vax		1.0000	>999.999	>999.999	>999.999