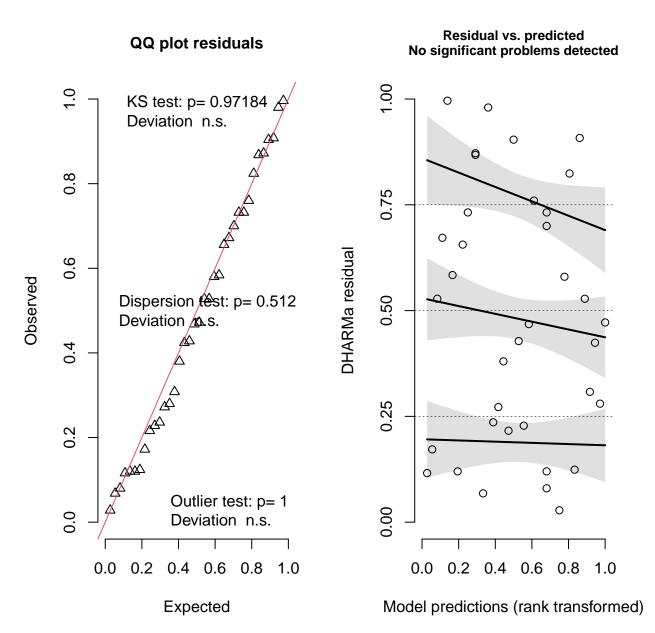
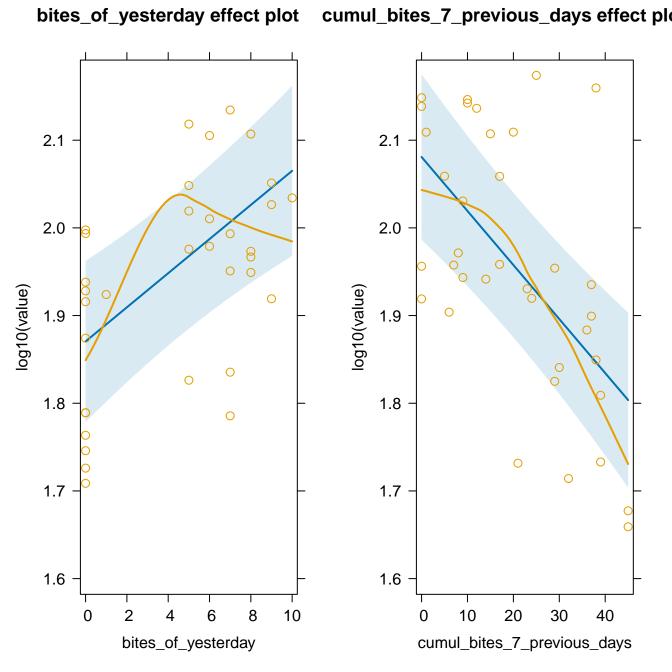


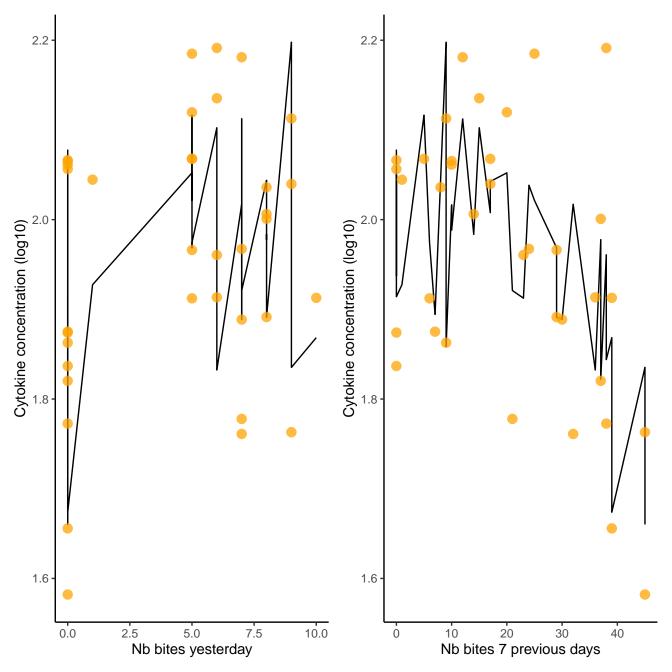


Nb excluded (LOD): 0

Nb remaining: 36







# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.69] 1.05 0.91 [0.27, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.69] 1.05 0.91 [0.27, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
           BIC logLik deviance df.resid
  -54.0
         -46.1 32.0 -64.0 31
Random effects:
Conditional model:
```

Number of obs: 36, groups: ID, 4 Dispersion estimate for gaussian family (sigma^2): 0.00791

Variance Std.Dev.

0.007913 0.08896

(Intercept) 0.005709 0.07556

Groups Name

Residual

ID .-

```
Conditional model:
```

```
(Intercept)
                          1.994908 0.047722 41.80 < 2e-16 ***
bites_of_yesterday
                          0.019460 0.004481 4.34 1.4e-05 ***
cumul_bites_7_previous_days -0.006161 0.001111 -5.55 2.9e-08 ***
```

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

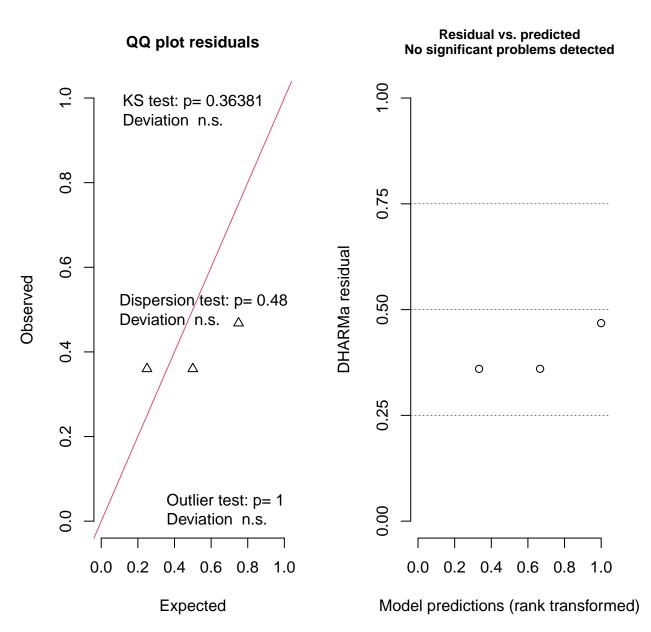
Estimate Std. Error z value Pr(>|z|)

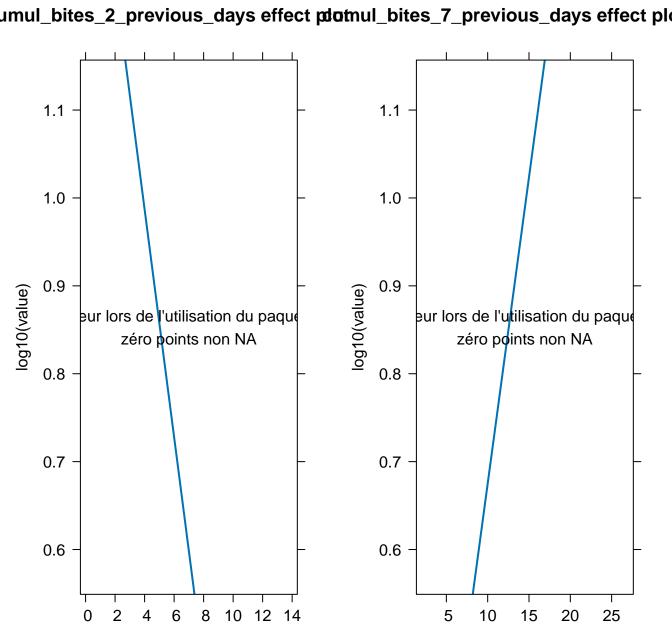
AICc [1] -51.99296



Nb remaining: 3

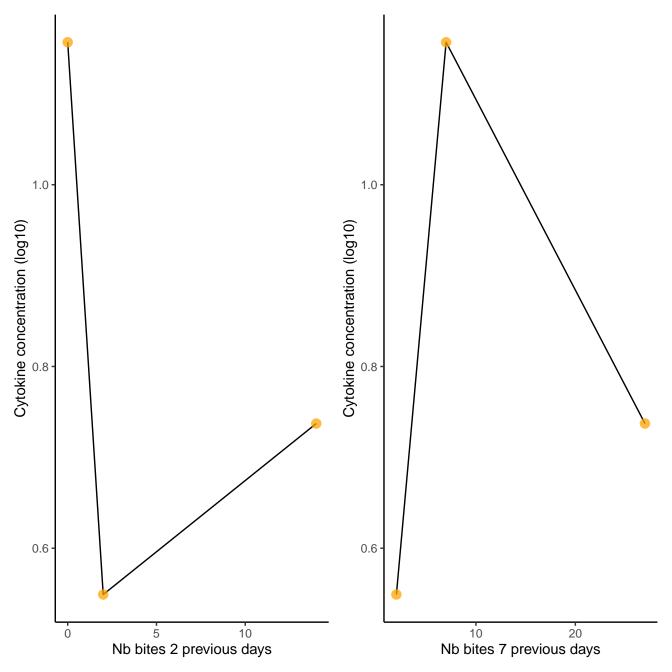
Nb excluded (LOD): 17

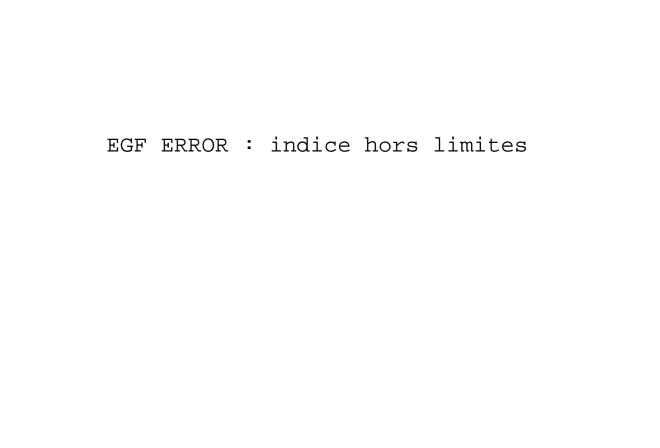




cumul\_bites\_2\_previous\_days

cumul\_bites\_7\_previous\_days



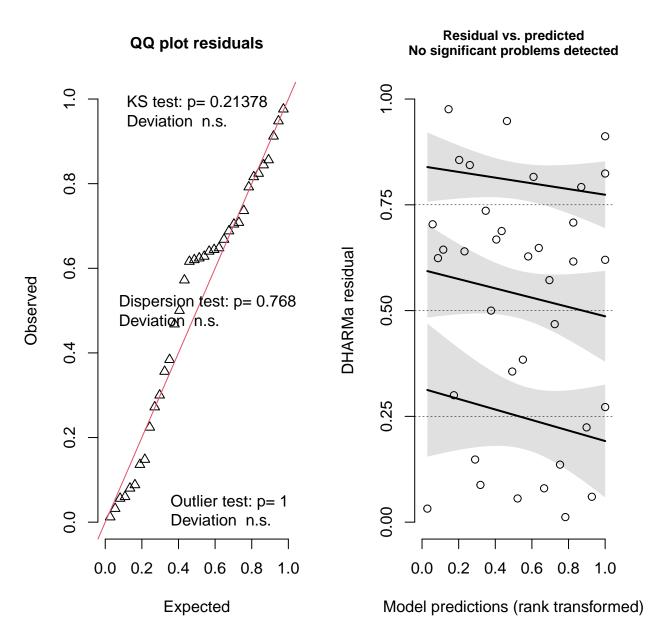


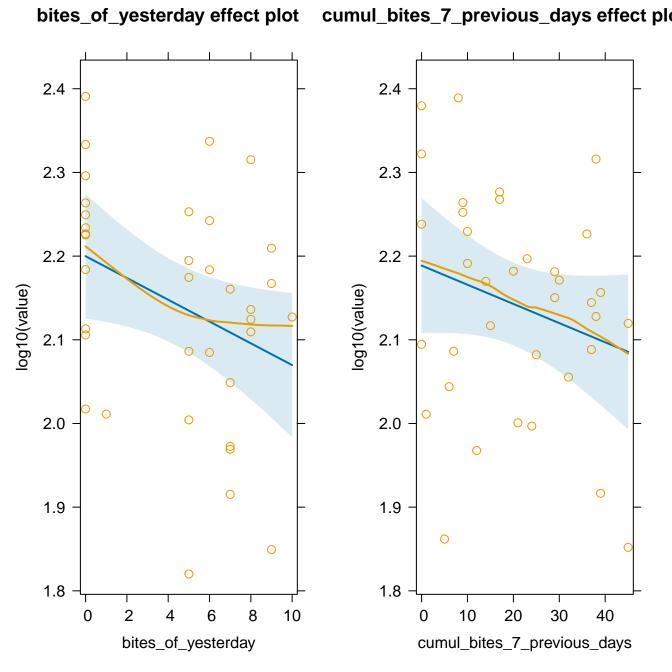


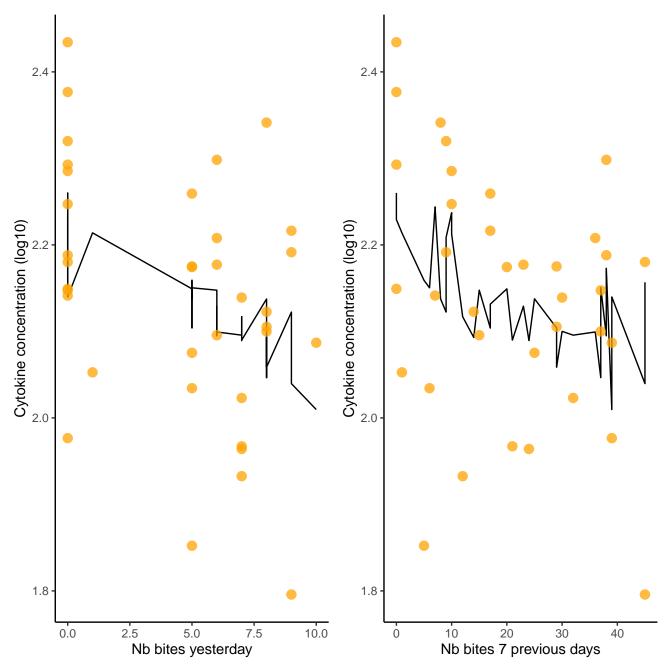


Nb excluded (LOD): 0

Nb remaining: 36







Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -37.2 -29.3 23.6 -47.2 31
Random effects:
Conditional model:
```

0.0151788 0.1232 Number of obs: 36, groups: ID, 4

Variance Std.Dev.

ID (Intercept) 0.0006812 0.0261

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.0152
```

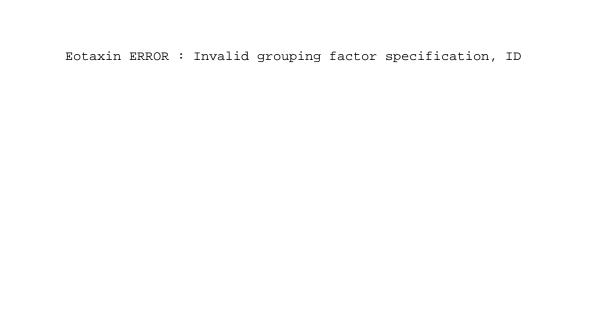
```
Conditional model:
                         Estimate Std. Error z value Pr(>|z|)
(Intercept)
                         2.246206 0.042597 52.73 <2e-16 ***
bites_of_yesterday
                         -0.013015 0.006193 -2.10 0.0356 *
```

```
Signif. codes: 0 ...***... 0.001 ...**... 0.01 ...*... 0.05 ...... 1
```

AICc [1] -35.2422



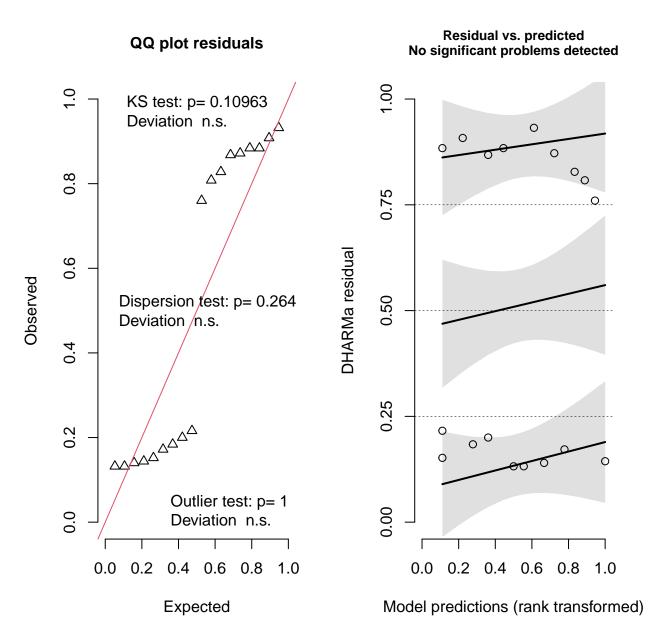
Nb excluded (LOD): 20 Nb remaining: 0





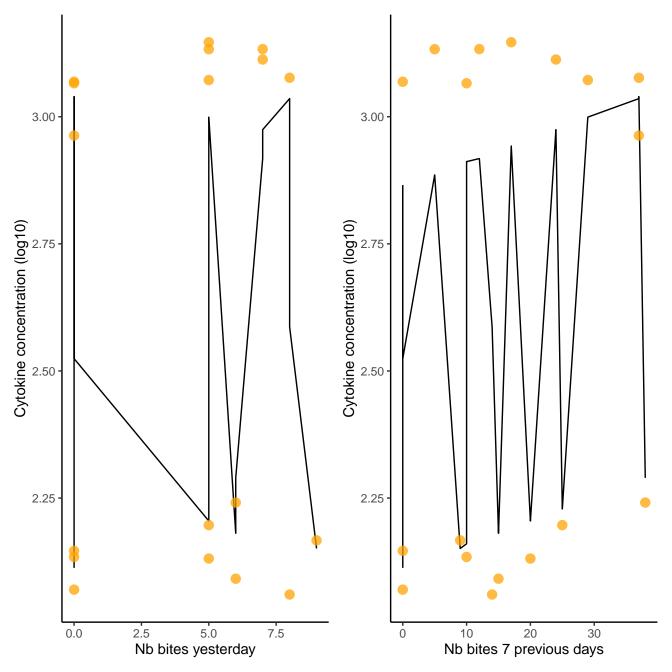


Nb excluded (LOD): 18 Nb remaining: 18



cumul\_bites\_7\_previous\_days effect ple 3.2 0 0 0 3.0 0 3.0 2.8 2.8 log10(value) log10(value) 2.6 2.6 2.4 2.4 0 2.2 2.2 0 0 2.0 2 0 6 20 30 8 10 4 0 bites\_of\_yesterday cumul\_bites\_7\_previous\_days

bites\_of\_yesterday effect plot



Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.18 [1.02, 2.89] 1.08 0.85 [0.35, 0.98] cumul\_bites\_7\_previous\_days 1.18 [1.02, 2.89] 1.08 0.85 [0.35, 0.98]

# Check for Multicollinearity

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
           BIC logLik deviance df.resid
   22.9
           27.3 -6.4 12.9 13
Random effects:
Conditional model:
```

0.08502 0.2916 Number of obs: 18, groups: ID, 3

Variance Std.Dev.

