

Warfarin Cessation Data III

```
M1 <- lmer (INR ~ age + time + I(1/time^2) + cypcombo +
           (baseline_inr -1 | new.id), data=warfarin)
```

```
summary (M1)
  AIC   BIC logLik deviance REMLdev
 239.3 263.3 -112.6   193.3   225.3
```

Random effects:

Groups	Name	Variance	Std.Dev.
new.id	baseline_inr	0.0066879	0.08178
	Residual	0.1160993	0.34073

Number of obs: 228, groups: new.id, 59

Fixed effects:

	Estimate	Std. Error	t value
(Intercept)	1.5496882	0.1777347	8.719
age	-0.0005205	0.0028856	-0.180
time	-0.0611834	0.0139755	-4.378
I(1/time^2)	0.3549959	0.0471534	7.529
cypcombo	0.0297217	0.0305001	0.974

Correlation of Fixed Effects:

	(Intr)	age	time	I(1/^2
age	-0.884			
time	-0.426	0.033		
I(1/time^2)	-0.385	0.025	0.766	
cypcombo	-0.099	-0.013	-0.073	-0.048

```
M2 <- lmer (INR ~ -1 + age + time + I(1/time^2) + baseline_inr +
           cypcombo + (baseline_inr -1 | new.id), data=warfarin)
```

```
summary (M2)
  AIC   BIC logLik deviance REMLdev
 220.6 244.6 -103.3   171.2   206.6
```

Random effects:

Groups	Name	Variance	Std.Dev.
new.id	baseline_inr	0.0025313	0.050313
	Residual	0.1159827	0.340562

Number of obs: 228, groups: new.id, 59

Fixed effects:

	Estimate	Std. Error	t value
age	0.004496	0.001883	2.387
time	-0.037442	0.012671	-2.955
I(1/time^2)	0.431115	0.043653	9.876
baseline_inr	0.536841	0.047886	11.211
cypcombo	0.038988	0.025014	1.559

Correlation of Fixed Effects:

	age	time	I(1/^2	bsln_n
time	-0.288			
I(1/time^2)	-0.275	0.726		
baseline_nr	-0.754	-0.314	-0.266	
cypcombo	-0.061	-0.124	-0.088	-0.058

```
M3 <- lmer (INR ~ -1 + age + time + I(1/time^2) + baseline_inr +
  cypcombo + (baseline_inr + cypcombo -1 | new.id), data=warfarin)
```

```
summary (M3)
```

```
  AIC   BIC logLik deviance REMLdev
 224.6 255.5 -103.3   171.1   206.6
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr
new.id	baseline_inr	2.6203e-03	0.0511886	
	cypcombo	1.0268e-05	0.0032044	-1.000
Residual		1.1607e-01	0.3406883	

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	0.004447	0.001884	2.360
time	-0.037557	0.012674	-2.963
I(1/time^2)	0.430716	0.043672	9.862
baseline_inr	0.538361	0.047999	11.216
cypcombo	0.039282	0.024680	1.592

Correlation of Fixed Effects:

	age	time	I(1/2 bsln_n	
time	-0.287			
I(1/time^2)	-0.274	0.726		
baseline_nr	-0.754	-0.315	-0.266	
cypcombo	-0.056	-0.124	-0.088	-0.066

```
M4 <- lmer (INR ~ -1 + age + baseline_inr + cypcombo +
(1 + time + I(1/time^2) + I(1/time^4) | new.id), data=warfarin)
```

```
summary (M4)
```

```
      AIC      BIC logLik deviance REMLdev
75.38 123.4 -23.69   18.53   47.38
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr
new.id	(Intercept)	1.3270e+00	1.1519620	
	time	2.6847e-05	0.0051814	1.000
	I(1/time^2)	2.5539e+01	5.0536213	-0.807 -0.807
	I(1/time^4)	6.4468e+00	2.5390612	0.749 0.749 -0.996
Residual		8.9417e-03	0.0945606	

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	0.0007326	0.0006896	1.06
baseline_inr	0.9357947	0.0163881	57.10
cypcombo	0.0055875	0.0103337	0.54

Correlation of Fixed Effects:

	age	bsln_n
baseline_nr	-0.931	
cypcombo	-0.191	-0.022

```
M5 <- lmer (INR ~ -1 + age + baseline_inr + cypcombo + time +
(1 + time + I(1/time^2) + I(1/time^4) | new.id), data=warfarin)
```

```
summary (M5)
```

```
  AIC BIC logLik deviance REMLdev
 49.55 101 -9.775  -18.32   19.55
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr
new.id	(Intercept)	2.1303372	1.459567	
	time	0.0141062	0.118769	-0.843
	I(1/time^2)	47.1607013	6.867365	-0.856 0.848
	I(1/time^4)	12.2356760	3.497953	0.820 -0.833 -0.998
Residual		0.0046733	0.068361	

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	0.0007933	0.0005419	1.46
baseline_inr	0.9945826	0.0127517	78.00
cypcombo	0.0031458	0.0080083	0.39
time	-0.0850934	0.0095551	-8.91

Correlation of Fixed Effects:

	age	bsln_n	cypcmb
baseline_nr	-0.901		
cypcombo	-0.184	-0.021	
time	-0.169	-0.080	-0.024

