

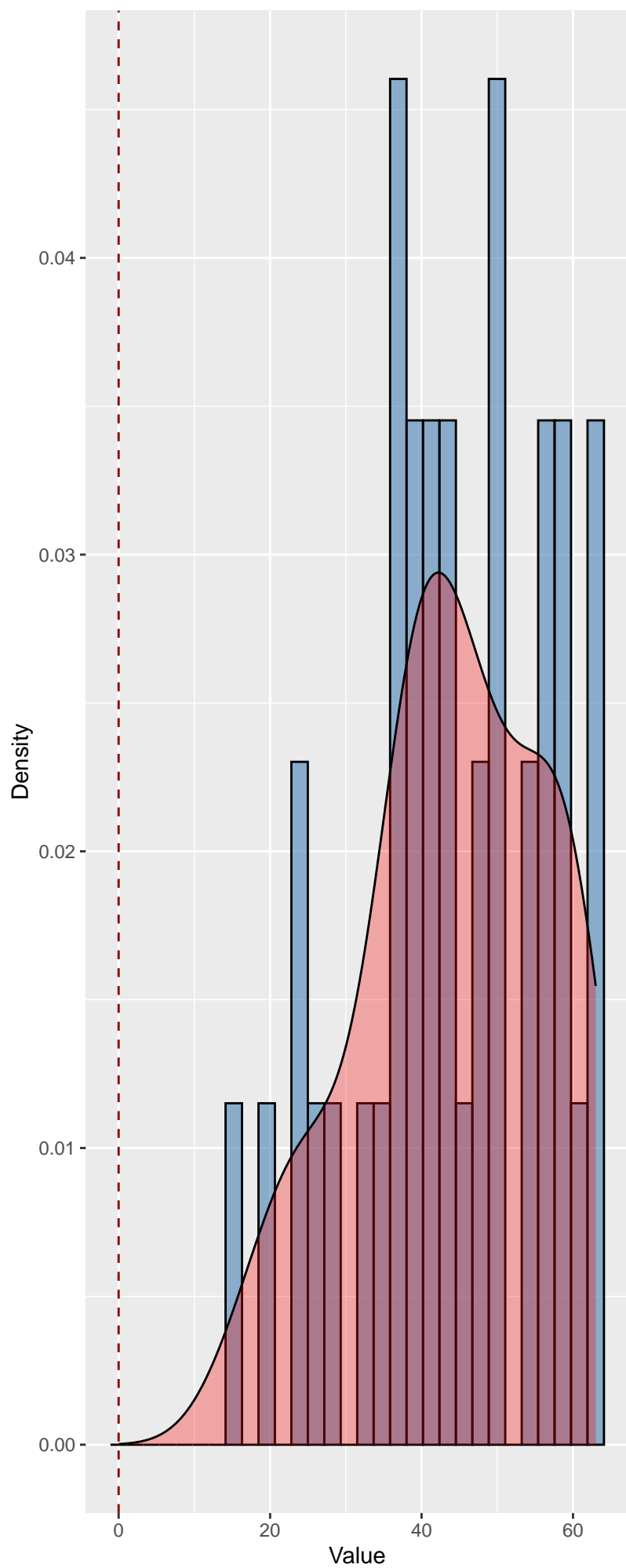
# GLM Model Selection Report

Generated: November 28, 2025

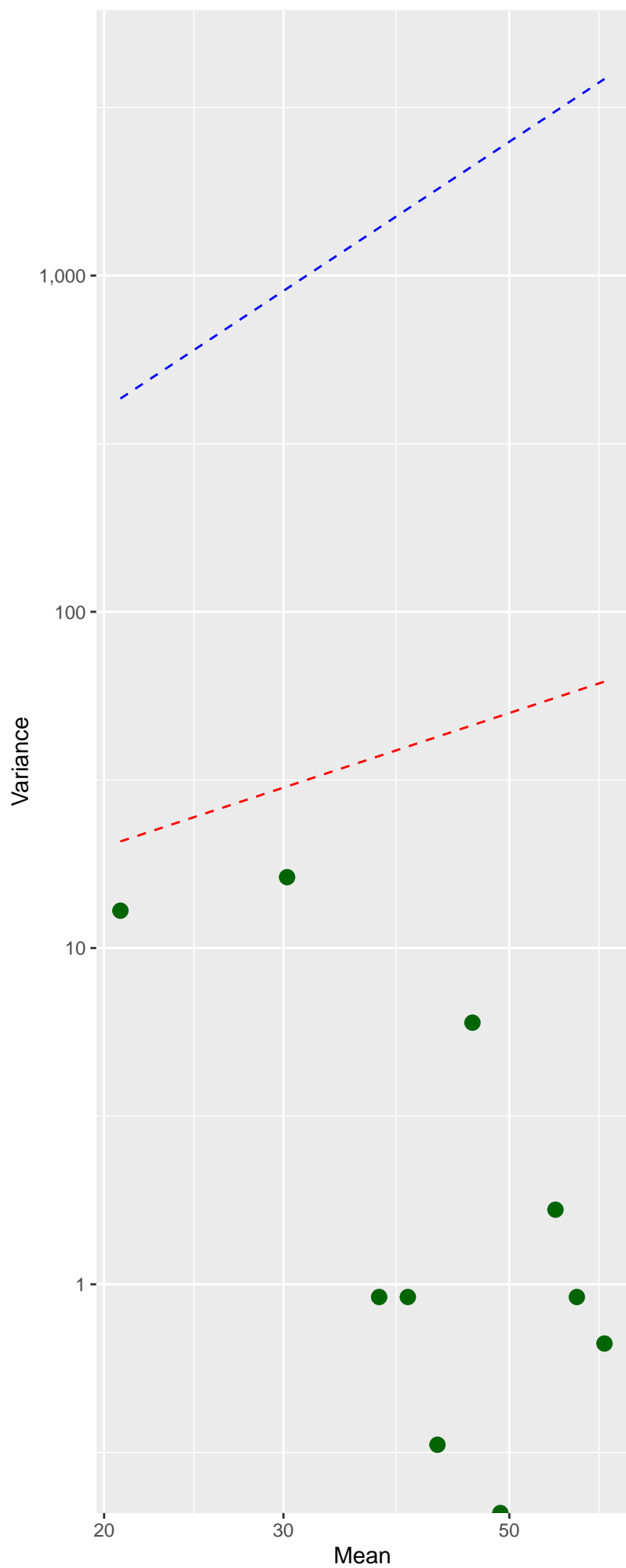
Variables analyzed: 5

# GLM Diagnostics: fss\_sum

Distribution of fss\_sum



Mean-Variance Relationship



## GLM Recommendations for: fss\_sum

Sample size: 40