ID (Intercept) 0.11126 0.3336

Groups Name

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.085
```

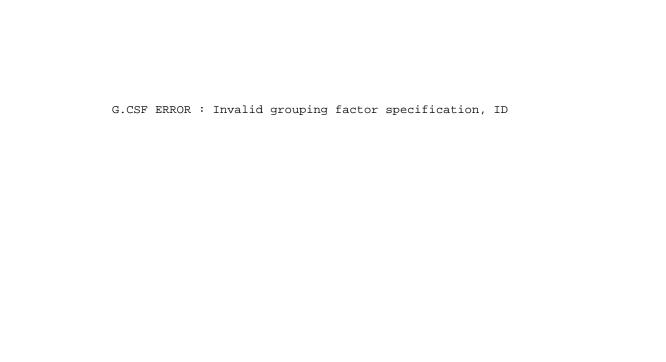
```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                         2.5004138 0.2342894 10.672 <2e-16 ***
bites_of_yesterday
                        -0.0004956 0.0234079 -0.021
                                                     0.983
cumul_bites_7_previous_days 0.0047373 0.0062912 0.753
                                                     0.451
```

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

AICc [1] 27.86686



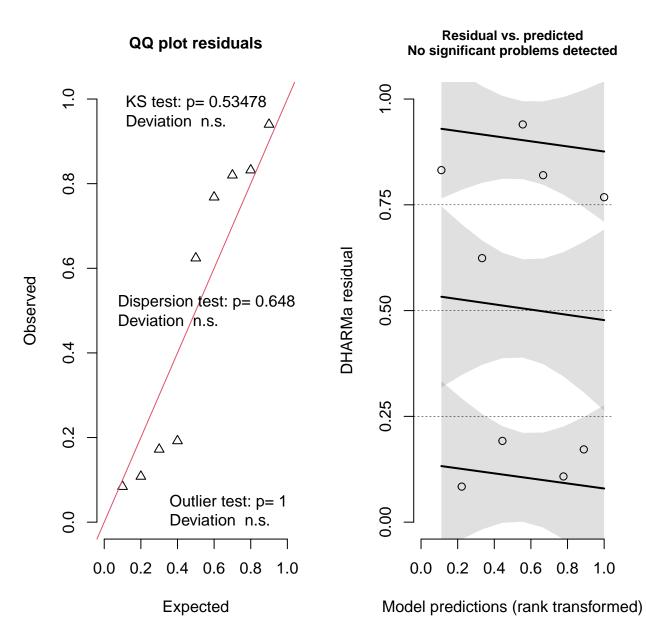
Nb excluded (LOD): 20 Nb remaining: 0

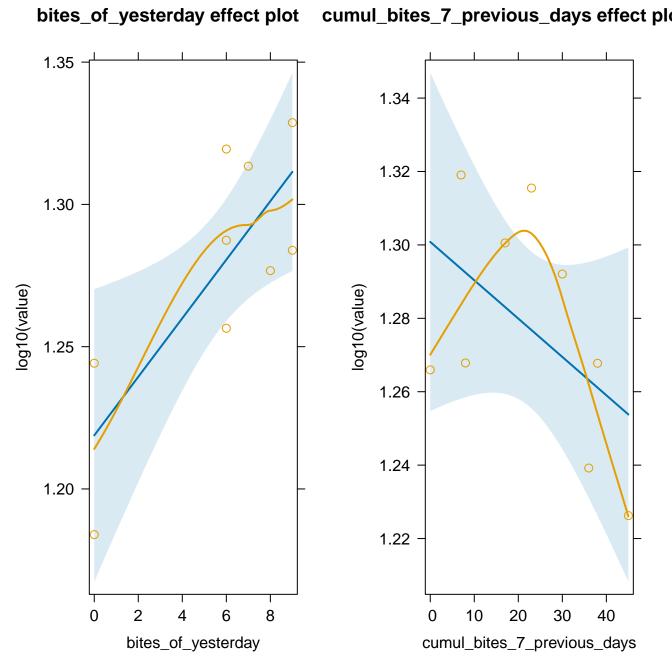


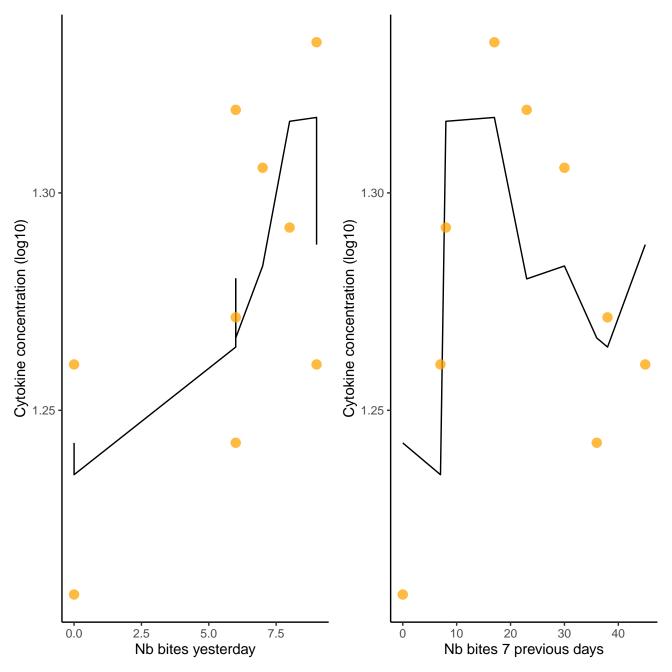




Nb excluded (LOD): 27 Nb remaining: 9







# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.56 [1.22, 2.46] 1.25 0.64 [0.41, 0.82] cumul\_bites\_7\_previous\_days 1.56 [1.22, 2.46] 1.25 0.64 [0.41, 0.82]

```
Family: gaussian ( identity )
Formula:
              log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
        BIC logLik deviance df.resid
    -30
            -29
                  20 -40 4
Random effects:
Conditional model:
```

6.849e-04 2.617e-02 Number of obs: 9, groups: ID, 2

Variance Std.Dev.

ID (Intercept) 2.809e-13 5.300e-07

Groups Name

Residual

Conditional model:

(Intercept)

```
Dispersion estimate for gaussian family (sigma^2): 0.000685
```

```
1.2425032 0.0183710 67.63 < 2e-16 ***
bites_of_yesterday
                         0.0102904 0.0033717 3.05 0.00227 **
cumul_bites_7_previous_days -0.0010447 0.0007361 -1.42 0.15587
Signif. codes: 0 ...***... 0.001 ...**... 0.01 ...*... 0.05 ...... 1
```

Estimate Std. Error z value Pr(>|z|)

AICc [1] -10.03514



Nb excluded (LOD): 20 Nb remaining: 0

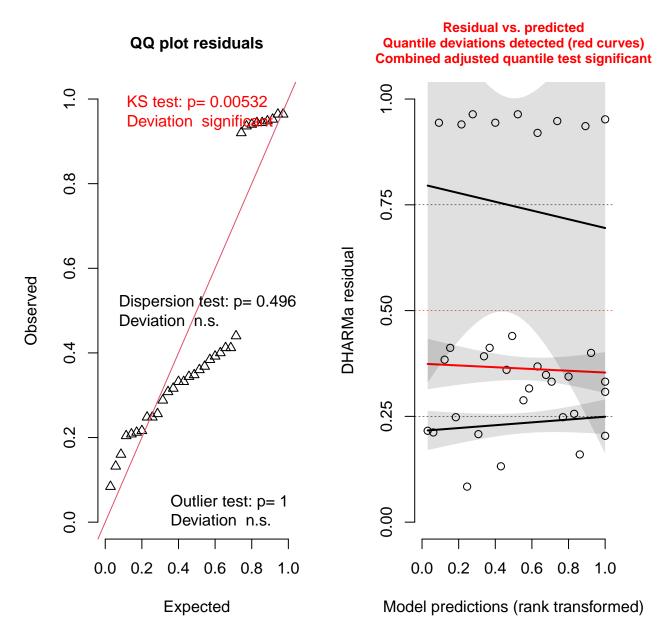
GM.CSF	ERROR	:	Invalid	grouping	factor	specification,	ID





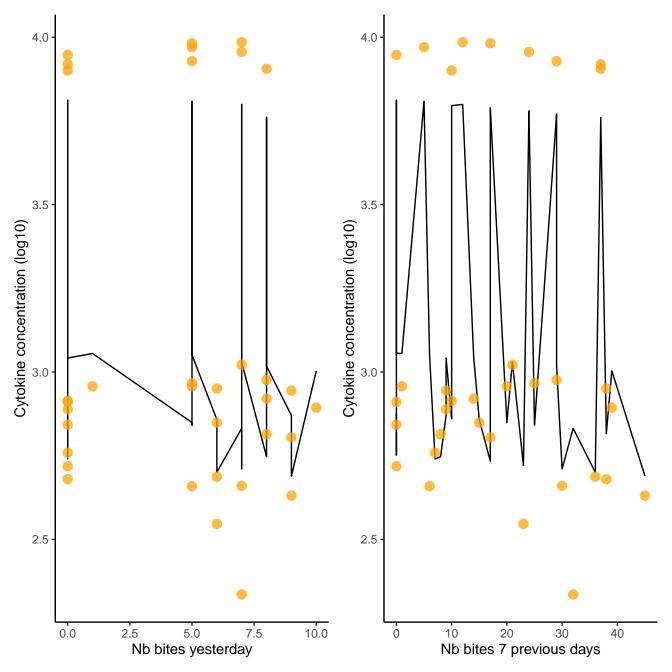
Nb excluded (LOD): 2

Nb remaining: 34



cumul\_bites\_7\_previous\_days effect ple 3.5 3.5 log10(value) log10(value) 3.0 3.0 2.5 2.5 bites\_of\_yesterday cumul\_bites\_7\_previous\_days

bites\_of\_yesterday effect plot



Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.32 [1.08, 2.31] 1.15 0.76 [0.43, 0.93] cumul\_bites\_7\_previous\_days 1.32 [1.08, 2.31] 1.15 0.76 [0.43, 0.93]

# Check for Multicollinearity

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
34.0 41.6 -12.0 24.0 29

Random effects:

Conditional model:
```

Number of obs: 34, groups: ID, 4

Variance Std.Dev.

0.08373 0.2894

ID (Intercept) 0.17872 0.4228

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.0837
```

```
Conditional model: 
 Estimate Std. Error z value \Pr(>|z|) 
 (Intercept) 3.1238108 0.2318199 13.475 <2e-16 ***
```

```
--- Signif. codes: 0 ...***... 0.001 ...**... 0.01 ...*... 0.05 ...... 1
```

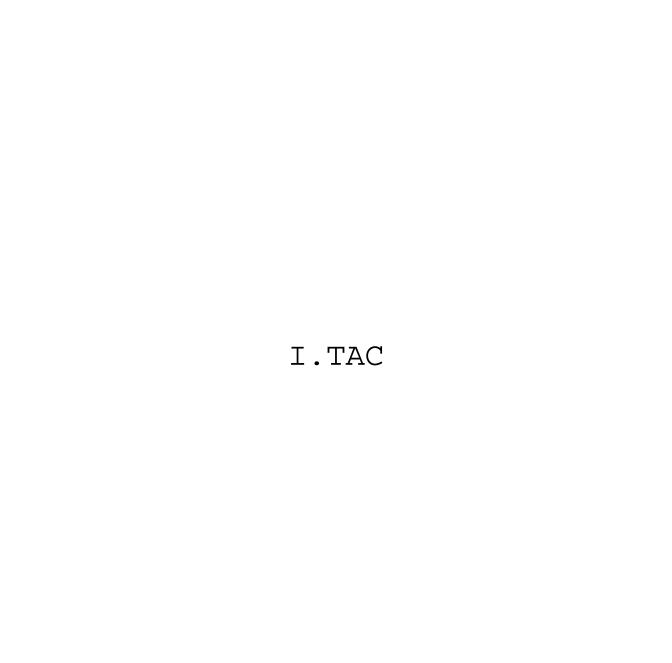
AICc [1] 36.10523



Nb excluded (LOD): 20 Nb remaining: 0

Invalid	grouping	factor	specification,	ID

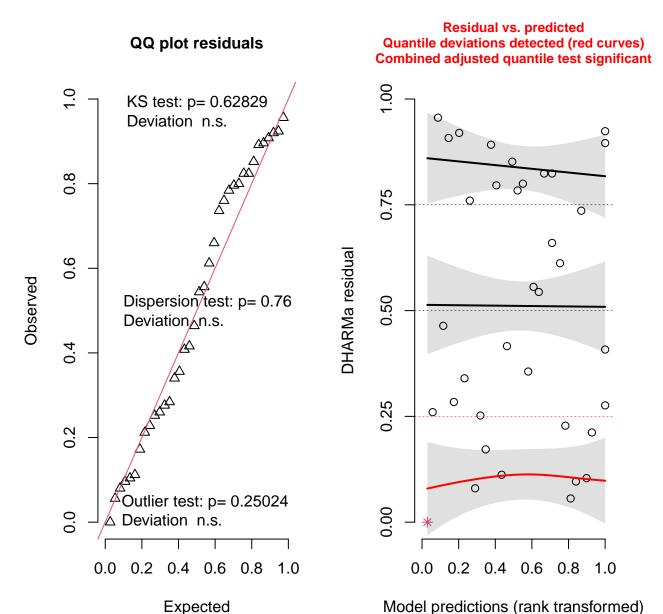
HGF ERROR :

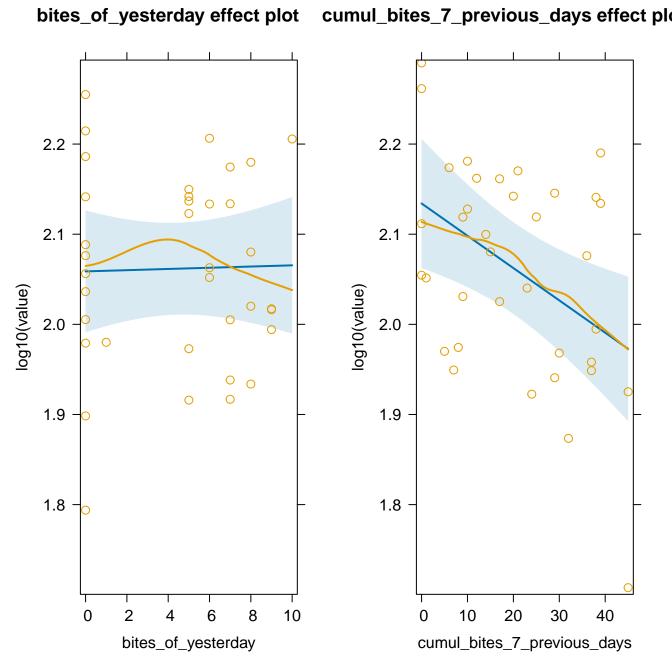


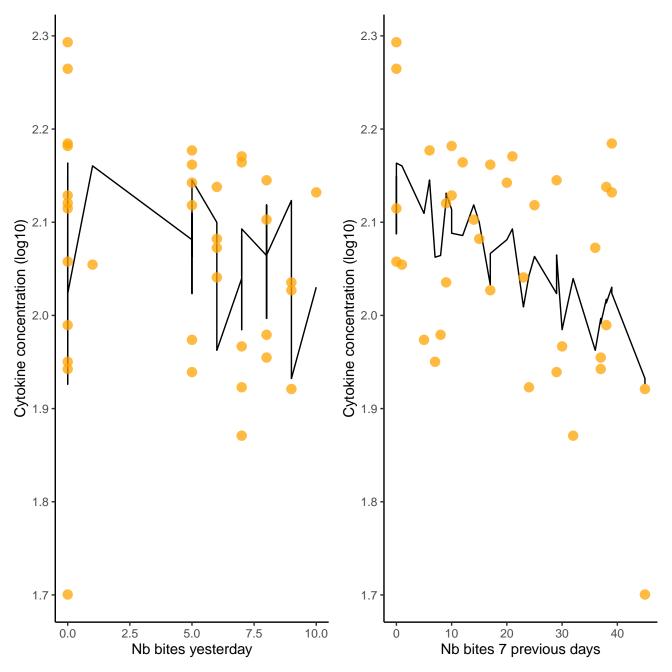


Nb excluded (LOD): 0

Nb remaining: 36







Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.09 [1.00, 3.84] 1.05 0.91 [0.26, 1.00] cumul\_bites\_7\_previous\_days 1.09 [1.00, 3.84] 1.05 0.91 [0.26, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -51.7 -43.8 30.8 -61.7 31
Random effects:
Conditional model:
Groups Name
                 Variance Std.Dev.
```

