

Definitions

r_j	Number of adverse events
π_j	Adverse event probability
n_j	Number of participants
p_j	Prior exchangeability probability

Likelihood

$$r_j \sim \text{Binomial}(n_j, \pi_j)$$

$$\theta_j = \log\left(\frac{\pi_j}{1-\pi_j}\right)$$

EX

$$\theta_j \sim \text{Normal}(\mu_1, \tau_1)$$

NEX

$$\theta_j \sim \text{Normal}(\mu_j, \tau_j)$$

$$\mu_1 \sim \text{Normal}(m_\mu, s_\mu)$$

$$\tau_1 \sim \text{Half-Normal}(m_\tau, s_\tau)$$