Mean: 44.125

Variance: 155.292

Var/Mean ratio: 3.519

Percentage zeros: 0.0%

Unique values: 28

Range: 16.00 to 63.00

Data type: Count

### Model Recommendations:

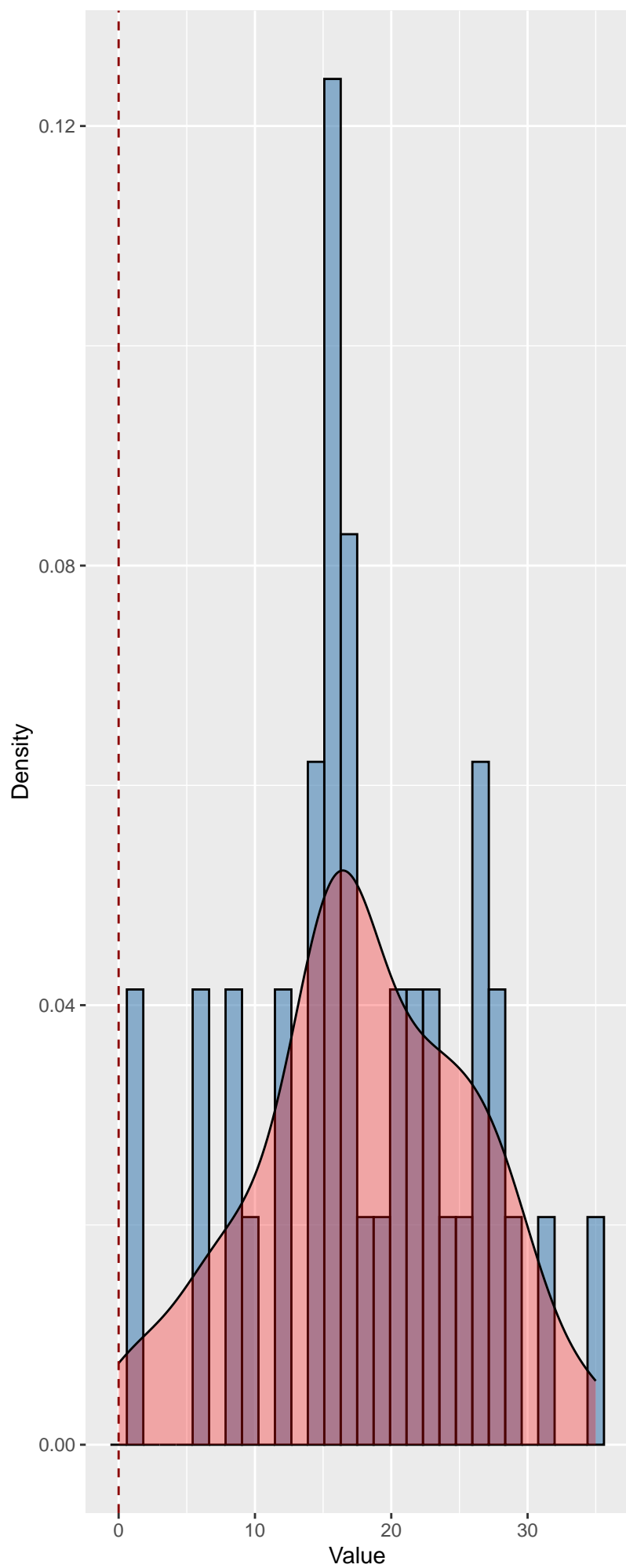
– PRIMARY: Negative Binomial (overdispersed count data)