0.009598 0.09797 Number of obs: 36, groups: ID, 4

ID (Intercept) 0.001446 0.03802

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.0096
```

```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                           2.1311508 0.0374068 56.97 < 2e-16 ***
bites_of_yesterday
                           0.0006719 0.0049310 0.14 0.89162
cumul_bites_7_previous_days -0.0035852 0.0012269 -2.92 0.00348 **
```

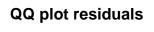
Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

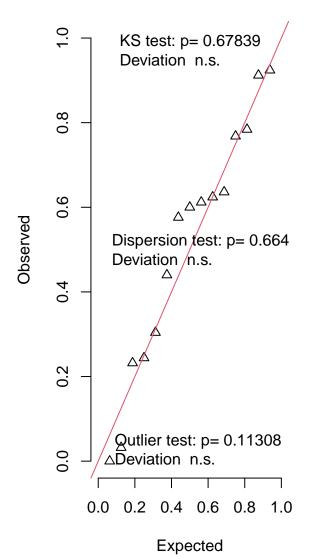
AICc [1] -49.67122



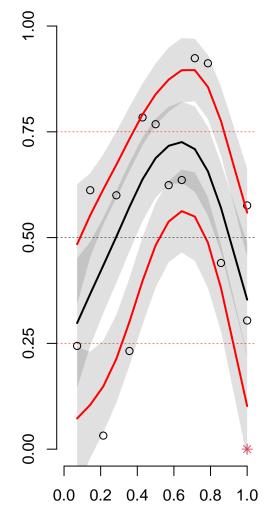
Nb excluded (LOD): 5 Nb remaining: 15

DHARMa residual



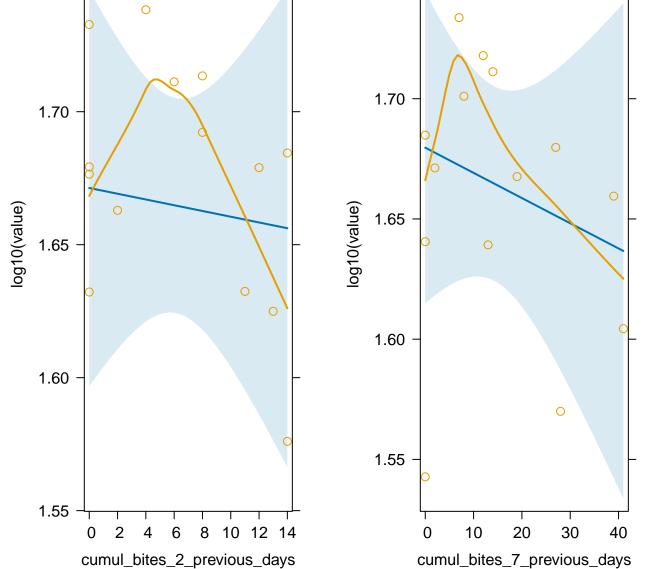


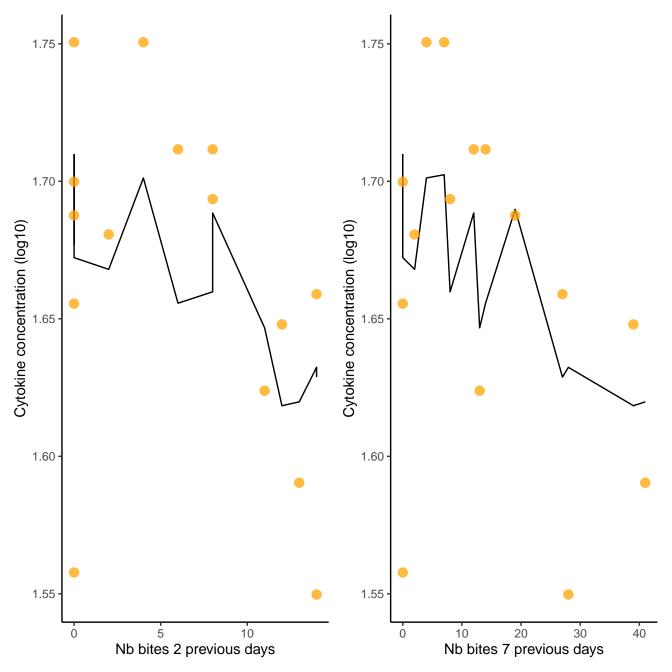
Residual vs. predicted
Quantile deviations detected (red curves)
Combined adjusted quantile test significant



Model predictions (rank transformed)

1.75





LOW	COLL	ета	LΤ	Οī

Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

 cumul\_bites\_2\_previous\_days
 2.38 [1.59, 4.20]
 1.54
 0.42
 [0.24, 0.63]

 cumul\_bites\_7\_previous\_days
 2.38 [1.59, 4.20]
 1.54
 0.42
 [0.24, 0.63]

```
Family: gaussian ( identity )

Formula: log10(value) ~ cumul_bites_2_previous_days + cumul_bites_7_previous_days + (1 | ID)

Data: d_sq

AIC BIC logLik deviance df.resid

-35.2 -31.7 22.6 -45.2 10
```

Random effects:

Conditional model:
Groups Name Variance Std.Dev.
ID (Intercept) 0.0005368 0.02317
Residual 0.0024840 0.04984
Number of obs: 15, groups: ID, 3

(Intercept)

Dispersion estimate for gaussian family (sigma^2): 0.00248

```
Dispersion estimate for gaussian ramily (sigma-2): 0.00248

Conditional model:
```

 cumul\_bites\_2\_previous\_days -0.001081
 0.004686
 -0.23
 0.818

 cumul\_bites\_7\_previous\_days -0.001048
 0.001626
 -0.64
 0.519

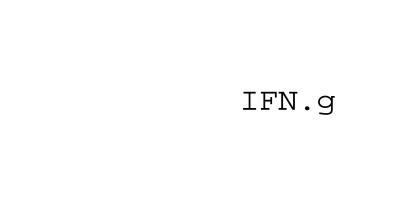
 -- 

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

Estimate Std. Error z value Pr(>|z|)

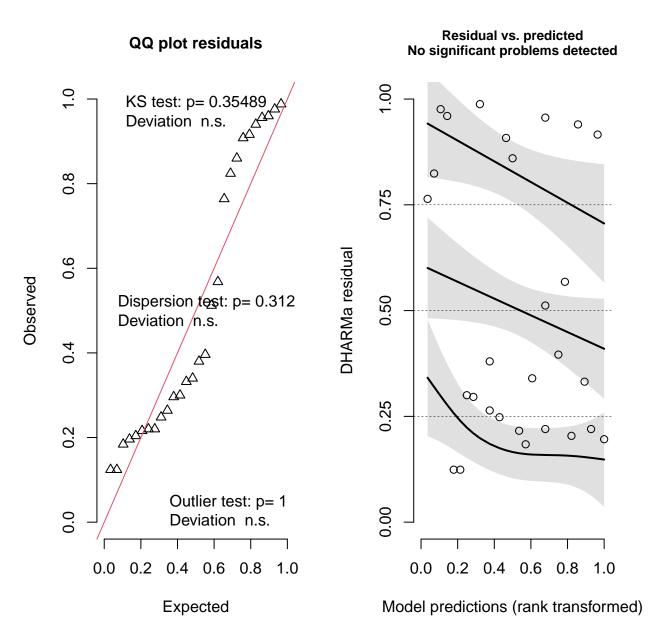
1.686274 0.026339 64.02 <2e-16 \*\*\*

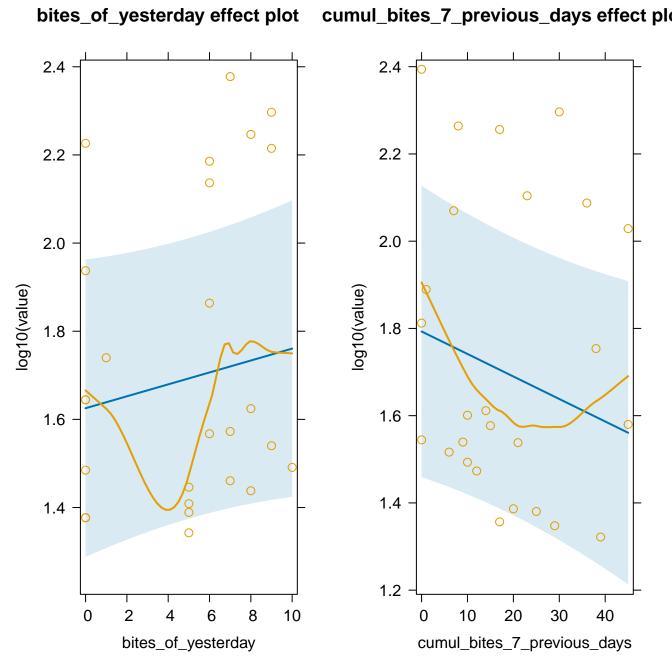
AICc [1] -28.53565

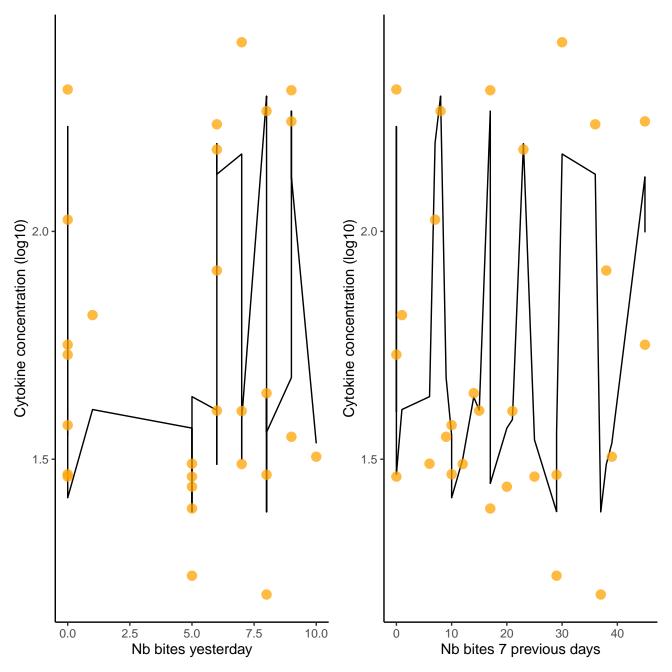




Nb excluded (LOD): 8
Nb remaining: 28







Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.32 [1.07, 2.41] 1.15 0.76 [0.41, 0.93] cumul\_bites\_7\_previous\_days 1.32 [1.07, 2.41] 1.15 0.76 [0.41, 0.93]

# Check for Multicollinearity

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
0.2 6.9 4.9 -9.8 23

Random effects:

Conditional model:
```

Number of obs: 28, groups: ID, 4

Variance Std.Dev.

0.02605 0.1614

ID (Intercept) 0.09160 0.3027

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.0261
```

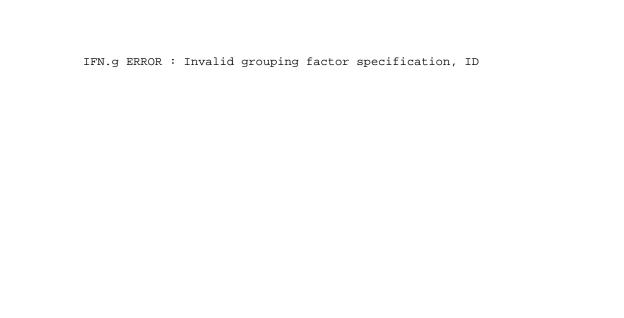
```
Conditional model:
```

--- Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 1

AICc [1] 2.974509



Nb excluded (LOD): 20 Nb remaining: 0

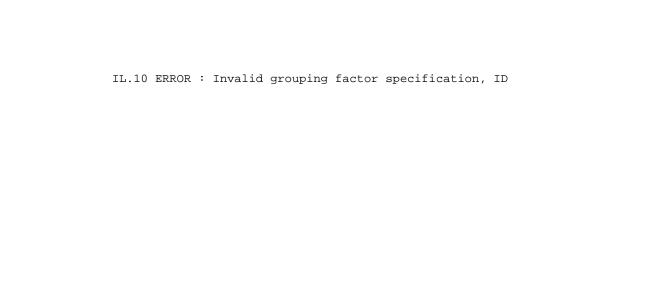


IL.10



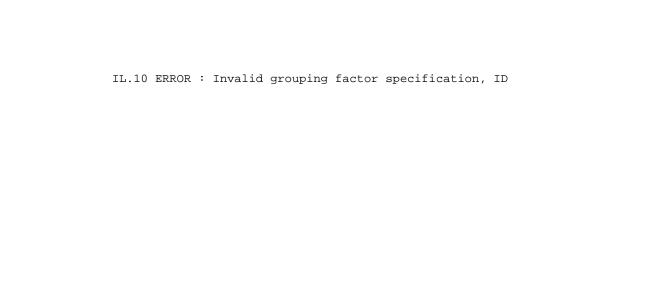
Nb excluded (LOD): 36

Nb remaining: 0





Nb excluded (LOD): 20 Nb remaining: 0

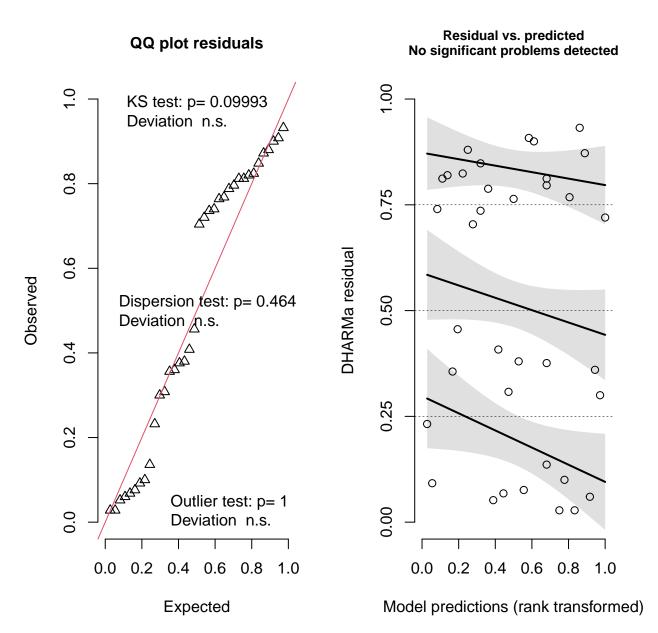


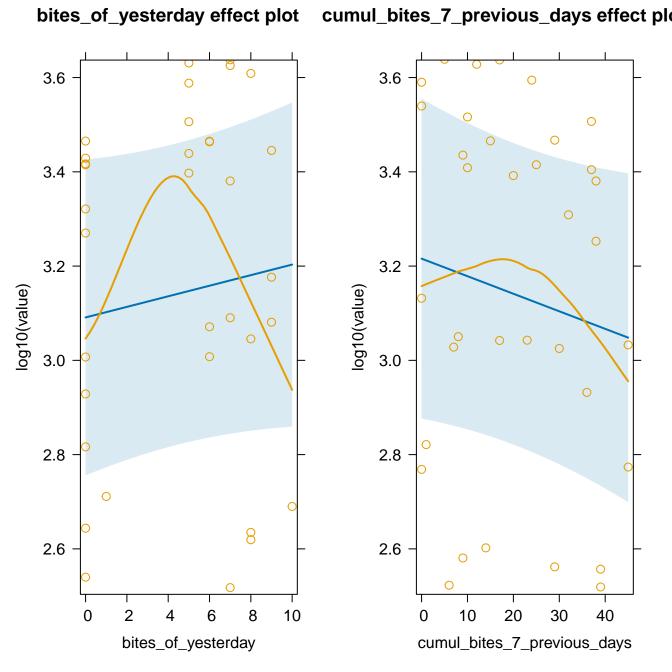
IL.12

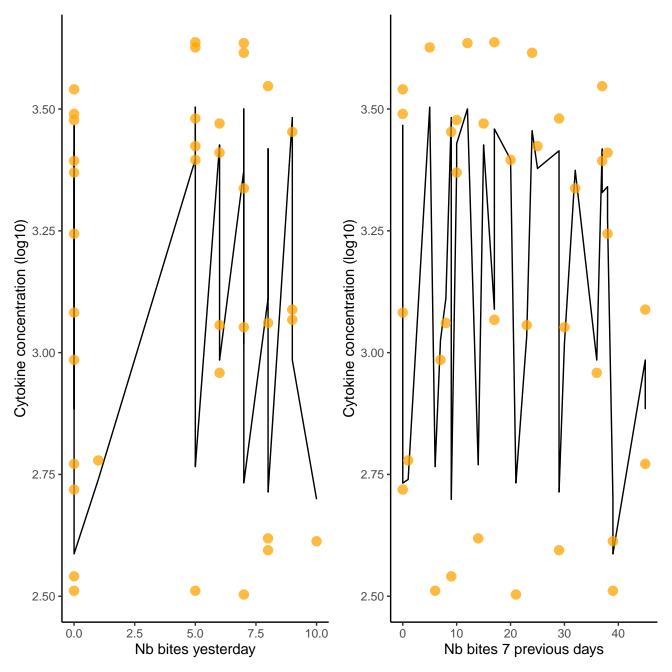


Nb excluded (LOD): 0

Nb remaining: 36







# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.71] 1.05 0.91 [0.27, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.71] 1.05 0.91 [0.27, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
           BIC logLik deviance df.resid
   15.1
           23.0 -2.5 5.1 31
Random effects:
Conditional model:
```

0.04881 0.2209 Number of obs: 36, groups: ID, 4

Variance Std.Dev.

ID (Intercept) 0.09349 0.3058

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.0488
```

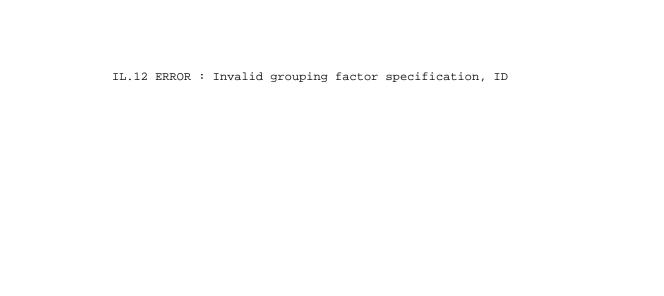
```
Conditional model:
                           Estimate Std. Error z value Pr(>|z|)
(Intercept)
                           3.166258 0.169180 18.715 <2e-16 ***
```

```
bites_of_yesterday
            0.011219 0.011126 1.008
                          0.313
0.177
```

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

AICc [1] 17.06667



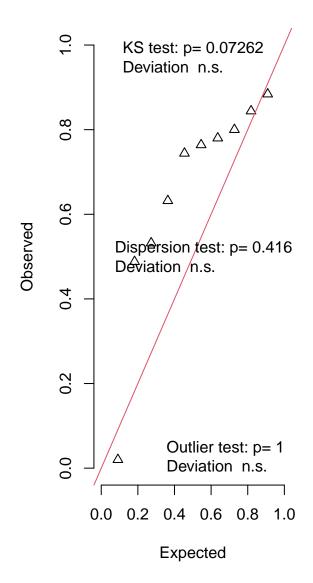


IL.15

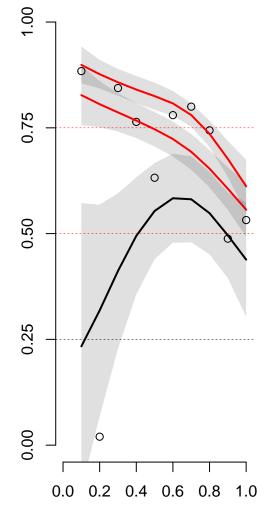


DHARMa residual

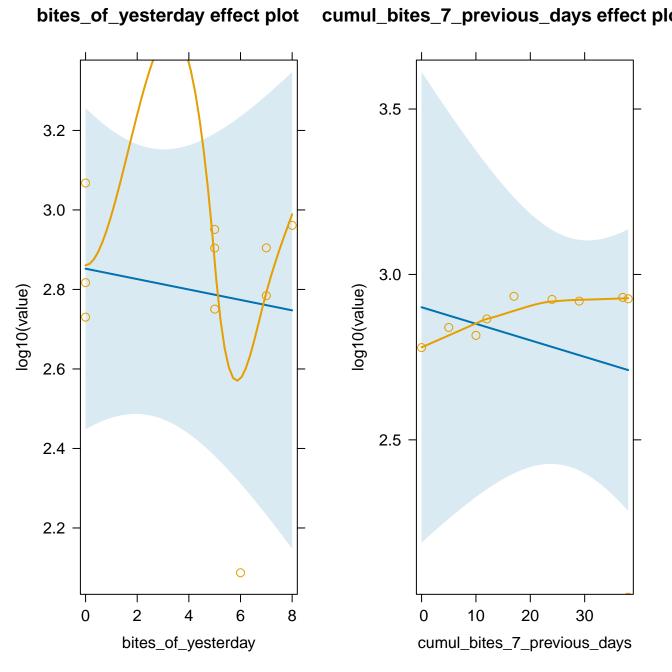


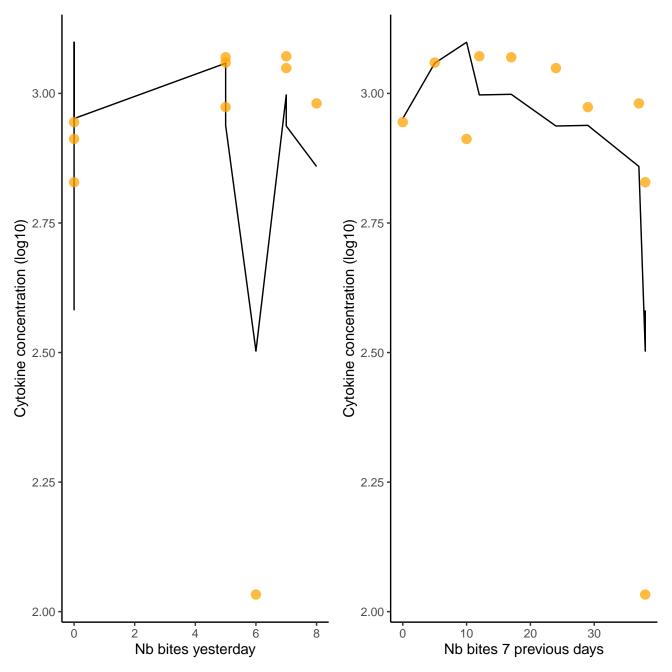


Residual vs. predicted
Quantile deviations detected (red curves)
Combined adjusted quantile test significant



Model predictions (rank transformed)





Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

cumul\_bites\_7\_previous\_days 2.02 [1.45, 3.31] 1.42 0.49 [0.30, 0.69]

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
10.7 12.2 -0.3 0.7 5

Random effects:

Conditional model:
```

Number of obs: 10, groups: ID, 3

Variance Std.Dev.

