The GENMOD Procedure

### Model Information

Data Set            WORK.RENAL
Distribution          Binomial
Link Function            Logit
Dependent Variable     MICRO24    prevalence of
                                  microalbuminuria
                                  at 6 years fu


Number of Observations Read        172
Number of Observations Used        172
Number of Events                    42
Number of Trials                   172


### Response Profile

| Ordered Value | MICRO24 | Total Frequency |
|---|---|---|
| 1 | 1 | 42 |
| 2 | 0 | 130 |

PROC GENMOD is modeling the probability that MICRO24='1'.


### Criteria For Assessing Goodness Of Fit

| Criterion | DF | Value | Value/DF |
|---|---|---|---|
| Deviance | 166 | 155.3362 | 0.9358 |
| Scaled Deviance | 166 | 155.3362 | 0.9358 |
| Pearson Chi-Square | 166 | 182.2750 | 1.0980 |
| Scaled Pearson X2 | 166 | 182.2750 | 1.0980 |
| Log Likelihood | | -77.6681 | |


Algorithm converged.


### Analysis Of Parameter Estimates

| Parameter | DF | Estimate | Standard Error | Wald 95% Confidence Limits | | Chi-Square | Pr > ChiSq |
|---|---|---|---|---|---|---|---|
| Intercept | 1 | -8.2806 | 3.0714 | -14.3005 | -2.2608 | 7.27 | 0.0070 |
| INT | 1 | -1.5831 | 0.4267 | -2.4195 | -0.7467 | 13.76 | 0.0002 |
| HBAEL | 1 | 0.5675 | 0.1449 | 0.2835 | 0.8515 | 15.34 | <.0001 |
| YEARSDM | 1 | 0.0096 | 0.0636 | -0.1151 | 0.1343 | 0.02 | 0.8799 |
| SBP | 1 | 0.0233 | 0.0208 | -0.0174 | 0.0640 | 1.26 | 0.2620 |
| FEMALE | 1 | -0.8905 | 0.4473 | -1.7672 | -0.0139 | 3.96 | 0.0465 |
| Scale | 0 | 1.0000 | 0.0000 | 1.0000 | 1.0000 | | |

NOTE: The scale parameter was held fixed.

The GENMOD Procedure

### Model Information

| | |
|---|---|
| Data Set | WORK.RENAL |
| Distribution | Binomial |
| Link Function | Log |
| Dependent Variable | MICRO24    prevalence of microalbuminuria at 6 years fu |

| | |
|---|---|
| Number of Observations Read | 172 |
| Number of Observations Used | 172 |
| Number of Events | 42 |
| Number of Trials | 172 |

### Response Profile

| Ordered Value | MICRO24 | Total Frequency |
|---|---|---|
| 1 | 1 | 42 |
| 2 | 0 | 130 |

PROC GENMOD is modeling the probability that MICRO24='1'.

### Criteria For Assessing Goodness Of Fit

| Criterion | DF | Value | Value/DF |
|---|---|---|---|
| Deviance | 166 | 0.0000 | 0.0000 |
| Scaled Deviance | 166 | 0.0000 | 0.0000 |
| Pearson Chi-Square | 166 | 80.7791 | 0.4866 |
| Scaled Pearson X2 | 166 | 80.7791 | 0.4866 |
| Log Likelihood | | -1.79769E308 | |

ERROR: The mean parameter is either invalid or at a limit of its range for some observations.

### Analysis Of Parameter Estimates

| Parameter | DF | Estimate | Standard Error | Wald 95% Confidence Limits | | Chi-Square | Pr > ChiSq |
|---|---|---|---|---|---|---|---|
| Intercept | 0 | -0.9513 | 0.0000 | -0.9513 | -0.9513 | . | . |
| INT | 0 | -0.1189 | 0.0000 | -0.1189 | -0.1189 | . | . |
| HBAEL | 0 | 0.0459 | 0.0000 | 0.0459 | 0.0459 | . | . |
| YEARSDM | 0 | 0.0035 | 0.0000 | 0.0035 | 0.0035 | . | . |
| SBP | 0 | 0.0028 | 0.0000 | 0.0028 | 0.0028 | . | . |
| FEMALE | 0 | -0.0692 | 0.0000 | -0.0692 | -0.0692 | . | . |
| Scale | 0 | 1.0000 | 0.0000 | 1.0000 | 1.0000 | | |

NOTE: The scale parameter was held fixed.

The GENMOD Procedure

### Model Information

Data Set            WORK.RENAL
Distribution         Binomial
Link Function            Log
Dependent Variable    MICRO24    prevalence of
                                 microalbuminuria
                                 at 6 years fu


Number of Observations Read        172
Number of Observations Used        172
Number of Events                    42
Number of Trials                   172


### Response Profile

| Ordered Value | MICRO24 | Total Frequency |
|---|---|---|
| 1 | 1 | 42 |
| 2 | 0 | 130 |

PROC GENMOD is modeling the probability that MICRO24='1'.