### Interpretation Guide:

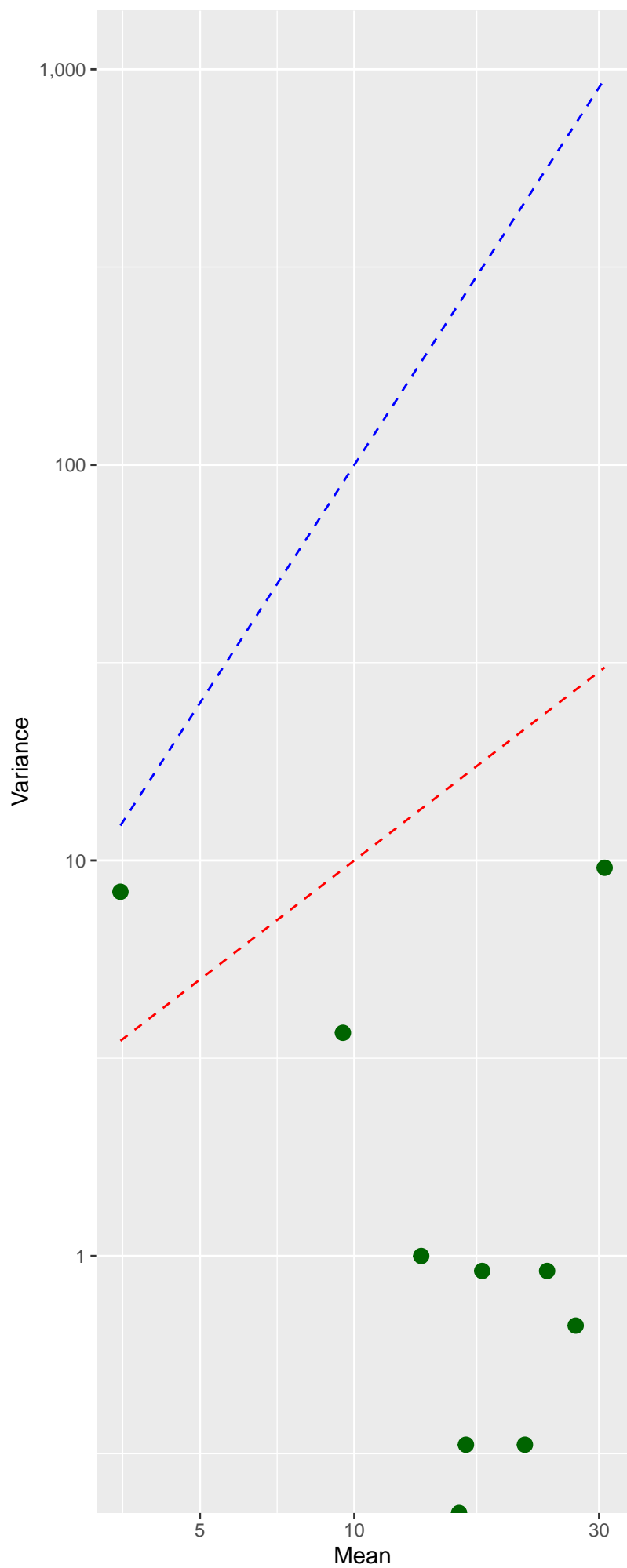
- Var/Mean  $\sim 1$  ... Poisson OK
- Var/Mean  $> 2$  ... Overdispersed ... NegBin
- Var/Mean  $< 0.8$  ... Underdispersed
- High zeros ... Hurdle / Zero-inflated
- 0/1 ... Logistic Regression
- Positive continuous ... Gamma GLM

