

$$Y = \underline{\beta_0} + \epsilon$$

mean or null
reference model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

log(survival) clot prog enzyme

nested models

base model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

last 4 columns

$\epsilon \sim N(0, \sigma^2)$

$$H_0 : \frac{\sigma_{\text{addition}}^2}{\sigma_{\text{error}}^2} = 1$$

$$H_A : \frac{\sigma_{\text{addition}}^2}{\sigma_{\text{error}}^2} > 1$$

equivalent to

$$H_0 : \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0$$

$$H_A : \text{not all } \beta_4, \dots, \beta_7 = 0$$

(or at least one $\neq 0$)