Appendix 2

NO results for generalised linear mixed model

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
 Family: gaussian (log)
Formula: no ~ tx + time + (1 | patientnumber)
   Data: hdl

```
     AIC       BIC   logLik deviance df.resid
   409.5     421.0   -198.7    397.5       44
```

Scaled residuals:
    Min 1Q Median 3Q Max -5.8424 -
0.2237 0.1079 0.3811 1.8225

Random effects:
```
 Groups              Name           Variance Std.Dev.
 patientnumber (Intercept)   0.0         0.00
 Residual                    159.5      12.63
```
Number of obs: 50, groups: patientnumber, 18

Fixed effects:
```
            Estimate Std. Error t value Pr(>|z|)
(Intercept)  4.35482   0.04693   92.79  <2e-16 ***
txTreated    0.02443   0.04364    0.56   0.5756
timeY2       0.09182   0.05099    1.80   0.0718 .
timeY3       0.12803   0.05318    2.41   0.0161 *
```

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1

Correlation of Fixed Effects:
```
          (Intr) txTrtd timeY2
txTreated -0.597
```
timeY2 -0.608 0.026 timeY3 -
0.565 -0.006 0.523
convergence code: 0

The output shows similar results to before with significantly more NO in Y3 than in Y1. Y2 is greater than Y1 but the difference is not significant.

SO results of generalised linear mixed effects model

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
 Family: gaussian (log)
Formula: so ~ tx * time + (1 | patientnumber)
   Data: hdl

AIC	BIC	logLik	deviance	df.resid
142.2	157.5	-63.1	126.2	42

Scaled residuals:
```
     Min       1Q    Median      3Q       Max
-1.59712 -0.54982  0.05274  0.54860  1.67577
```

Random effects:
```
 Groups              Name        Variance Std.Dev.
 patientnumber (Intercept) 0.1107       0.3327
 Residual                  0.4583    0.6770
Number of obs: 50, groups:  patientnumber, 18
```

Fixed effects:
```
                 Estimate Std. Error t value Pr(>|z|)
(Intercept)       1.36171    0.17919   7.599 2.98e-14 ***
txTreated        -0.12725    0.22800  -0.558     0.5768
timeY2           -0.16849    0.06685  -2.520     0.0117 *
timeY3           -0.95515    0.14043  -6.802 1.03e-11 ***
txTreated:timeY2 -0.07726    0.09144  -0.845     0.3982
txTreated:timeY3  0.43026    0.16198   2.656     0.0079 **
---
Signif. codes:          0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
```

Correlation of Fixed Effects:
```
            (Intr) txTrtd timeY2 timeY3 txT:Y2
txTreated     -0.779
timeY2        -0.159  0.125
timeY3        -0.066  0.053   0.195
txTrtd:tmY2    0.115 -0.165  -0.731 -0.143
txTrtd:tmY3    0.057 -0.084  -0.169 -0.867   0.225
```

The results show that SO in Y3 and Y2 was significantly lower than in Y1.

The results also confirm that treatment had a small positive effect on SO after two years after base line (i.e. SO was higher in year three in treated patients). This is shown by the significant interaction term xTreated:timeY3

PON results of generalised linear mixed model

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
 Family: gaussian (log)
Formula: pon ~ tx + time + (1 | patientnumber)
   Data: hdl

```
    AIC      BIC    logLik deviance df.resid
   418.9    430.4    -203.5    406.9       44
```

Scaled residuals:
```
    Min      1Q  Median      3Q      Max
-1.5343 -0.6304 -0.2281  0.3620  3.0449
```

Random effects:
 Groups   Name   Variance Std.Dev.
 patientnumber (Intercept)   0.0   0.00
 Residual   192.7   13.88
Number of obs: 50, groups: patientnumber, 18

Fixed effects:
             Estimate Std. Error t value Pr(>|z|)
(Intercept)   4.95671   0.02791 177.62 < 2e-16 ***
txTreated   0.02261   0.02663   0.85 0.395857
timeY2   0.06981   0.03104   2.25 0.024517 *
timeY3   0.11504   0.03229   3.56 0.000368 ***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 '

Correlation of Fixed Effects:
           (Intr) txTrtd timeY2
txTreated -0.582 timeY2
-0.587 -0.013
timeY3 -0.547 -0.043 0.515
convergence code: 0

Results for PON show that PON in Y2 and Y3 are significantly higher than in
Y1. However there is no significant effect of treatment.

Results for CE Generalised linear mixed model

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation)
['glmerMod']
 Family: gaussian (log)
Formula: ce ~ time + (1 | patientnumber)
    Data: hdl

     AIC   BIC   logLik deviance df.resid
   135.3   142.3   -62.6   125.3   25

Scaled residuals:
     Min 1Q Median 3Q Max -1.75689 -0.61263
-0.06955 0.55012 2.15090

Random effects:
 Groups   Name   Variance Std.Dev.
 patientnumber (Intercept) 0.03131   0.1769
 Residual   1.43310 1.1971
Number of obs: 30, groups: patientnumber, 10

Fixed effects:
             Estimate Std. Error t value Pr(>|z|)
(Intercept)   2.54774   0.05355   47.58   <2e-16 ***
timeY2   0.06484   0.03519   1.84   0.0654 .

timeY3   0.04570   0.035491.29   0.1979

Correlation of Fixed
       Effects: (Intr) timeY2
timeY2 -0.353
timeY3 -0.350 0.529

The results show that none of the explanatory variables have significant effects on CE levels.