## Posterior Predictive Check Linearity Model-predicted lines should resemble observed data line Reference line should be flat and horizontal 0.04 0.2 0.03 0.1 Residuals Density 0.02 0.0 0.01 0.00 -0.260 80 100 120 4.2 Fitted values log1p(diastolic) Observed data — Model-predicted data Homogeneity of Variance Influential Observations Reference line should be flat and horizontal Points should be inside the contour lines 10 √|Std. residuals 1.5 Std. Residuals 5 1.0 0.5 -5 0.0 4.2 0.2 4.4 4.6 0.0 0.1 Leverage (h<sub>ii</sub>) Fitted values Collinearity Normality of Residuals Dots should fall along the line High collinearity (VIF) may inflate parameter uncertainty Sample Quantile Deviation Variance Inflation Factor (VIF, log-scaled) 0.2 10 0.1 0.0 -0.1-0.2-0.2 -0.10.0 allocation\_group allocation\_group:visit visit Standard Normal Distribution Quantiles Low (< 5) Normality of Random Effects (record\_id) Dots should be plotted along the line 0.2 RE Quantiles 0.0 -0.2

-2

0 Theoretical Quantiles 4.4

0.7

0.7

1072

0.3

0.1

738

406

0.4

0.2