

1046 Additional file 12 — Final model for the binary co-primary outcome

1047 The binary outcome can be properly viewed as a subset of the ordinal outcome. The posterior probability
 1048 distribution of the OR for the binary outcome will have greater variance than that of the overall cumulative OR ,
 1049 but they effectively measure the same OR . While for efficient use of all available data (i.e., WHO 11-point scale),
 1050 most statisticians would probably agree that the co model is preferred, the clinicians were reasoning that the most
 1051 clinically important outcome is the binary measure. This logistic(l) model was included for ease of communication
 1052 and acceptability by the clinical community.
 1053 Assume the event $W = 1$ if the patient has a WHO score ≥ 7 (and $W = 0$ otherwise), this outcome is analyzed
 1054 with logistic (l) regression model as follows:

$$\begin{aligned}
 \text{logit}(P(W_{ki} = 1)) &= \tau_k + \beta \mathbf{X}_{ki} + \delta_{k_c} A_{ki} \\
 \tau_k &\sim t_{\text{student}}(\text{df} = 3, \mu = 0, \sigma = 8) \\
 \beta &\sim \text{Normal}(\mu = \mathbf{0}, \Sigma = 2.5^2 I_{p \times p}) \\
 \delta_{k_c} &\sim \text{Normal}(\mu = \delta_c, \sigma = \eta) \\
 \eta &\sim t_{\text{student}}(\text{df} = 3, \mu = 0, \sigma = 0.25) \\
 \delta_c &\sim \text{Normal}(\mu = -\Delta_l, \sigma = 0.1) \\
 -\Delta_l &\sim \text{Normal}(\mu = 0, \sigma = 0.354)
 \end{aligned} \tag{A5}$$