0.04412 0.2101

ID (Intercept) 0.03684 0.1919

Groups Name

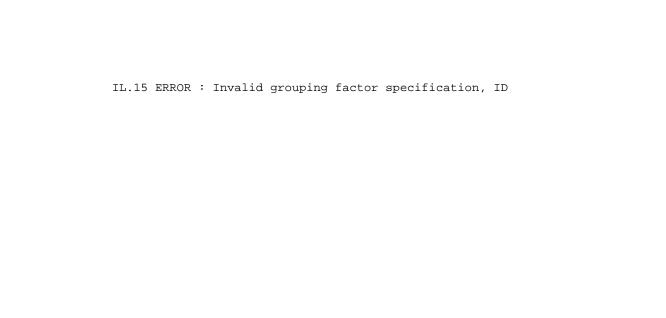
Residual

Conditional model:

Dispersion estimate for gaussian family (sigma^2): 0.0441

AICc [1] 25.68405



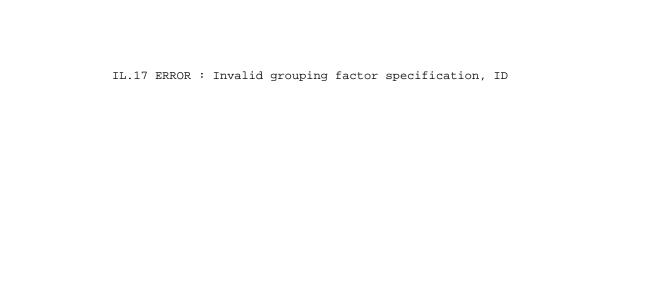


IL.17

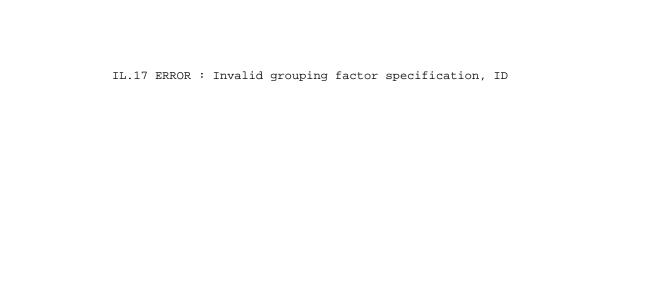


Nb excluded (LOD): 36

Nb remaining: 0





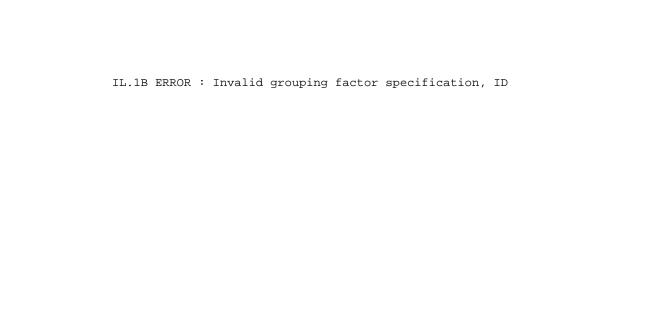


IL.1B

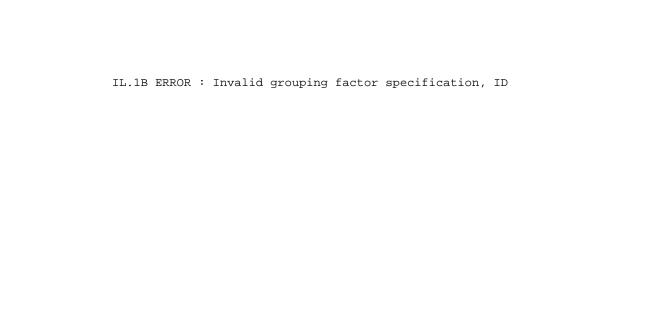


Nb excluded (LOD): 36

Nb remaining: 0

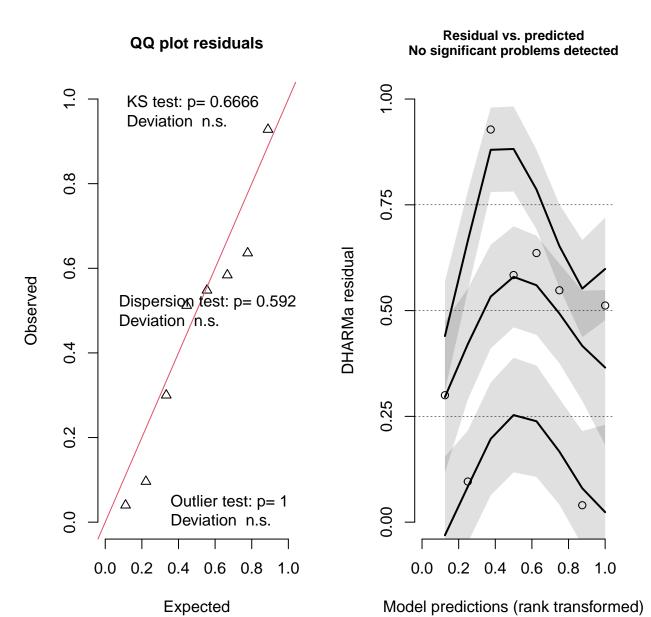


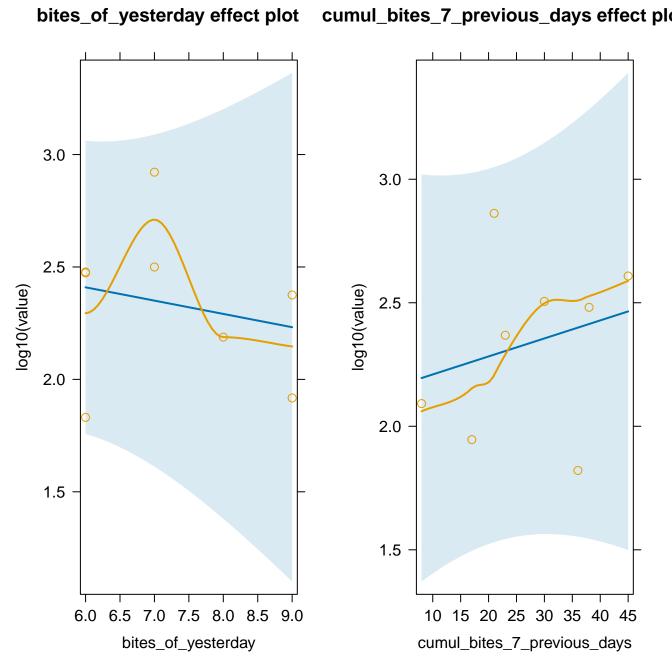


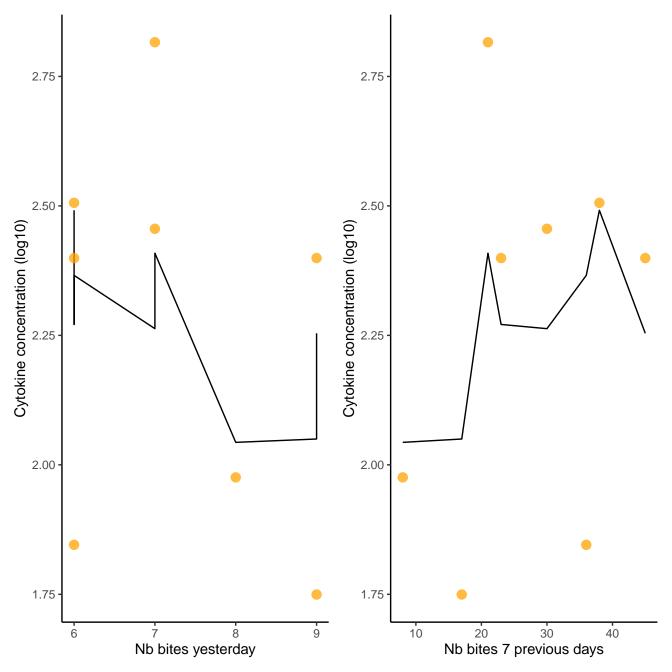


IL.2









# Check for Multicollinearity Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.07 [1.00, 3.38] 1.04 0.93 [0.30, 1.00]

cumul\_bites\_7\_previous\_days 1.07 [1.00, 3.38] 1.04 0.93 [0.30, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
   14.5
           14.9 -2.3 4.5 3
Random effects:
```

0.08676 0.2945 Residual Number of obs: 8, groups: ID, 3

Conditional model:

Groups Name Variance Std.Dev. ID (Intercept) 0.02210 0.1487

```
Dispersion estimate for gaussian family (sigma^2): 0.0868
```

```
Conditional model:
```

```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                         2.565775 0.793671 3.233 0.00123 **
bites_of_yesterday
                        -0.059151 0.111841 -0.529 0.59688
cumul_bites_7_previous_days 0.007290 0.009648 0.756 0.44988
```

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

AICc [1] 44.52735



IL.2	ERROR	:	Invalid	grouping	factor	specification,	ID



Nb excluded (LOD): 36

Nb remaining: 0

IL.4	ERROR	:	Invalid	grouping	factor	specification,	ID



IL.4	ERROR	:	Invalid	grouping	factor	specification,	ID



Nb excluded (LOD): 36

Nb remaining: 0

IL.5	ERROR	:	Invalid	grouping	factor	specification,	ID



IL.5	ERROR	:	Invalid	grouping	factor	specification,	ID

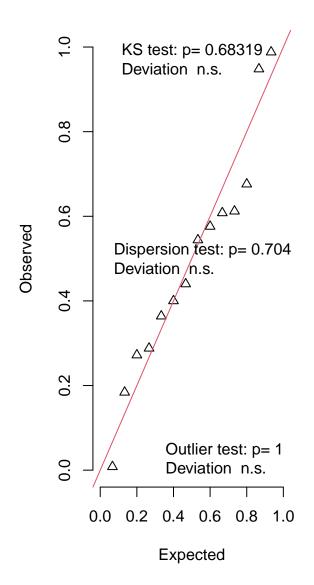


Nb excluded (LOD): 22

Nb remaining: 14

DHARMa residual

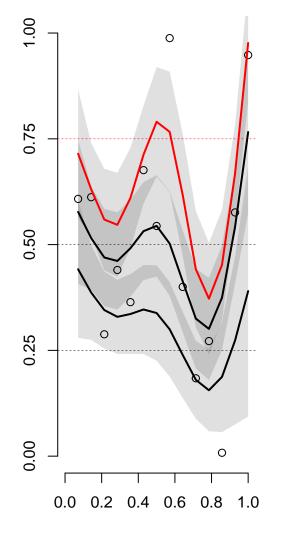




Residual vs. predicted

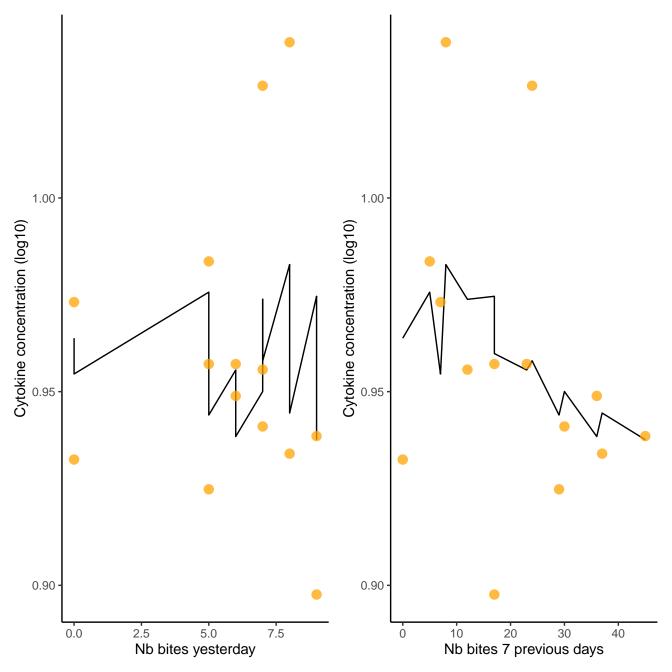
Quantile deviations detected (red curves)

Combined adjusted quantile test n.s.



Model predictions (rank transformed)

cumul\_bites\_7\_previous\_days effect plo bites\_of\_yesterday effect plot 0 0 0 1.00 1.00 log10(value) log10(value) 0.95 0.95 0 0.90 -0.90 0 2 40 10 20 30 0 8 4 6 0 bites\_of\_yesterday cumul\_bites\_7\_previous\_days



# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

cumul\_bites\_7\_previous\_days 1.52 [1.15, 2.72] 1.23 0.66 [0.37, 0.87]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -44.5
         -41.3 27.3 -54.5 9
Random effects:
Conditional model:
```

1.190e-03 3.450e-02 Number of obs: 14, groups: ID, 2

Variance Std.Dev.

(Intercept) 4.829e-13 6.949e-07

Groups Name

Residual

ID .-

```
Dispersion estimate for gaussian family (sigma^2): 0.00119
Conditional model:
```

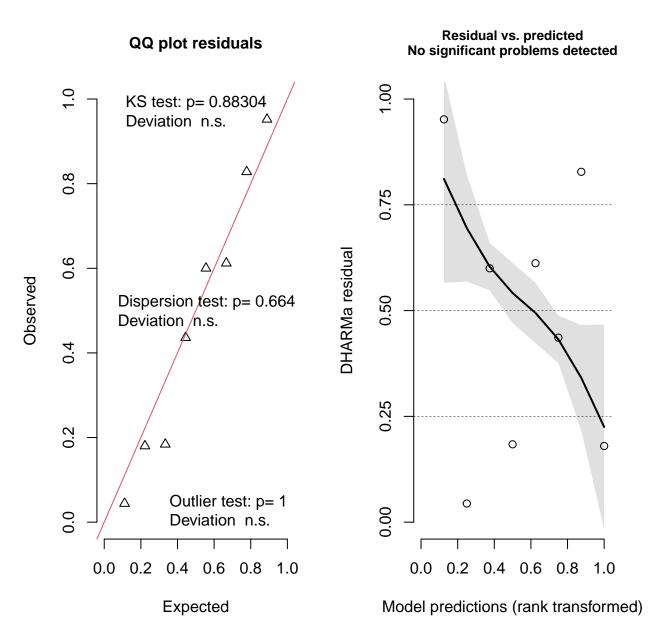
```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                          0.9638127 0.0221974 43.42 <2e-16 ***
bites_of_yesterday
                          0.0036966 0.0041711 0.89
                                                      0.375
                                                     0.128
```

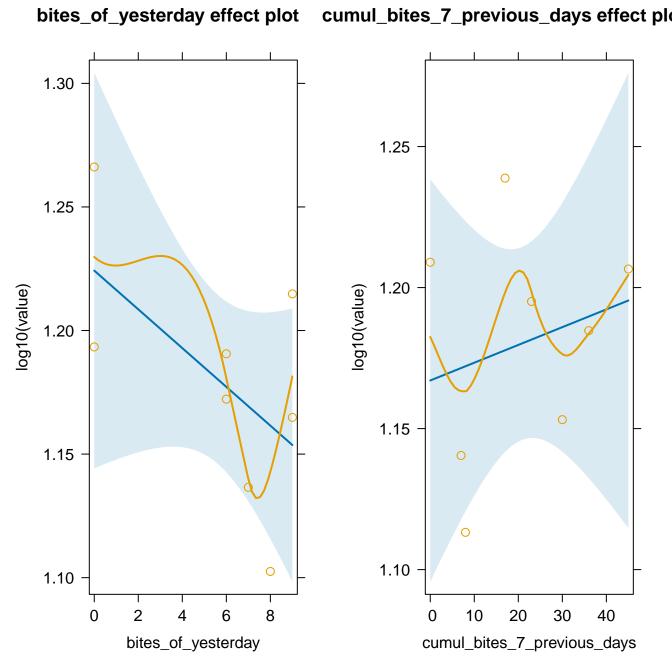
Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ....... 0.1 ... ... 1 AICc [1] -37.0414