# GLM Diagnostics: woods\_sum

Distribution of woods\_sum



Mean-Variance Relationship



## GLM Recommendations for: woods\_sum

Sample size: 40

Mean: 17.975

Variance: 63.307

Var/Mean ratio: 3.522

Percentage zeros: 0.0%

Unique values: 21

Range: 1.00 to 35.00

Data type: Count

### Model Recommendations:

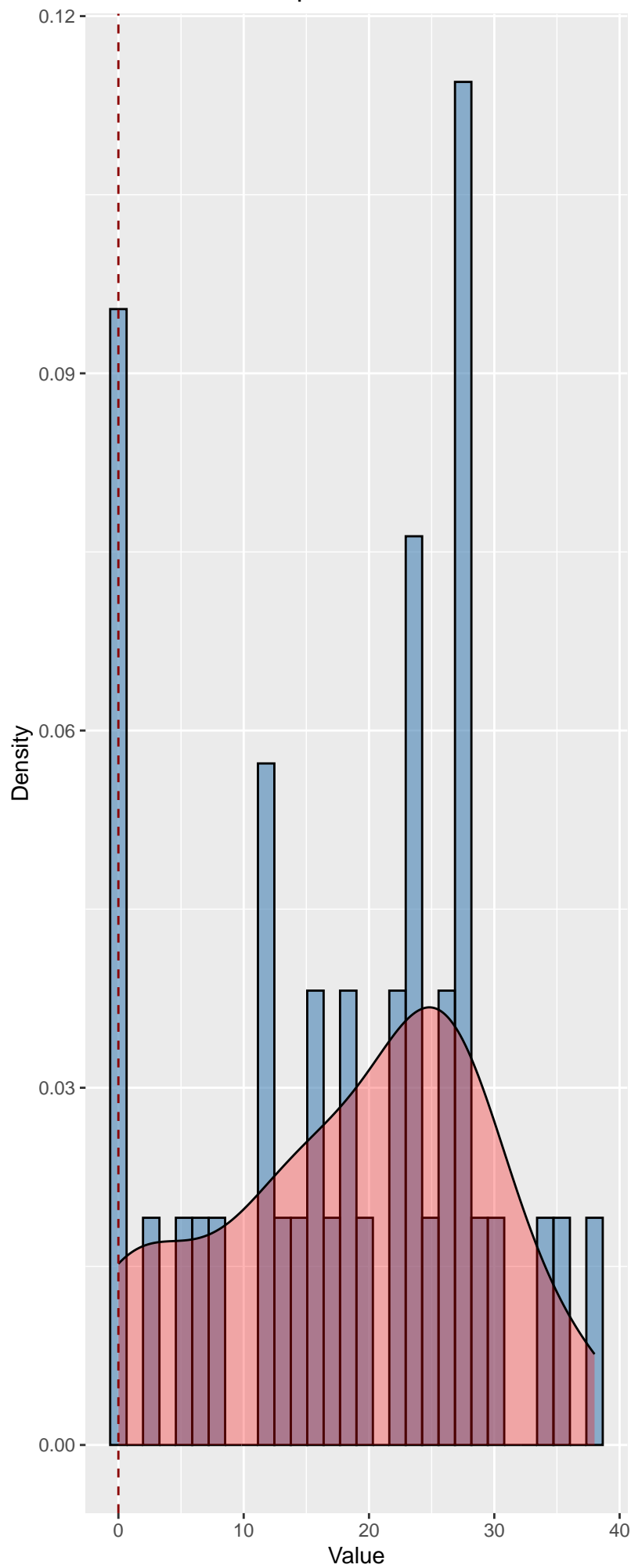
– PRIMARY: Negative Binomial (overdispersed count data)