### Criteria For Assessing Goodness Of Fit

| Criterion | DF | Value | Value/DF |
|---|---|---|---|
| Deviance | 166 | 158.4378 | 0.9544 |
| Scaled Deviance | 166 | 158.4378 | 0.9544 |
| Pearson Chi-Square | 166 | 169.7421 | 1.0225 |
| Scaled Pearson X2 | 166 | 169.7421 | 1.0225 |
| Log Likelihood | | -79.2189 | |


Algorithm converged.


### Analysis Of Parameter Estimates

| Parameter | DF | Estimate | Standard Error | Wald 95% Confidence Limits | | Chi-Square | Pr > ChiSq |
|---|---|---|---|---|---|---|---|
| Intercept | 1 | -3.7767 | 1.4990 | -6.7148 | -0.8387 | 6.35 | 0.0118 |
| INT | 1 | -1.0484 | 0.3091 | -1.6542 | -0.4426 | 11.50 | 0.0007 |
| HBAEL | 1 | 0.2661 | 0.0642 | 0.1403 | 0.3920 | 17.18 | <.0001 |
| YEARSDM | 1 | -0.0137 | 0.0334 | -0.0793 | 0.0518 | 0.17 | 0.6809 |
| SBP | 1 | 0.0054 | 0.0130 | -0.0200 | 0.0309 | 0.17 | 0.6760 |
| FEMALE | 1 | -0.7292 | 0.3139 | -1.3443 | -0.1140 | 5.40 | 0.0202 |
| Scale | 0 | 1.0000 | 0.0000 | 1.0000 | 1.0000 | | |

NOTE: The scale parameter was held fixed.

The GENMOD Procedure

### Model Information

Data Set              WORK.RENAL
Distribution          Poisson
Link Function            Log
Dependent Variable    MICRO24    prevalence of
                                 microalbuminuria
                                 at 6 years fu


Number of Observations Read       172
Number of Observations Used       172


### Class Level Information

| Class | Levels | Values |
|-------|--------|--------|
| OBSN  | 172    | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 ... |


### Parameter Information

| Parameter | Effect |
|-----------|--------|
| Prm1 | Intercept |
| Prm2 | INT |
| Prm3 | HBAEL |
| Prm4 | YEARSDM |
| Prm5 | SBP |
| Prm6 | FEMALE |


### Criteria For Assessing Goodness Of Fit

| Criterion | DF | Value | Value/DF |
|-----------|-----|---------|----------|
| Deviance | 166 | 93.4752 | 0.5631 |
| Scaled Deviance | 166 | 93.4752 | 0.5631 |
| Pearson Chi-Square | 166 | 128.1050 | 0.7717 |
| Scaled Pearson X2 | 166 | 128.1050 | 0.7717 |
| Log Likelihood | | -88.7376 | |


Algorithm converged.


### Analysis Of Initial Parameter Estimates

| Parameter | DF | Estimate | Standard Error | Wald 95% Confidence Limits | | Chi-Square | Pr > ChiSq |
|-----------|-----|----------|----------|----------|----------|------------|------------|
| Intercept | 1 | -5.5016 | 2.2458 | -9.9033 | -1.0999 | 6.00 | 0.0143 |
| INT | 1 | -1.0801 | 0.3532 | -1.7725 | -0.3878 | 9.35 | 0.0022 |
| HBAEL | 1 | 0.3394 | 0.0983 | 0.1468 | 0.5321 | 11.93 | 0.0006 |
| YEARSDM | 1 | -0.0032 | 0.0487 | -0.0986 | 0.0922 | 0.00 | 0.9475 |
| SBP | 1 | 0.0130 | 0.0164 | -0.0192 | 0.0452 | 0.63 | 0.4285 |
| FEMALE | 1 | -0.6201 | 0.3557 | -1.3173 | 0.0771 | 3.04 | 0.0813 |
| Scale | 0 | 1.0000 | 0.0000 | 1.0000 | 1.0000 | | |

The GENMOD Procedure

NOTE: The scale parameter was held fixed.


                    GEE Model Information

Correlation Structure                 Independent
Subject Effect              OBSN (172 levels)
Number of Clusters                          172
Correlation Matrix Dimension                  1
Maximum Cluster Size                          1
Minimum Cluster Size                          1


Algorithm converged.


                Analysis Of GEE Parameter Estimates
                 Empirical Standard Error Estimates

                    Standard   95% Confidence
Parameter Estimate   Error        Limits           Z Pr > |Z|

Intercept  -5.5016   1.8790  -9.1843  -1.8189  -2.93   0.0034
INT        -1.0801   0.3043  -1.6766  -0.4837  -3.55   0.0004
HBAEL       0.3394   0.0836   0.1755   0.5033   4.06   <.0001
YEARSDM    -0.0032   0.0387  -0.0791   0.0727  -0.08   0.9341
SBP         0.0130   0.0144  -0.0152   0.0412   0.90   0.3663
FEMALE     -0.6201   0.2999  -1.2079  -0.0323  -2.07   0.0387