```
M6 <- lmer (INR ~ -1 + age + baseline_inr + cypcombo + time +
I(1/time^2) + (1 + time + I(1/time^2) + I(1/time^4) | new.id),
data=warfarin)
```

```
summary (M6)
```

```
   AIC   BIC logLik deviance REMLdev
39.52 94.39 -3.758  -34.69   7.516
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr
new.id	(Intercept)	6.1297e-01	0.782923	
	time	6.2333e-04	0.024967	-1.000
	I(1/time^2)	2.2236e+01	4.715460	-0.801 0.801
	I(1/time^4)	5.9408e+00	2.437370	0.755 -0.755 -0.997
Residual		1.1160e-02	0.105640	

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	-0.0013703	0.0008765	-1.56
baseline_inr	0.7877258	0.0171097	46.04
cypcombo	0.0048290	0.0101324	0.48
time	-0.0427610	0.0072007	-5.94
I(1/time^2)	0.2819902	0.0311285	9.06

Correlation of Fixed Effects:

	age	bsln_n	cypcmb	time
baseline_nr	-0.427			
cypcombo	-0.068	0.031		
time	-0.266	-0.167	-0.089	
I(1/time^2)	-0.618	-0.352	-0.115	0.162

```
M7 <- lmer (INR ~ -1 + age + cypcombo + time +
  (-1 + baseline_inr | new.id) +
  (1 + time + I(1/time^2) + I(1/time^4) | new.id), data=warfarin)
```

```
summary (M7)
```

```
AIC    BIC logLik deviance REMLdev
276 327.4  -123    222.1     246
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr		
new.id	baseline_inr	2.6017e-02	1.6130e-01			
new.id	(Intercept)	1.9840e-14	1.4086e-07			
	time	3.1251e-04	1.7678e-02	0.000		
	I(1/time^2)	1.6262e+01	4.0327e+00	0.000	-0.065	
	I(1/time^4)	3.9774e+00	1.9943e+00	0.000	0.144	-0.994
Residual		1.8997e-02	1.3783e-01			

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	0.022298	0.001578	14.132
cypcombo	0.041350	0.045670	0.905
time	-0.029639	0.010239	-2.895

Correlation of Fixed Effects:

	age	cypcmb
cypcombo	-0.379	
time	-0.701	-0.077

```
M8 <- lmer (INR ~ -1 + age + time + (-1 + baseline_inr | new.id) +
  (1 + cypcombo + time + I(1/time^2) + I(1/time^4) | new.id),
  data=warfarin)
```

```
summary (M8)
```

```
      AIC      BIC logLik deviance REMLdev
261.4 326.6 -111.7   203.2   223.4
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr				
new.id	baseline_inr	2.7320e-12	1.6529e-06					
new.id	(Intercept)	2.9516e-01	5.4329e-01					
	cypcombo	3.5688e-02	1.8891e-01	-0.996				
	time	3.1983e-04	1.7884e-02	-0.404	0.488			
	I(1/time^2)	2.3741e+01	4.8725e+00	-0.656	0.698	0.698		
	I(1/time^4)	6.1016e+00	2.4702e+00	0.692	-0.737	-0.746	-0.996	
Residual		1.6217e-02	1.2735e-01					

```
Number of obs: 228, groups: new.id, 59
```

```
Fixed effects:
```

	Estimate	Std. Error	t value
age	0.022126	0.001180	18.75
time	-0.024390	0.008836	-2.76

Correlation of Fixed Effects:

age

time -0.773

```
M9 <- lmer (INR ~ -1 + age + time + (-1 + baseline_inr | new.id) +
(1 + cypcombo + I(cypcombo^2) + time + I(1/time^2) + I(1/time^4)|new.id),
data=warfarin)
```

```
summary (M9)
```

```
AIC    BIC logLik deviance REMLdev
285 370.8 -117.5    215.3     235
```

```
Random effects:
```

Groups	Name	Variance	Std.Dev.	Corr				
new.id	baseline_inr	5.5426e-05	0.0074448					
new.id	(Intercept)	4.4880e-04	0.0211849					
	cypcombo	3.1386e-03	0.0560235	0.990				
	I(cypcombo^2)	3.7348e-03	0.0611133	-0.502	-0.372			
	time	2.9832e-03	0.0546190	0.520	0.392	-1.000		
	I(1/time^2)	1.1734e+01	3.4254941	0.270	0.269	-0.128	0.133	
	I(1/time^4)	2.8091e+00	1.6760304	-0.353	-0.363	0.096	-0.103	

```
-0.992
```

```
Residual                2.3350e-02 0.1528057
```

```
Number of obs: 228, groups: new.id, 59
```

Fixed effects:

	Estimate	Std. Error	t value
age	0.023830	0.001272	18.730
time	-0.038725	0.011308	-3.425

Correlation of Fixed Effects:

age	
time	-0.811