### Interpretation Guide:

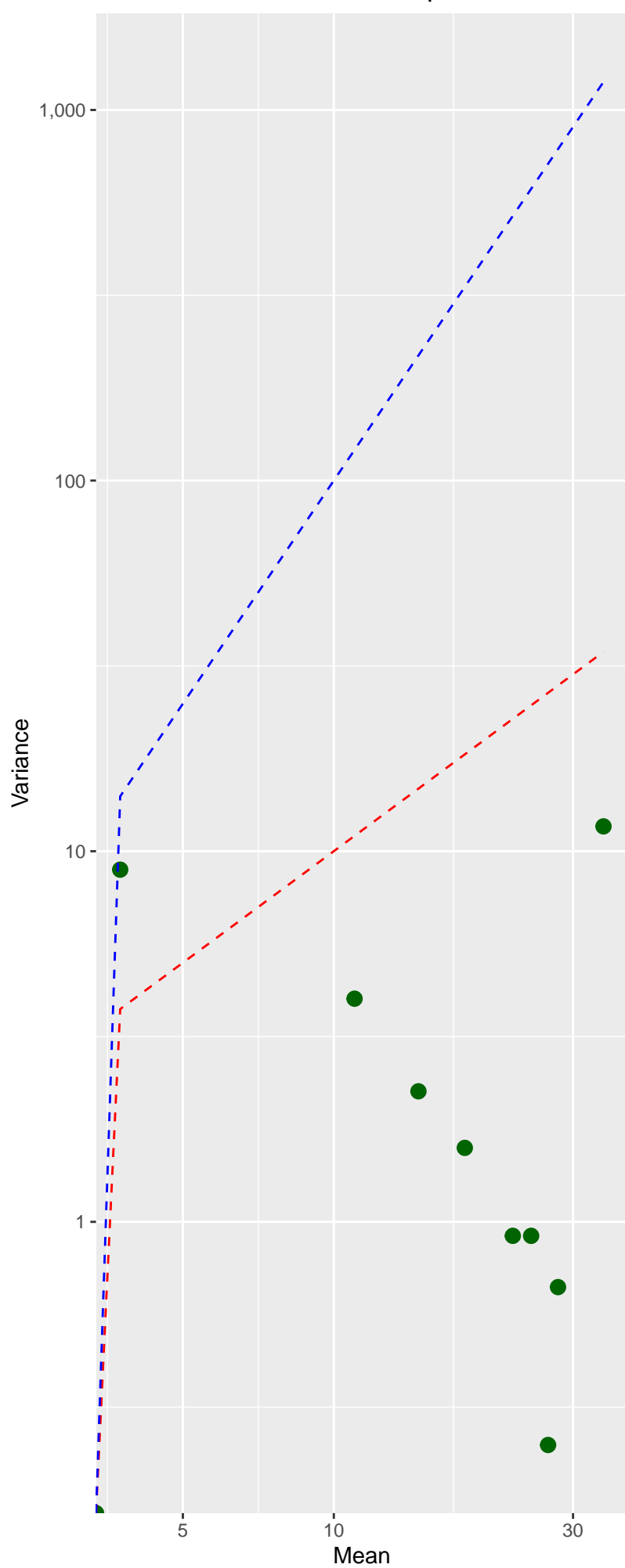
- Var/Mean  $\sim 1$  ... Poisson OK
- Var/Mean  $> 2$  ... Overdispersed ... NegBin
- Var/Mean  $< 0.8$  ... Underdispersed
- High zeros ... Hurdle / Zero-inflated
- 0/1 ... Logistic Regression
- Positive continuous ... Gamma GLM