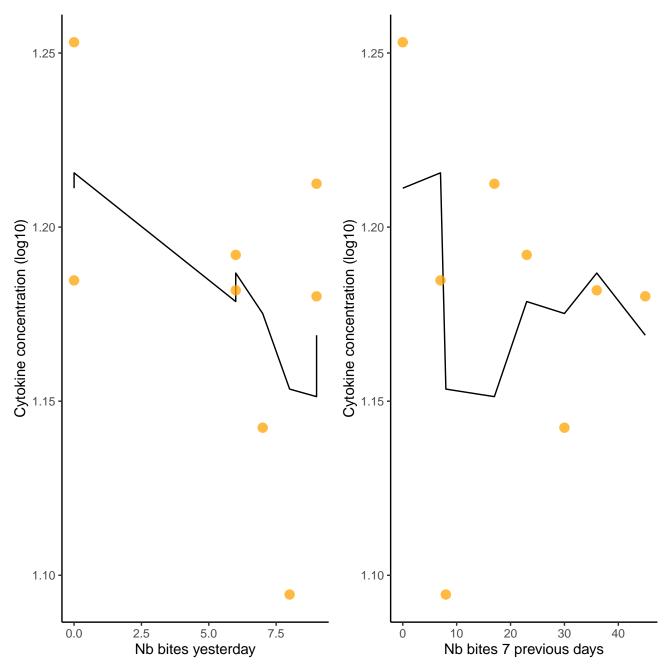


IL.6	ERROR	:	Invalid	grouping	factor	specification,	ID









# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.66 [1.30, 2.44] 1.29 0.60 [0.41, 0.77]

cumul\_bites\_7\_previous\_days 1.66 [1.30, 2.44] 1.29 0.60 [0.41, 0.77]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -19.8 -19.4 14.9 -29.8 3
Random effects:
Conditional model:
Groups Name
                 Variance Std.Dev.
```

Estimate Std. Error z value Pr(>|z|)

1.2111722 0.0264288 45.83 <2e-16 \*\*\*

1.417e-03 3.764e-02 Dispersion estimate for gaussian family (sigma^2): 0.00142

ID (Intercept) 6.240e-13 7.899e-07

Number of obs: 8, groups: ID, 1

Residual

Conditional model:

(Intercept)

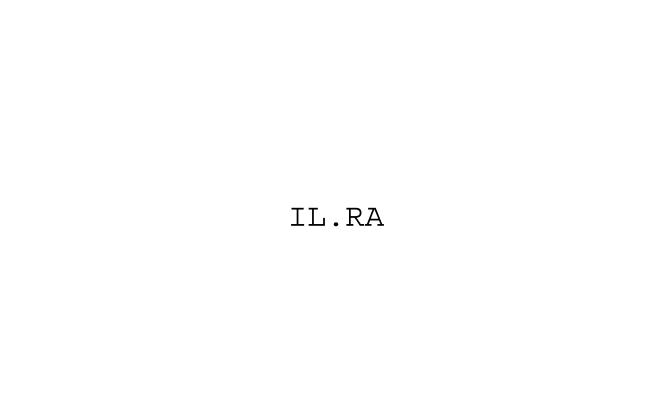
```
bites_of_yesterday
                        -0.0078426 0.0050033 -1.57
                                                   0.117
cumul_bites_7_previous_days 0.0006302 0.0011731 0.54
                                                   0.591
Signif. codes: 0 ...***... 0.001 ...**... 0.01 ...*... 0.05 ...... 1
```

AICc [1] 10.22998



Nb excluded (LOD): 20 Nb remaining: 0

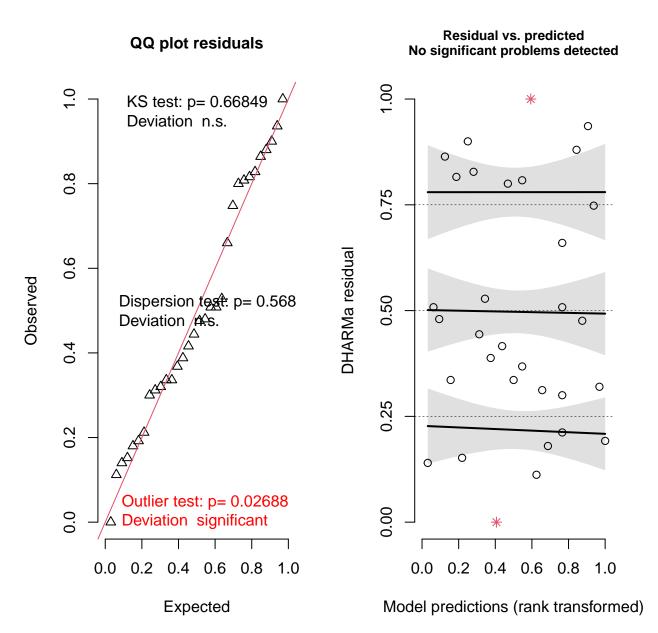
IL.8	ERROR	:	Invalid	grouping	factor	specification,	ID

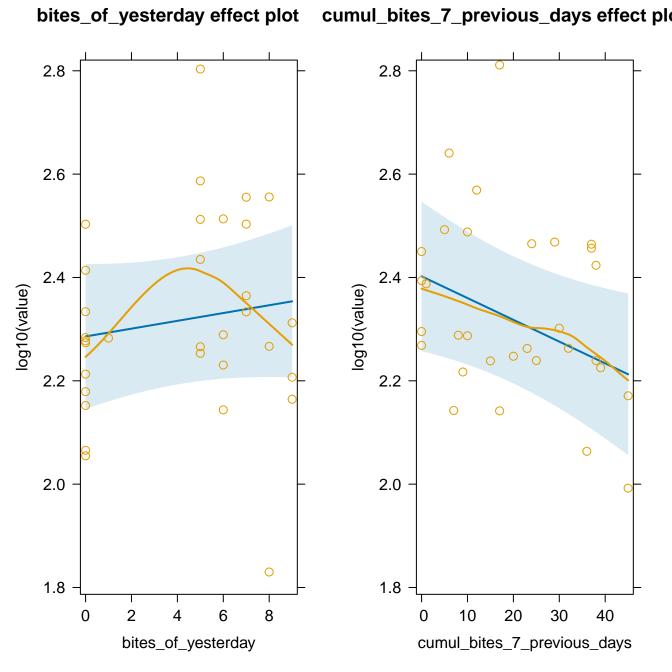


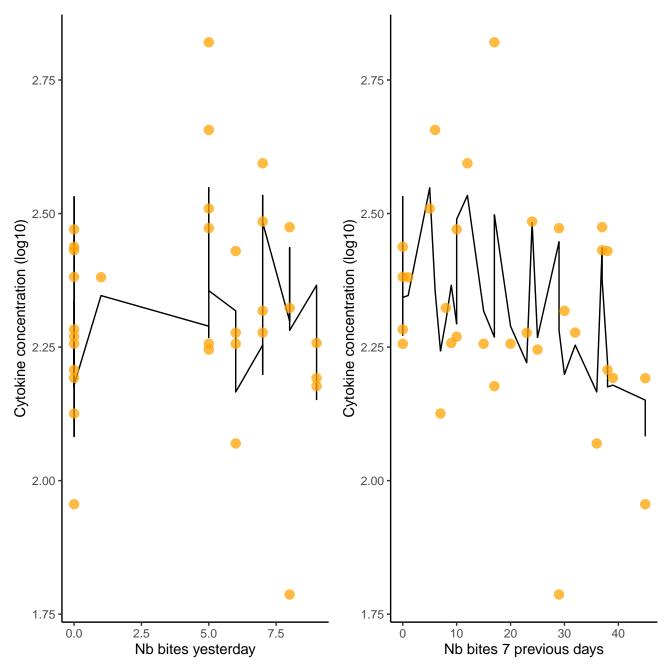


Nb remaining: 32

Nb excluded (LOD): 4







# Check for Multicollinearity

Low Correlation

Term	VIF	VIF	95% CI	Increased SE	Tolerance	Tolerance 95% CI
bites_of_yesterday 1	1.06	[1.00,	13.48]	1.03	0.95	[0.07, 1.00]
cumul_bites_7_previous_days 1	1.06	[1.00,	13.48]	1.03	0.95	[0.07, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
           BIC logLik deviance df.resid
  -15.4
           -8.1 12.7 -25.4 27
Random effects:
Conditional model:
```

Number of obs: 32, groups: ID, 4

Variance Std.Dev.

0.02153 0.1467

ID (Intercept) 0.01165 0.1079

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.0215
```

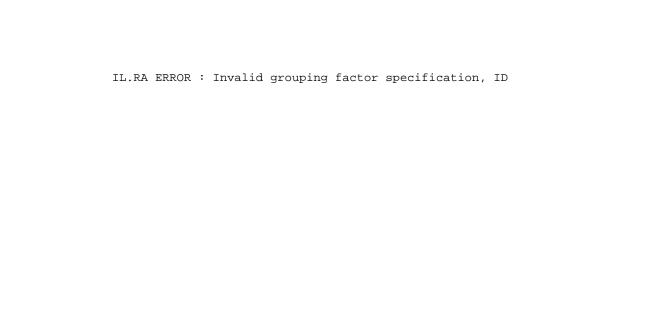
```
Conditional model:
```

```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                          2.370655 0.074126 31.98 <2e-16 ***
bites_of_yesterday
                          0.007552 0.008039 0.94 0.3475
```

AICc [1] -13.08771



Nb excluded (LOD): 20 Nb remaining: 0

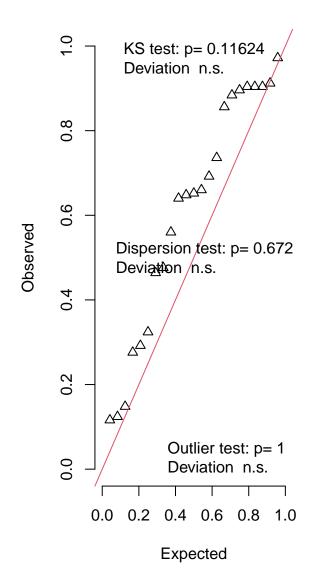


IP.10

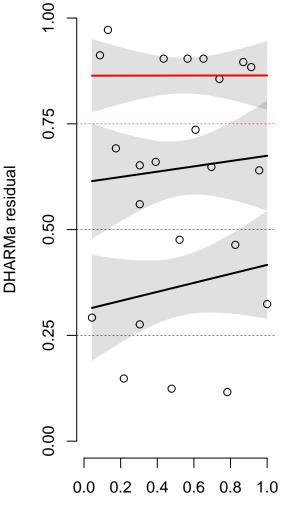


Nb excluded (LOD): 13 Nb remaining: 23





Residual vs. predicted
Quantile deviations detected (red curves)
Combined adjusted quantile test significant

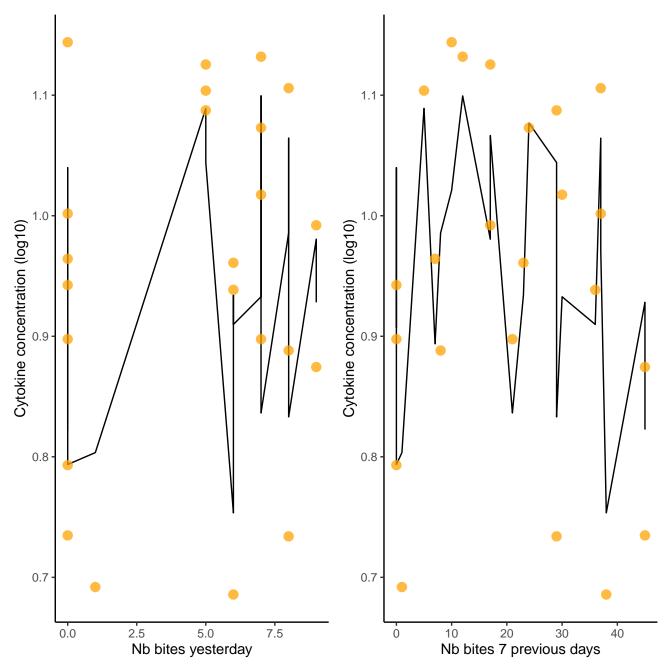


Model predictions (rank transformed)

1.1 -1.1 -0 0 0 0 1.0 1.0 0 log10(value) log10(value) 0.9 0.9 8.0 8.0 0.7 0.7 0 2 30 40 6 8 10 20 0 4 0 bites\_of\_yesterday cumul\_bites\_7\_previous\_days

bites\_of\_yesterday effect plot

cumul\_bites\_7\_previous\_days effect ple



# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.18 [1.02, 2.77] 1.08 0.85 [0.36, 0.98]

cumul\_bites\_7\_previous\_days 1.18 [1.02, 2.77] 1.08 0.85 [0.36, 0.98]

```
Family: gaussian (identity)

Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)

Data: d_cyno

AIC BIC logLik deviance df.resid
-26.3 -20.6 18.2 -36.3 18

Random effects:

Conditional model:
```

Number of obs: 23, groups: ID, 4

Variance Std.Dev.

0.008258 0.09087

ID (Intercept) 0.014538 0.12057

Groups Name

Residual

```
Dispersion estimate for gaussian family (sigma^2): 0.00826
```

```
Conditional model: 
 Estimate Std. Error z value \Pr(>|z|) 
 (Intercept) 0.873646 0.075231 11.613 <2e-16 ***
```

```
      title_sof_yesterday
      0.011727
      0.006146
      1.908
      0.0564

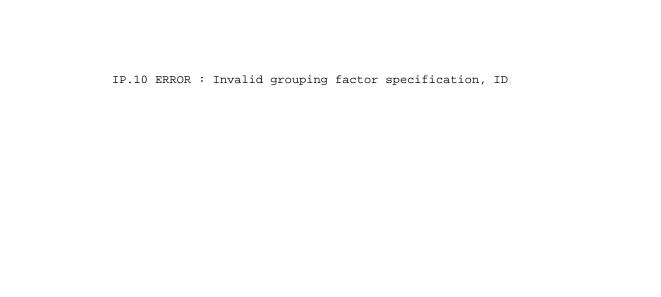
      cumul_bites_7_previous_days
      -0.01872
      0.001481
      -1.264
      0.2061
```

<sup>---</sup> Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ....... 1

AICc [1] -22.77227



Nb excluded (LOD): 20 Nb remaining: 0

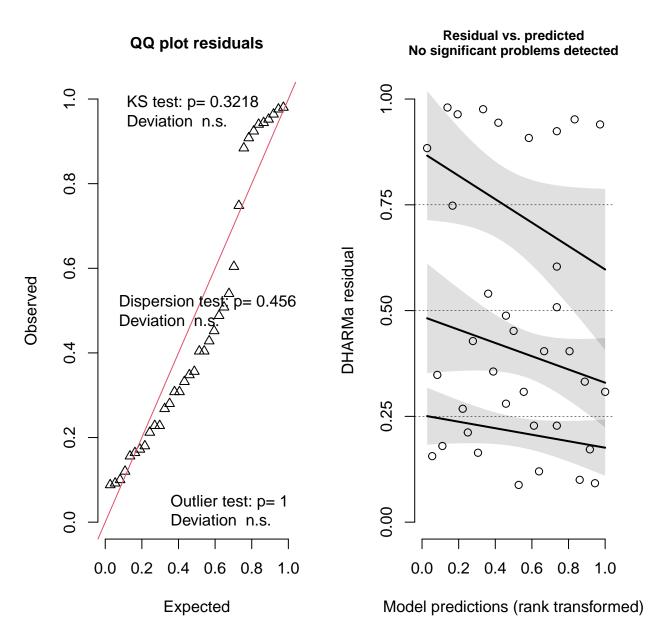


MCP.1

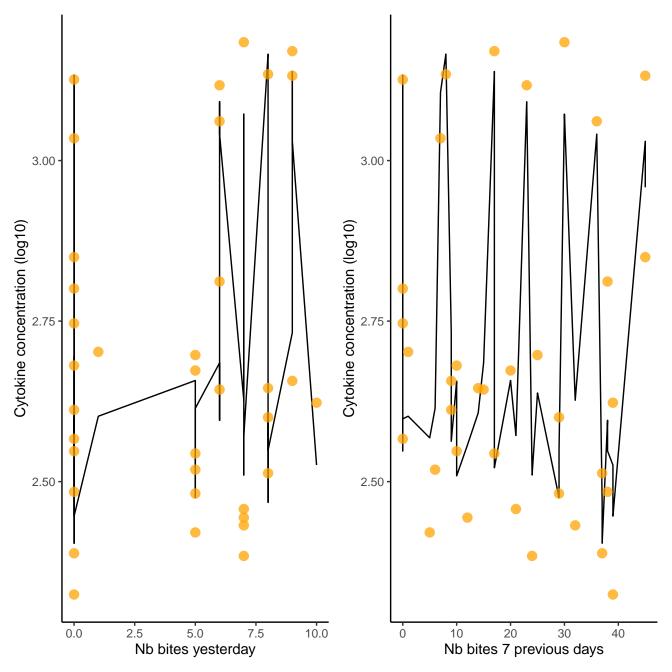


Nb excluded (LOD): 0

Nb remaining: 36



cumul\_bites\_7\_previous\_days effect ple bites\_of\_yesterday effect plot 3.0 3.0 log10(value) log10(value) 2.8 2.8 2.6 2.6 2.4 2.4 bites\_of\_yesterday cumul\_bites\_7\_previous\_days



Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.74] 1.05 0.91 [0.27, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.74] 1.05 0.91 [0.27, 1.00]

# Check for Multicollinearity

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
-37.2 -29.3 23.6 -47.2 31

Random effects:

Conditional model:
```

Dispersion estimate for gaussian family (sigma^2): 0.0102

Variance Std.Dev.