# GLM Diagnostics: dsq\_sum

Distribution of dsq\_sum



Mean-Variance Relationship



## GLM Recommendations for: dsq\_sum

Sample size: 40

Mean: 18.450

Variance: 115.382

Var/Mean ratio: 6.254

Percentage zeros: 12.5%

Unique values: 24

Range: 0.00 to 38.00

Data type: Count

### Model Recommendations:

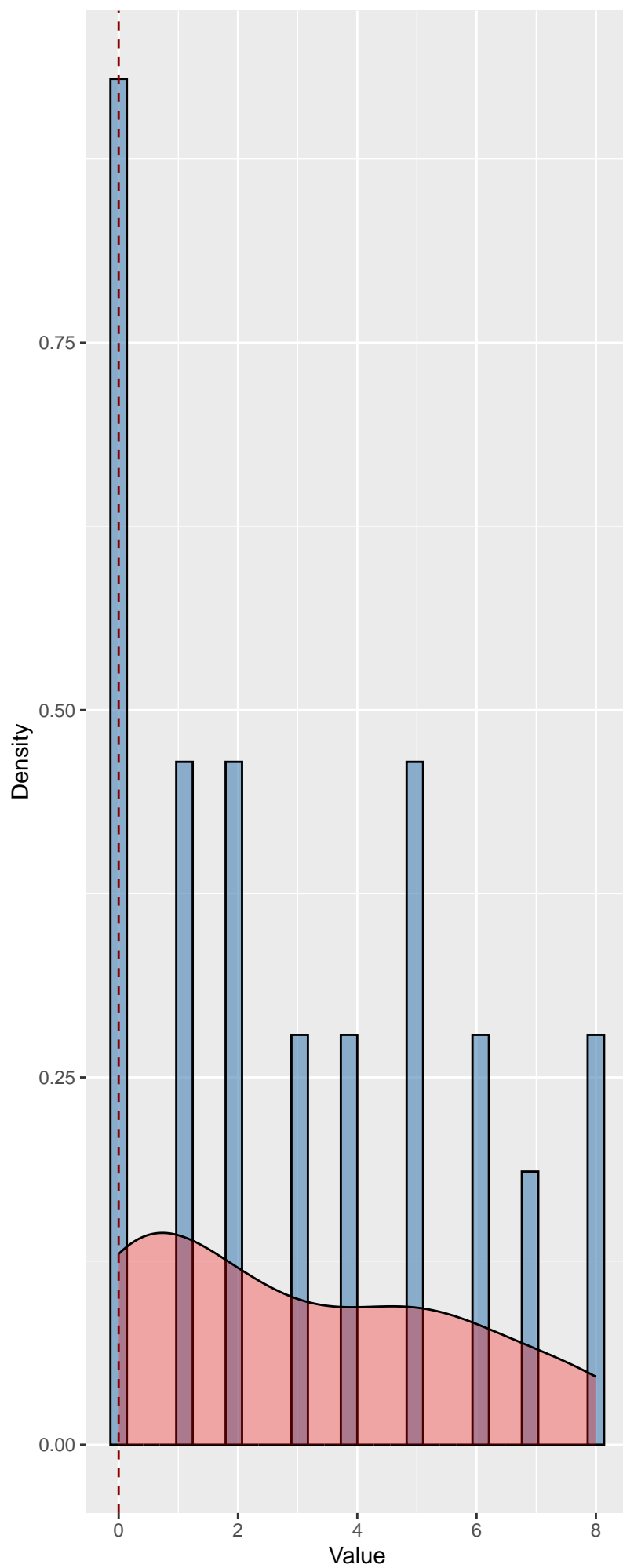
- PRIMARY: Negative Binomial (overdispersed count data)
- SECONDARY: Strong overdispersion detected

### Interpretation Guide:

- Var/Mean  $\sim 1$  ... Poisson OK
- Var/Mean  $> 2$  ... Overdispersed ... NegBin
- Var/Mean  $< 0.8$  ... Underdispersed
- High zeros ... Hurdle / Zero-inflated
- 0/1 ... Logistic Regression
- Positive continuous ... Gamma GLM

# GLM Diagnostics: vas\_fatiguecurrent

Distribution of vas\_fatiguecurrent



Insufficient unique values for  
mean–variance plot



GLM Recommendations for: vas\_fatiguecurrent

Sample size: 39

Mean: 3.000

Variance: 7.158

Var/Mean ratio: 2.386

Percentage zeros: 25.6%

Unique values: 9

Range: 0.00 to 8.00

Data type: Count

Model Recommendations:

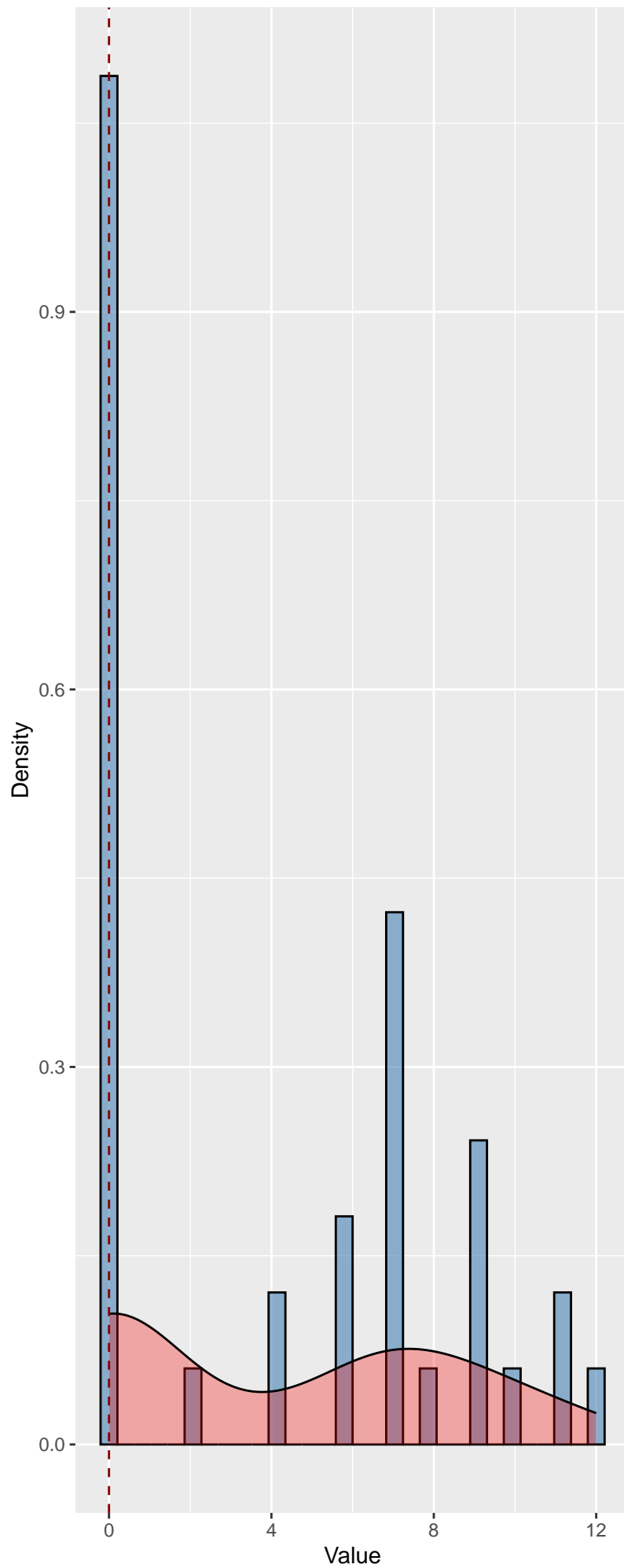
– PRIMARY: Zero-Inflated Negative Binomial (excess zeros + overdispersion)

Interpretation Guide:

- Var/Mean  $\sim 1$  ... Poisson OK
- Var/Mean  $> 2$  ... Overdispersed ... NegBin
- Var/Mean  $< 0.8$  ... Underdispersed
- High zeros ... Hurdle / Zero-inflated
- 0/1 ... Logistic Regression
- Positive continuous ... Gamma GLM

# GLM Diagnostics: bdi\_sum

Distribution of bdi\_sum



Insufficient unique values for  
mean–variance plot

## GLM Recommendations for: bdi\_sum

Sample size: 40

Mean: 4.125

Variance: 17.446

Var/Mean ratio: 4.229

Percentage zeros: 45.0%

Unique values: 10

Range: 0.00 to 12.00

Data type: Count

### Model Recommendations:

– PRIMARY: Zero-Inflated Negative Binomial (excess zeros + overdispersion)

### Interpretation Guide:

- Var/Mean  $\sim 1$  ... Poisson OK
- Var/Mean  $> 2$  ... Overdispersed ... NegBin
- Var/Mean  $< 0.8$  ... Underdispersed
- High zeros ... Hurdle / Zero-inflated
- 0/1 ... Logistic Regression
- Positive continuous ... Gamma GLM