0.01025 0.1012

ID (Intercept) 0.05454 0.2335

Number of obs: 36, groups: ID, 4

Groups Name

Residual

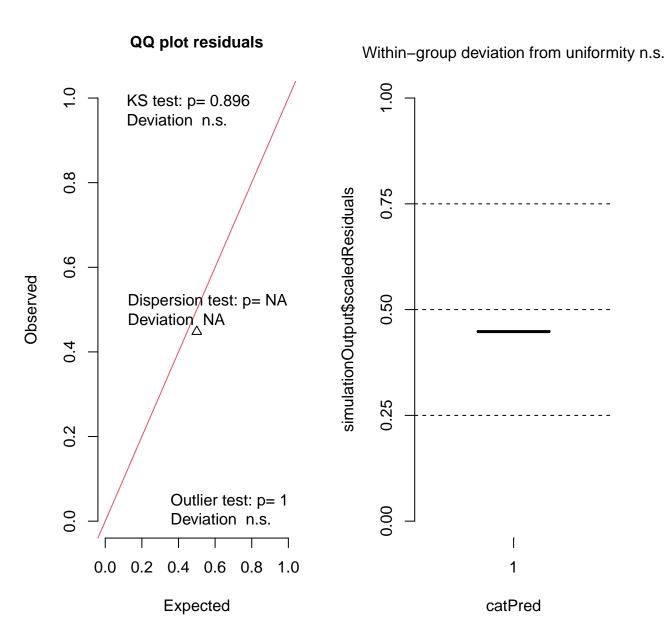
```
Conditional model:
```

--- Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 1

AICc [1] -35.18623

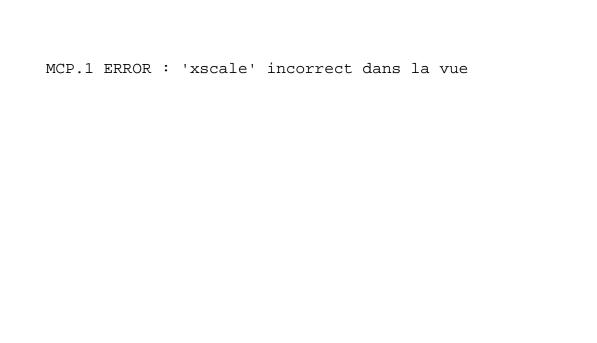


Nb excluded (LOD): 19 Nb remaining: 1



umul\_bites\_2\_previous\_days effect plot

log10(value)



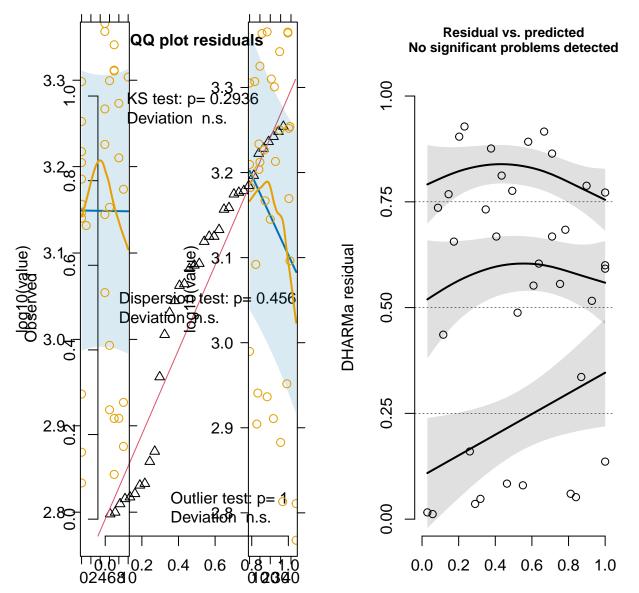




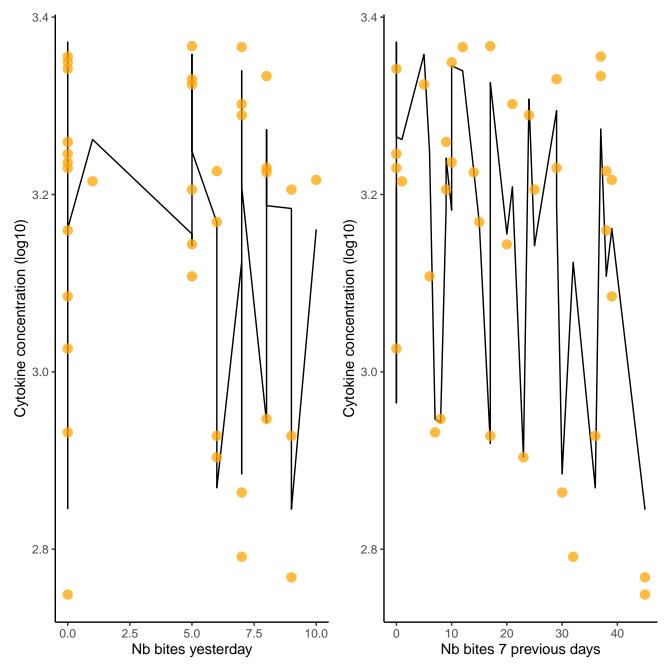
Nb excluded (LOD): 0

Nb remaining: 36

## of\_yestendayletitesp7oprevious\_days effect plot DHARMa residual



bites\_of\_yesterdaceupedtedtes\_7\_previous\_days Model predictions (rank transformed)



Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.75] 1.05 0.91 [0.27, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.75] 1.05 0.91 [0.27, 1.00]

Number of obs: 36, groups: ID, 4

0.007548 0.08688

ID (Intercept) 0.023047 0.15181

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.00755
```

```
(Intercept) 3.203e+00 8.109e-02 39.50 <2e-16 ***
bites_of_yesterday -8.757e-05 4.375e-03 -0.02 0.9840
cumul_bites_7_previous_days -2.646e-03 1.086e-03 -2.44 0.0149 *
```

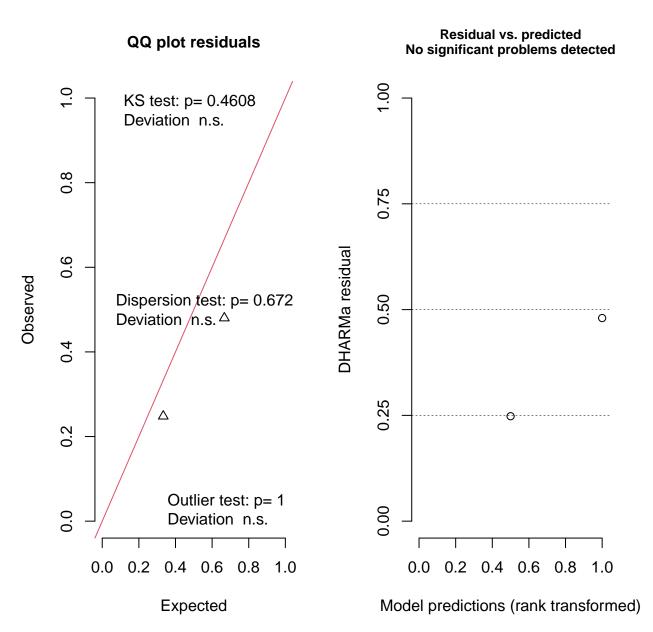
--- Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ....\* 0.05 ...... 1

Estimate Std. Error z value Pr(>|z|)

AICc [1] -48.354



Nb excluded (LOD): 18 Nb remaining: 2



umul\_bites\_2\_previous\_days effect plot

log10(value)

MDC	ERROR	:	'xscale'	incorrect	dans	la	vue	

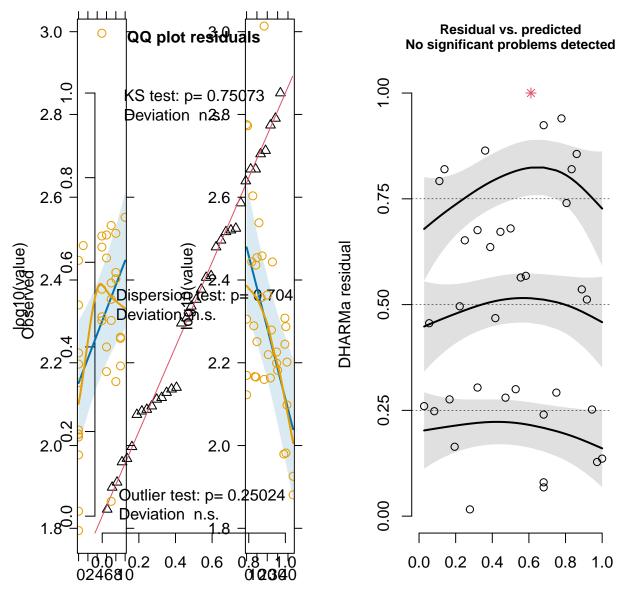




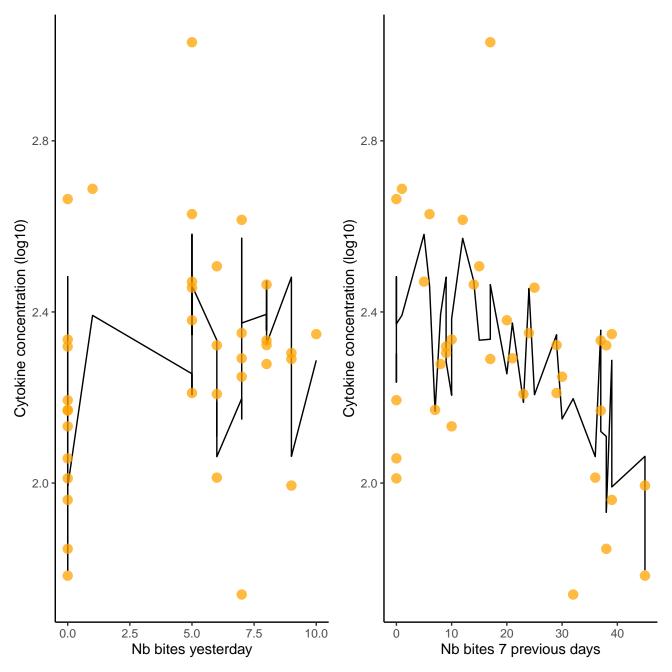
Nb excluded (LOD): 0

Nb remaining: 36

## of\_yestendayletitesp7oprevious\_days effect plot DHARMa residual



bites\_of\_yesterdaceupedtedtes\_7\_previous\_days Model predictions (rank transformed)



Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.80] 1.05 0.91 [0.26, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.80] 1.05 0.91 [0.26, 1.00]

# Check for Multicollinearity

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
            BIC logLik deviance df.resid
   -3.4
            4.5 6.7 -13.4 31
Random effects:
Conditional model:
```

Number of obs: 36, groups: ID, 4

Variance Std.Dev.

0.03467 0.1862

ID (Intercept) 0.01116 0.1056

Groups Name

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.0347
```

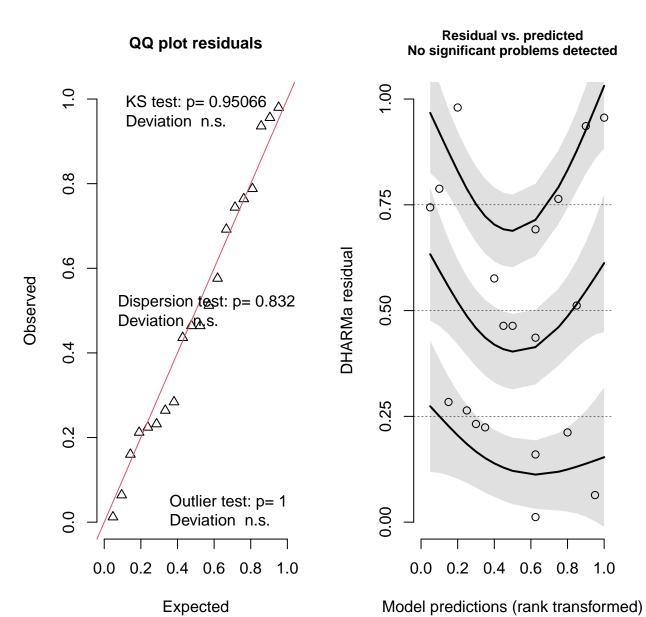
```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                          2.348359 0.080809 29.060 < 2e-16 ***
bites_of_yesterday
                          0.029594 0.009375 3.157 0.0016 **
```

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

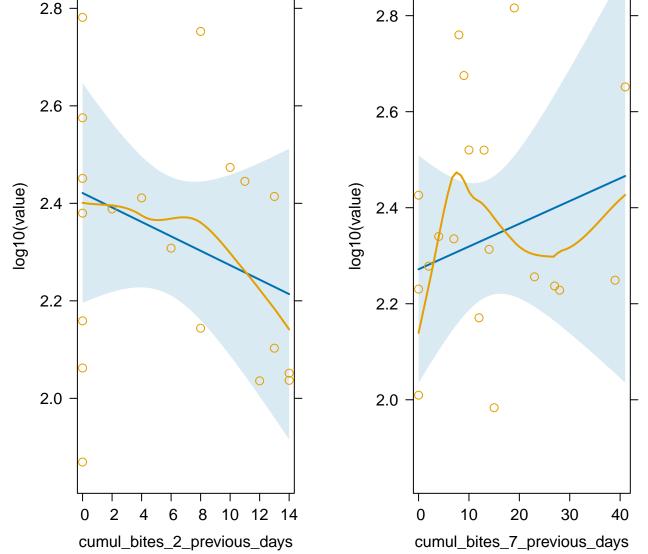
AICc [1] -1.426414

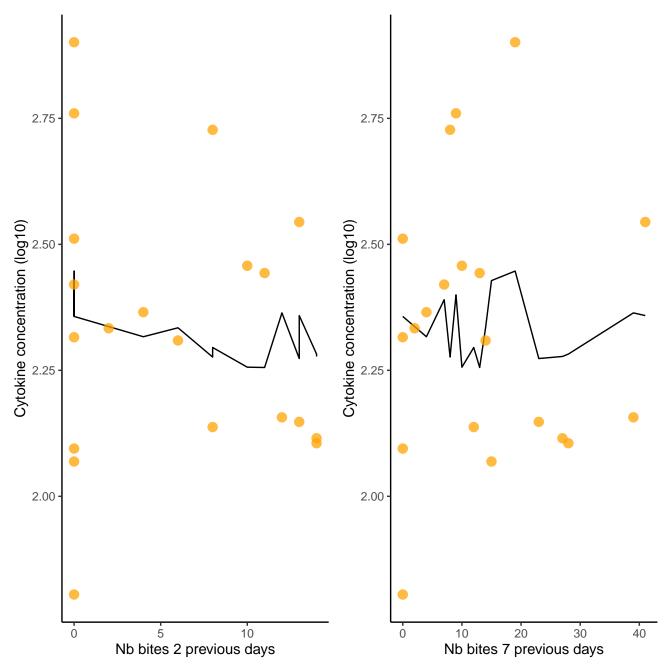


Nb excluded (LOD): 0 Nb remaining: 20



2.8 0 2.8 0 0





# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

cumul\_bites\_2\_previous\_days 2.29 [1.55, 4.03] 1.51 0.44 [0.25, 0.64] cumul\_bites\_7\_previous\_days 2.29 [1.55, 4.03] 1.51 0.44 [0.25, 0.64]

Low Correlation

```
Family: gaussian ( identity )
Formula:
           log10(value) ~ cumul_bites_2_previous_days + cumul_bites_7_previous_days +
   (1 | ID)
Data: d sq
   AIC
          BIC logLik deviance df.resid
        17.4 -1.2 2.4 15
   12.4
```

Random effects: Conditional model:

Groups Name Variance Std.Dev. (Intercept) 1.410e-12 1.187e-06

6.612e-02 2.571e-01 Residual Number of obs: 20, groups: ID, 4

Dispersion estimate for gaussian family (sigma^2): 0.0661

Conditional model:

(Intercept)

Estimate Std. Error z value Pr(>|z|) 2.356955 0.087666 26.886 <2e-16 \*\*\* 

cumul\_bites\_7\_previous\_days 0.004737 0.007129 0.664

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

0.344

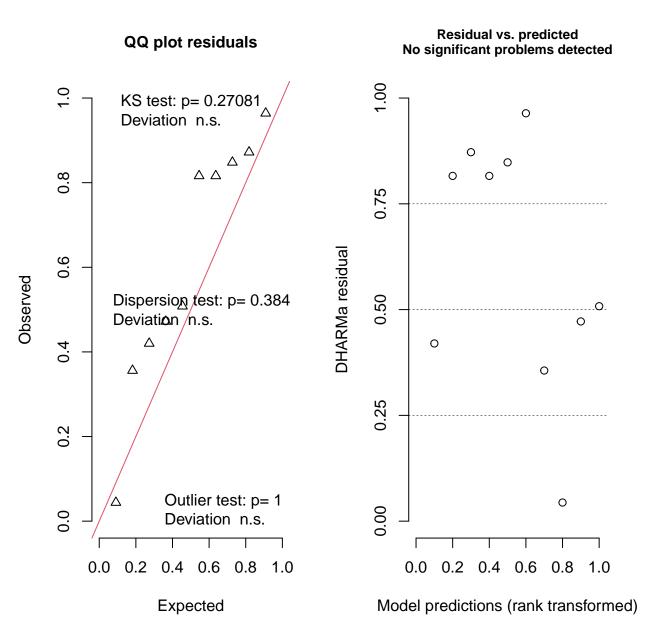
0.506

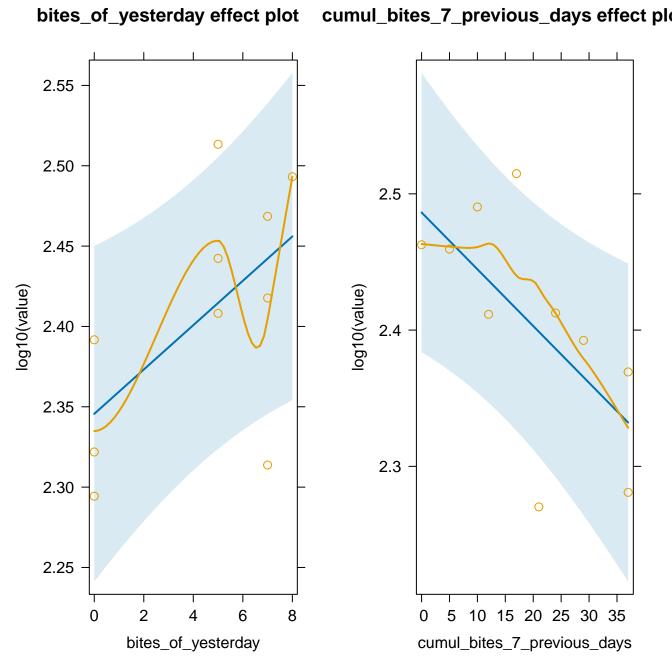
AICc [1] 16.71649

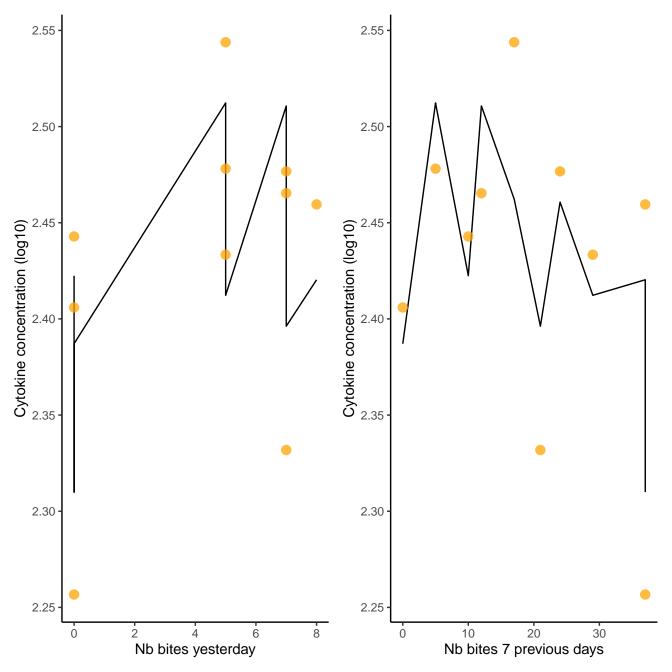




Nb excluded (LOD): 26 Nb remaining: 10







# Check for Multicollinearity

Low Correlation

Term	VIF	VIF	95% CI	Increased SE	Tolerance	Tolerance 95% CI
bites_of_yesterday 1	.06	[1.00,	11.88]	1.03	0.94	[0.08, 1.00]
cumul_bites_7_previous_days 1	.06	[1.00,	11.88]	1.03	0.94	[0.08, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -19.2 -17.7 14.6 -29.2 5
Random effects:
Conditional model:
```

Number of obs: 10, groups: ID, 2

Variance Std.Dev.

0.002337 0.04834

ID (Intercept) 0.001978 0.04447

Groups Name

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.00234
```

```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                          2.425605 0.045483 53.33 < 2e-16 ***
bites_of_yesterday
                          0.013800 0.005259 2.62 0.00868 **
```

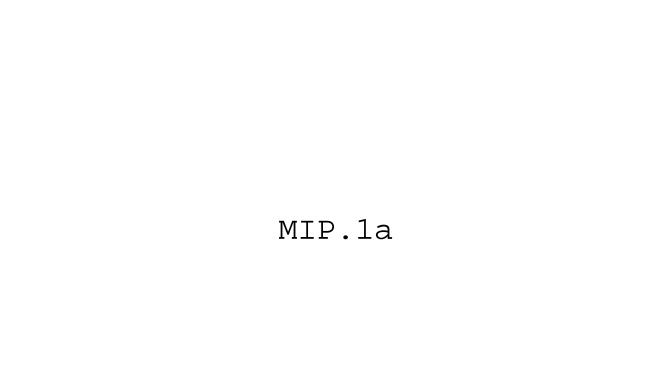
Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

AICc [1] -4.168768



Nb excluded (LOD): 20 Nb remaining: 0

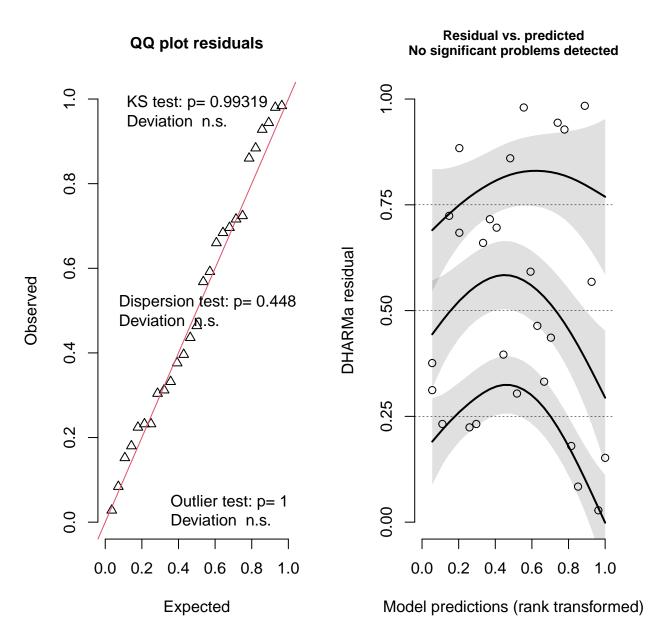
MIG	ERROR	:	Invalid	grouping	factor	specification,	ID





Nb excluded (LOD): 9

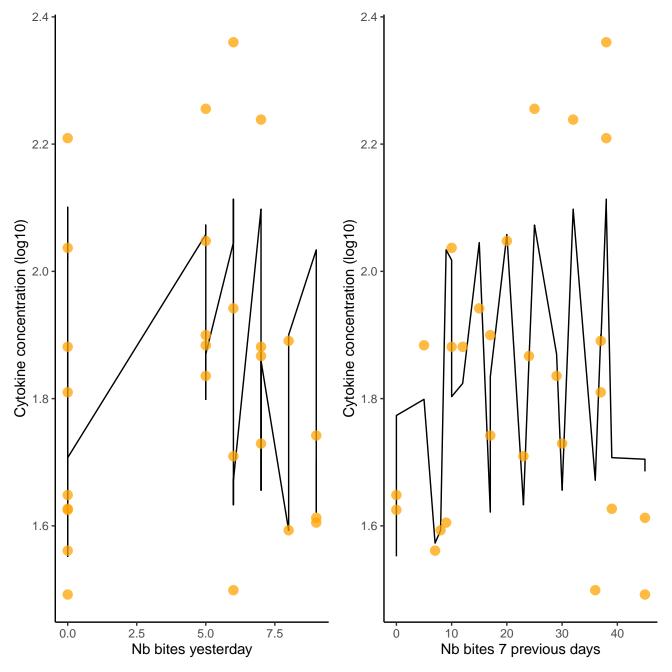
Nb remaining: 27



2.2 2.2 2.0 2.0 log10(value) log10(value) 1.8 1.8 1.6 1.6 bites\_of\_yesterday cumul\_bites\_7\_previous\_days

bites\_of\_yesterday effect plot

cumul\_bites\_7\_previous\_days effect plo



# Check for Multicollinearity

Low Correlation

Term	VIF	VI	F 95%	CI	Increased	SE	Tolerance	Tolerance	95%	CI
bites_of_yesterday	1.02	[1.00,	9941.	29]	1.	01	0.98	[0.00,	, 1.0	00]

cumul\_bites\_7\_previous\_days 1.02 [1.00, 9941.29] 1.01 0.98 [0.00, 1.00]

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
-8.9 -2.4 9.4 -18.9 22

Random effects:

Conditional model:
```

Number of obs: 27, groups: ID, 4

Variance Std.Dev.

0.02070 0.1439

ID (Intercept) 0.03472 0.1863

Groups Name

Residual

Conditional model:

```
Dispersion estimate for gaussian family (sigma^2): 0.0207
```

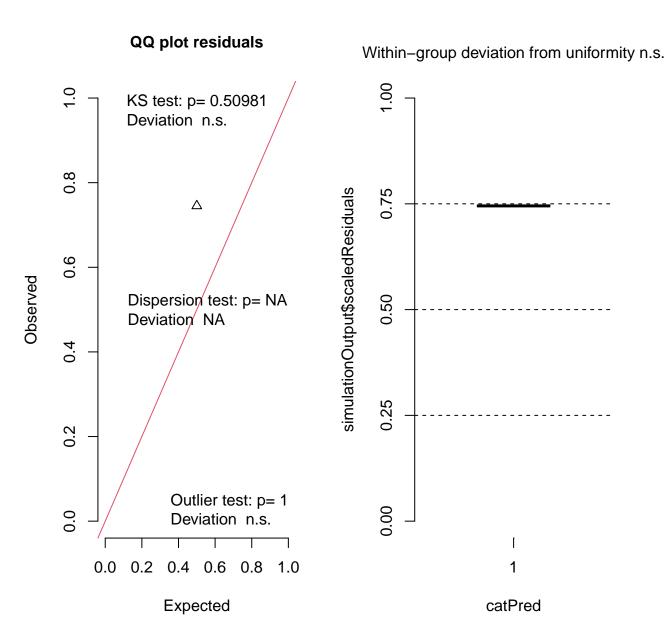
```
| Estimate Std. Error z value Pr(>|z|) | (Intercept) | 1.726278 | 0.116690 | 14.794 | <2e-16 *** | bites_of_yesterday | 0.002121 | 0.008647 | 0.245 | 0.806 | cumul_bites_7_previous_days | 0.002966 | 0.002117 | 1.401 | 0.161
```

--- Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ....... 1

AICc [1] -6.007012



Nb excluded (LOD): 19 Nb remaining: 1



umul\_bites\_2\_previous\_days effect plot

log10(value)

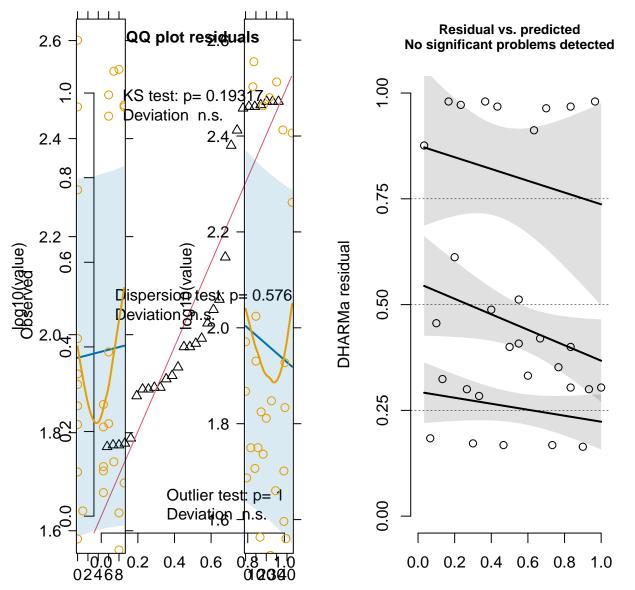
MIP.la ERROR : 'xscale' incorrect dans la v	<i>r</i> ue

MIP.1B

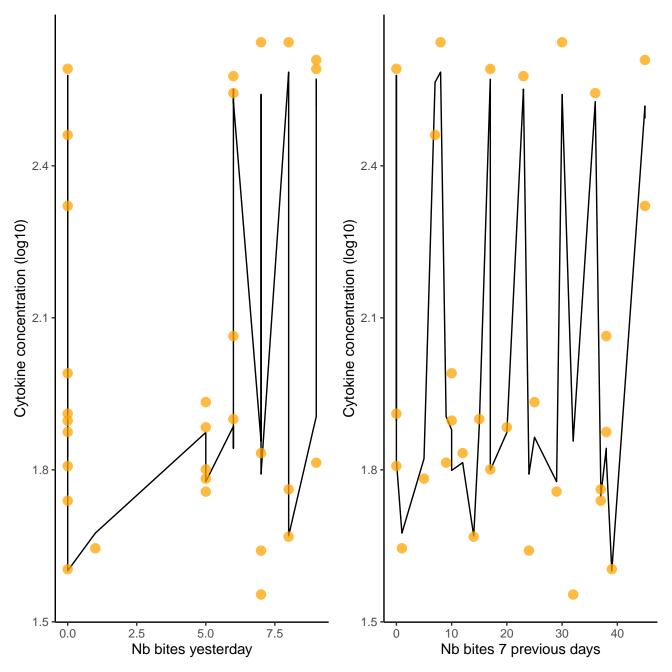


Nb excluded (LOD): 6
Nb remaining: 30

## of\_yestendayletitesp7oprevious\_days effect plot DHARMa residual



bites\_of\_yesterdaceupedtedtes\_7\_previous\_days Model predictions (rank transformed)



Low Correlation

# Check for Multicollinearity

Term VIF

cumul\_bites\_7\_previous\_days 1.03 [1.00, 717.36] 1.01

VIF 95% CI Increased SE Tolerance Tolerance 95% CI

0.97

[0.00, 1.00]

bites\_of\_yesterday 1.03 [1.00, 717.36] 1.01 0.97 [0.00, 1.00]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -22.8 -15.8 16.4 -32.8 25
Random effects:
Conditional model:
```

0.01098 0.1048 Number of obs: 30, groups: ID, 4

Variance Std.Dev.

ID (Intercept) 0.12276 0.3504

Groups Name

Residual

Dispersion estimate for gaussian family (sigma^2): 0.011

```
Conditional model:
```

Estimate Std. Error z value Pr(>|z|) (Intercept) 1.991951 0.179640 11.089 <2e-16 \*\*\* bites\_of\_yesterday 0.002730 0.005798 0.471 0.638 0.174

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ....... 0.1 ... ... 1

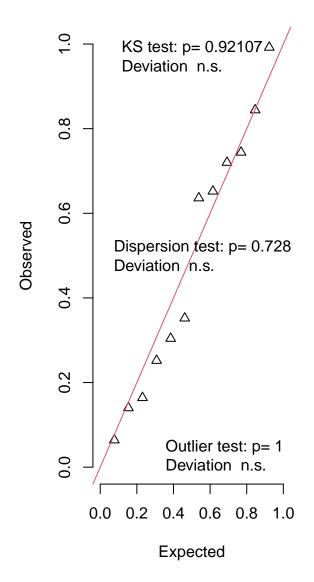
AICc [1] -20.31575



Nb excluded (LOD): 8
Nb remaining: 12

DHARMa residual

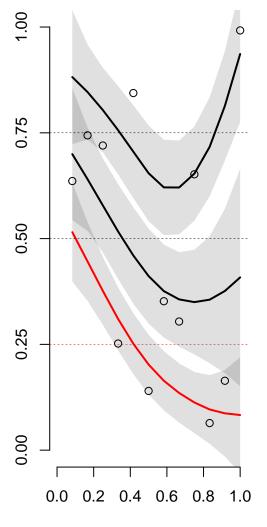




Residual vs. predicted

Quantile deviations detected (red curves)

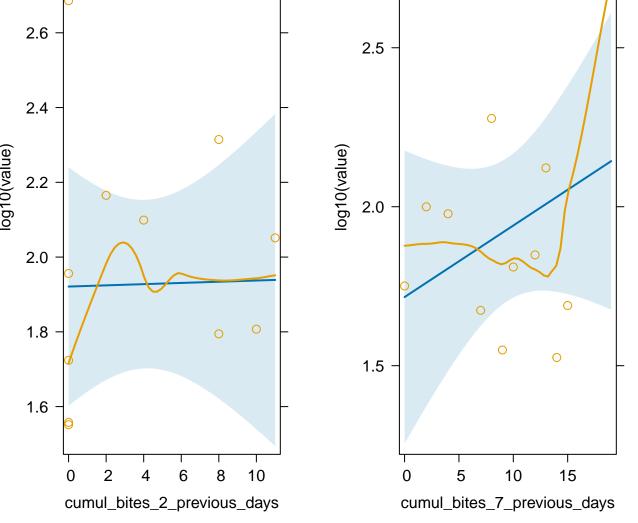
Combined adjusted quantile test n.s.

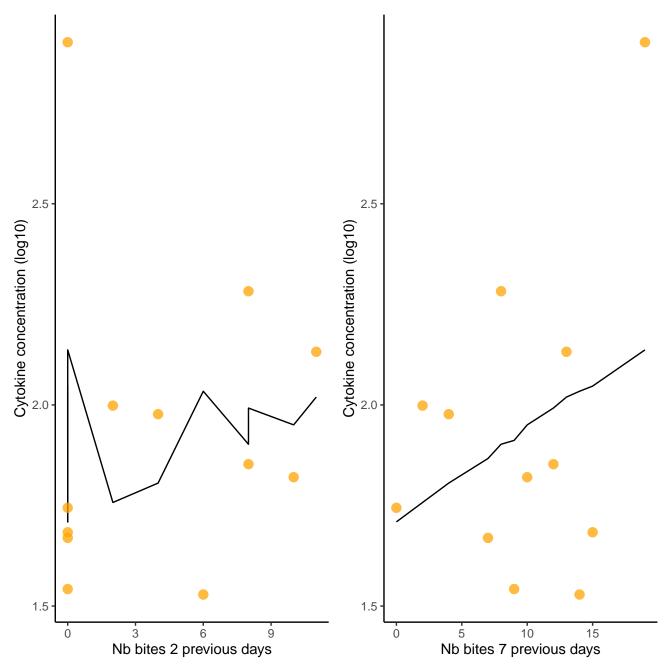


Model predictions (rank transformed)

2.8 2.6 2.5 2.4 0 0 log10(value) 2.2

umul\_bites\_2\_previous\_days effect **pdot**mul\_bites\_7\_previous\_days effect pl





Low Correl	ation
------------	-------

# Check for Multicollinearity

Term VIF

cumul\_bites\_7\_previous\_days 1.03 [1.00, 969.55] 1.02 0.97

VIF 95% CI Increased SE Tolerance Tolerance 95% CI

[0.00, 1.00]

```
Family: gaussian ( identity )
Formula:
            log10(value) ~ cumul_bites_2_previous_days + cumul_bites_7_previous_days +
   (1 | ID)
Data: d sq
   AIC
          BIC logLik deviance df.resid
         21.0 -4.3 8.5 7
   18.5
```

Random effects:

```
Conditional model:
Groups Name
                  Variance Std.Dev.
       (Intercept) 1.141e-10 1.068e-05
```

1.192e-01 3.452e-01 Residual

```
Number of obs: 12, groups: ID, 4
```

```
Dispersion estimate for gaussian family (sigma^2): 0.119
Conditional model:
                           Estimate Std. Error z value Pr(>|z|)
```

(Intercept) 1.709254 0.213059 8.022 1.04e-15 \*\*\* cumul\_bites\_2\_previous\_days 0.001615 0.024477 0.066 0.947 cumul\_bites\_7\_previous\_days 0.022501 0.018867 1.193 0.233

```
Signif. codes: 0 ...***... 0.001 ...**... 0.01 ...*... 0.05 ...... 1
```

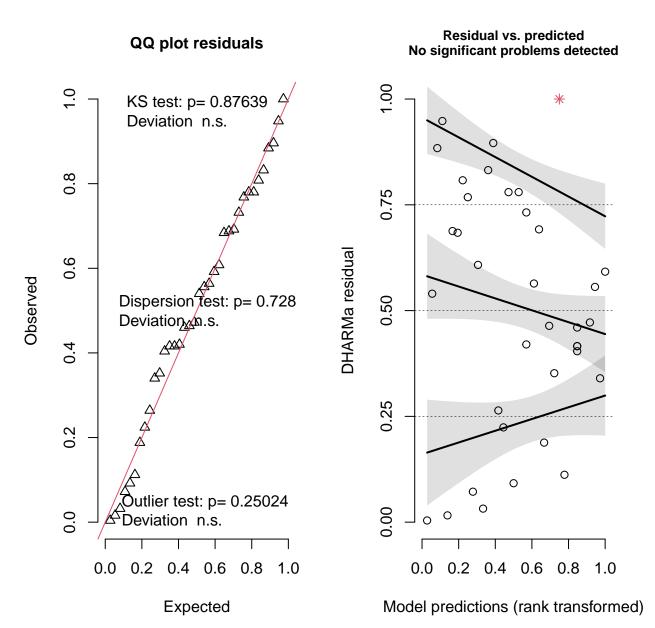
AICc [1] 28.52745

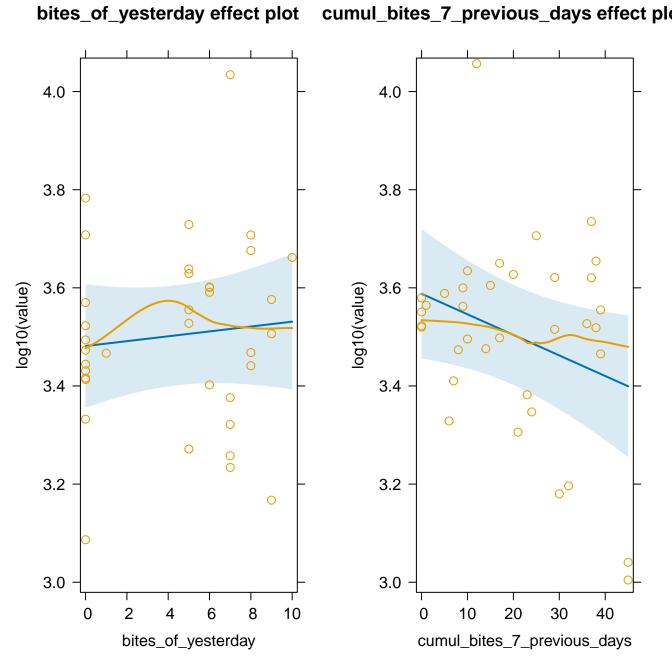


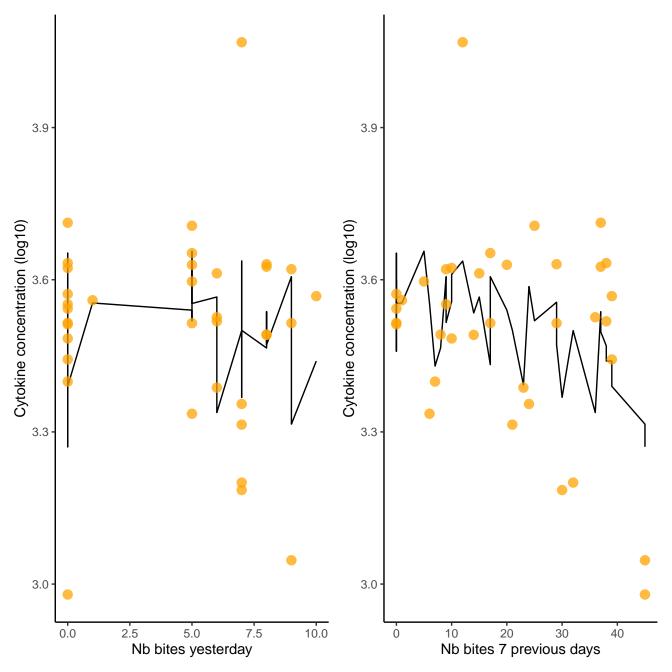


Nb excluded (LOD): 0

Nb remaining: 36







Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.09 [1.00, 3.82] 1.05 0.91 [0.26, 1.00] cumul\_bites\_7\_previous\_days 1.09 [1.00, 3.82] 1.05 0.91 [0.26, 1.00]

Low Correlation

# Check for Multicollinearity

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
-13.6 -5.7 11.8 -23.6 31

Random effects:

Conditional model:
```

Dispersion estimate for gaussian family (sigma^2): 0.0265

Variance Std.Dev.

0.026499 0.16279

```
Conditional model:
```

ID (Intercept) 0.007111 0.08433

Number of obs: 36, groups: ID, 4

Groups Name

Residual

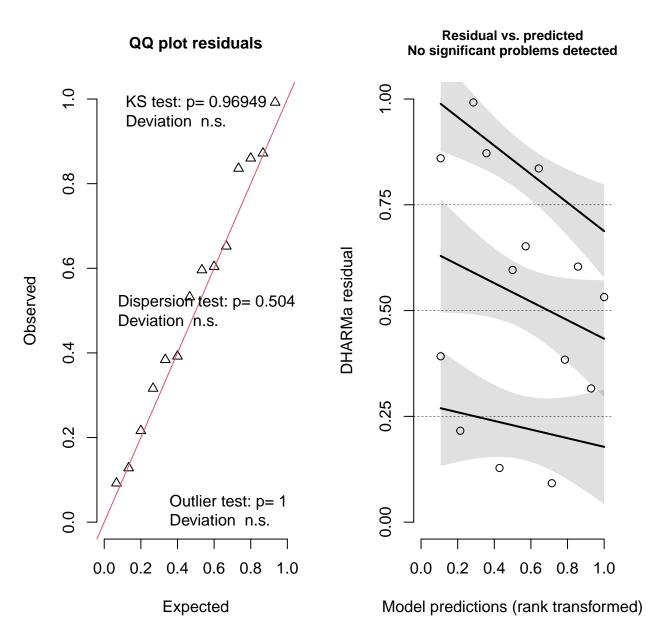
```
Estimate Std. Error z value Pr(>|z|)
(Intercept) 3.566014 0.068092 52.37 <2e-16 ***
bites_of_yesterday 0.004968 0.008204 0.61 0.5448
```

 AICc [1] -11.62673

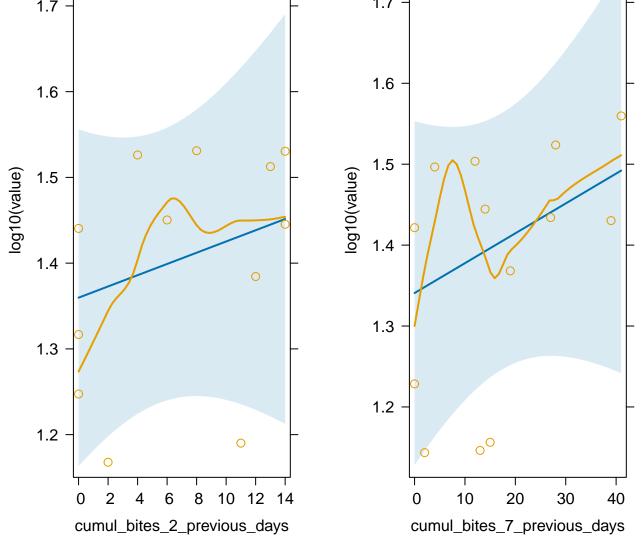


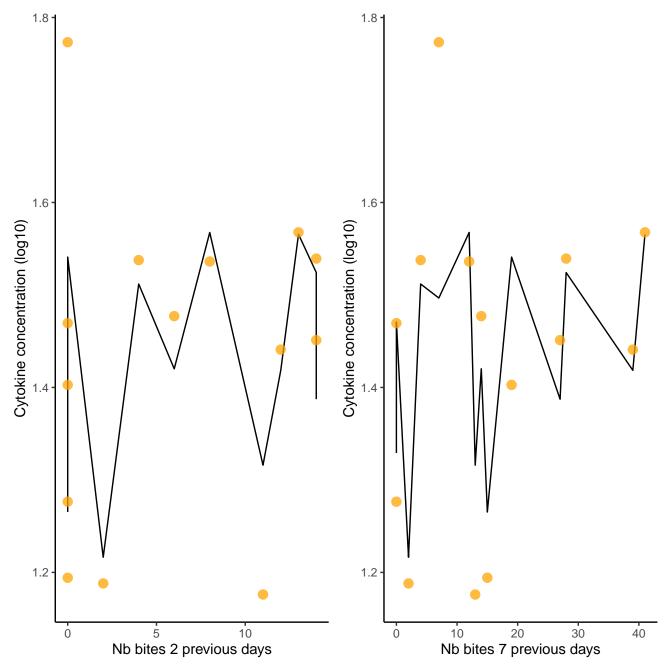
Nb remaining: 14

Nb excluded (LOD): 6



0 1.7 -1.7 1.6 -1.6 -0 1.5 1.5





Low Correlation

# Check for Multicollinearity

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

 cumul\_bites\_2\_previous\_days
 2.15 [1.48, 3.77]
 1.47
 0.47
 [0.27, 0.68]

 cumul\_bites\_7\_previous\_days
 2.15 [1.48, 3.77]
 1.47
 0.47
 [0.27, 0.68]

```
Family: gaussian ( identity )
Formula:
           log10(value) ~ cumul_bites_2_previous_days + cumul_bites_7_previous_days +
   (1 | ID)
Data: d sq
   AIC
          BIC logLik deviance df.resid
          -2.2 7.7 -15.4 9
   -5.4
```

Random effects:

Conditional model: Groups Name Variance Std.Dev. (Intercept) 0.01578 0.1256

0.01225 0.1107 Residual

Number of obs: 14, groups: ID, 4

Dispersion estimate for gaussian family (sigma^2): 0.0123

Conditional model:

Estimate Std. Error z value Pr(>|z|)

(Intercept) 1.301463 0.084511 15.400 <2e-16 \*\*\*

cumul\_bites\_7\_previous\_days 0.003690 0.003714 0.994

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

0.493

0.320

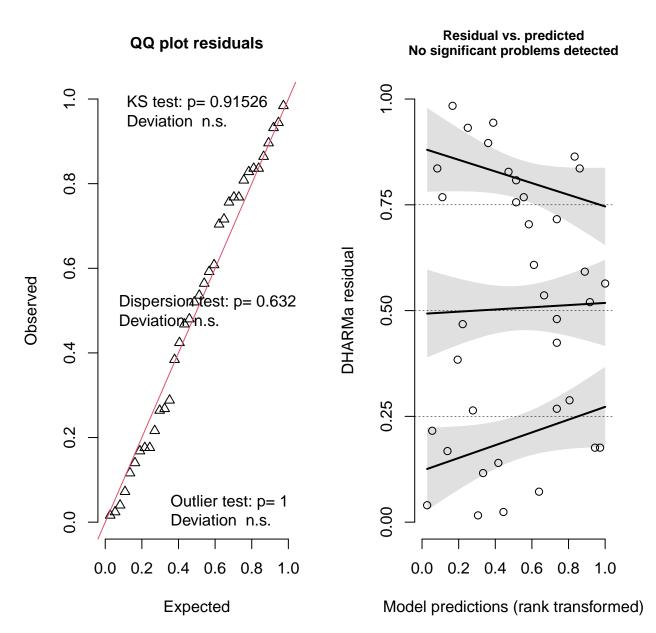
AICc [1] 2.070193





Nb excluded (LOD): 0

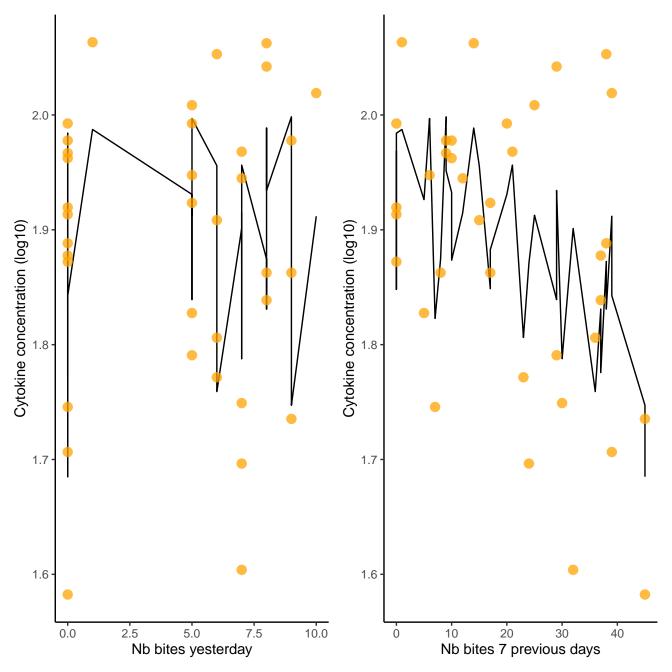
Nb remaining: 36



2.0 2.0 1.9 1.9 log10(value) log10(value) 1.8 1.8 1.7 1.7 -1.6 1.6 bites\_of\_yesterday cumul\_bites\_7\_previous\_days

bites\_of\_yesterday effect plot

cumul\_bites\_7\_previous\_days effect ple



Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.10 [1.00, 3.78] 1.05 0.91 [0.26, 1.00] cumul\_bites\_7\_previous\_days 1.10 [1.00, 3.78] 1.05 0.91 [0.26, 1.00]

# Check for Multicollinearity

```
Family: gaussian (identity)
Formula: log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno

AIC BIC logLik deviance df.resid
-52.0 -44.1 31.0 -62.0 31

Random effects:

Conditional model:
```

Number of obs: 36, groups: ID, 4

Variance Std.Dev.

0.008808 0.09385

(Intercept) 0.003649 0.06040

Groups Name

Residual

ID

```
Dispersion estimate for gaussian family (sigma^2): 0.00881
```

```
Conditional model: 

Estimate Std. Error z value Pr(>|z|) 

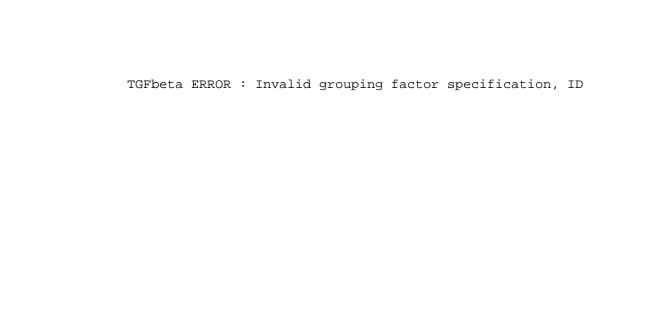
(Intercept) 1.927755 0.043149 44.68 <2e-16 ***
```

<sup>---</sup> Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 1

AICc [1] -49.97958



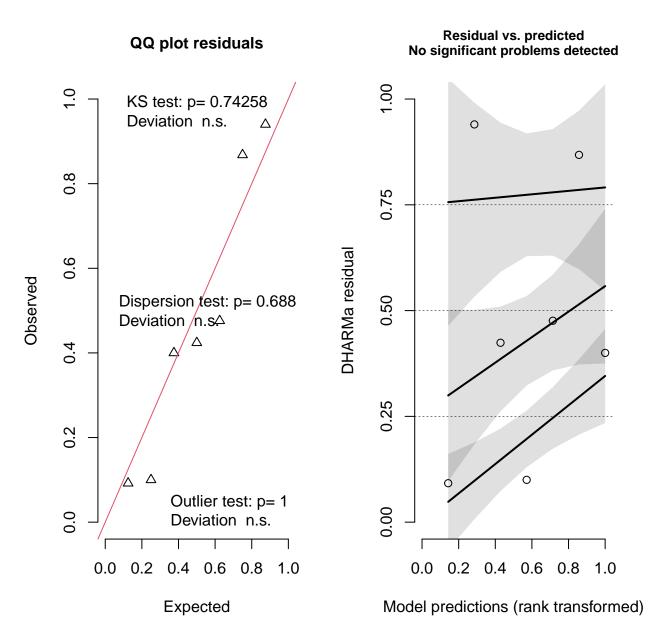
Nb excluded (LOD): 20 Nb remaining: 0

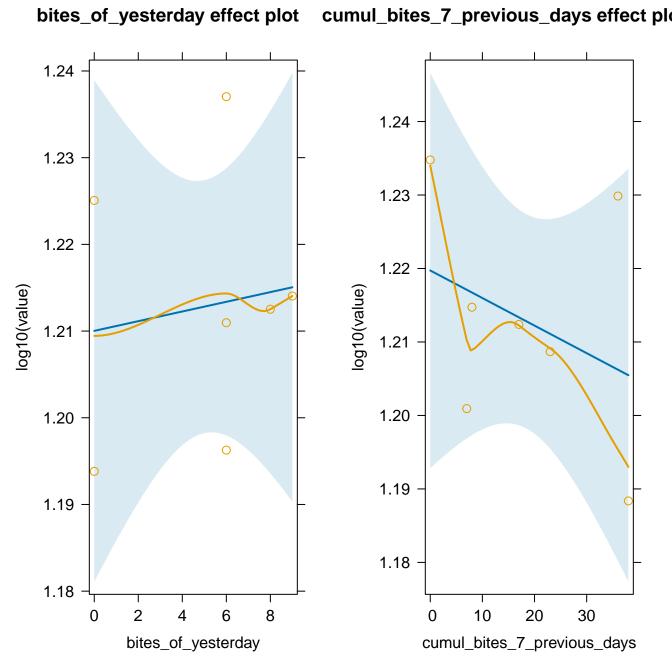


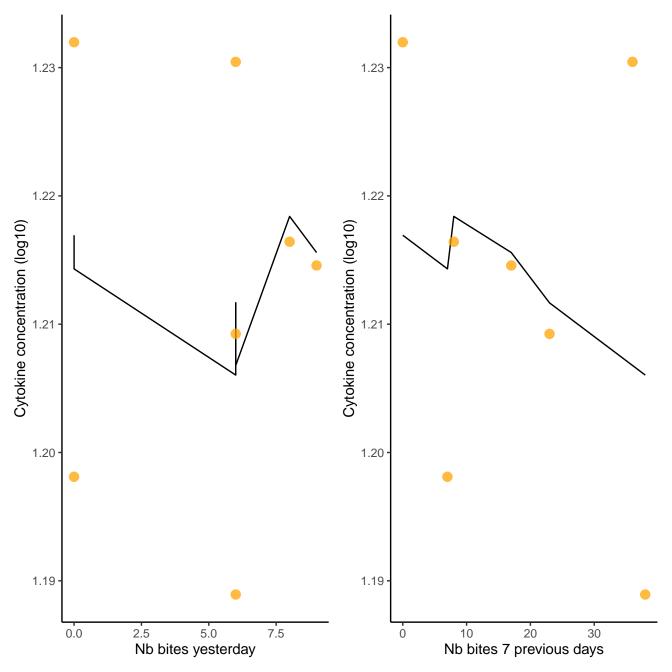




Nb excluded (LOD): 29 Nb remaining: 7







# Check for Multicollinearity

Low Correlation

Term VIF VIF 95% CI Increased SE Tolerance Tolerance 95% CI

bites\_of\_yesterday 1.31 [1.12, 1.79] 1.14

cumul\_bites\_7\_previous\_days 1.31 [1.12, 1.79] 1.14 0.76 [0.56, 0.89]

0.76 [0.56, 0.89]

```
Family: gaussian ( identity )
Formula:
               log10(value) ~ bites_of_yesterday + cumul_bites_7_previous_days + (1 | ID)
Data: d_cyno
          BIC logLik deviance df.resid
  -30.0
        -30.3 20.0 -40.0 2
Random effects:
Conditional model:
```

1.932e-04 1.390e-02 Number of obs: 7, groups: ID, 2

```
Dispersion estimate for gaussian family (sigma^2): 0.000193
```

Variance Std.Dev.

(Intercept) 1.625e-09 4.031e-05

Groups Name

Residual

Conditional model:

ID .-

```
Estimate Std. Error z value Pr(>|z|)
(Intercept)
                          1.2169366 0.0101884 119.44 <2e-16 ***
bites_of_yesterday
                          0.0005585 0.0017993 0.31
                                                      0.756
```

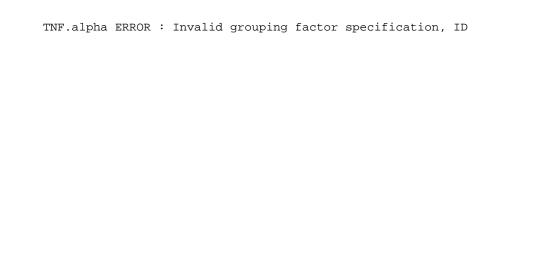
cumul\_bites\_7\_previous\_days -0.0003751 0.0004418 -0.85 0.396

Signif. codes: 0 ...\*\*\*... 0.001 ...\*\*... 0.01 ...\*... 0.05 ...... 1

AICc [1] 30.00163



Nb excluded (LOD): 20 Nb remaining: 0

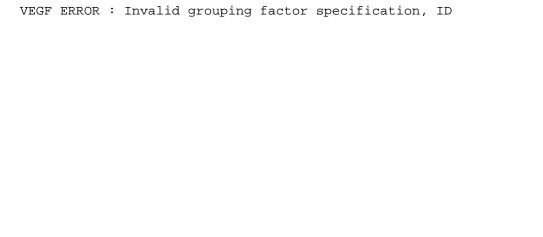






Nb excluded (LOD): 36

Nb remaining: 0





Nb excluded (LOD): 20 Nb remaining: 0

