**S1 Text. Model equations**

Logistic model: Logit P(Yij) = b0j + β0 + βa1…an(H) + βb1…bn(C) + βc1…cn(H\*C)

Yij represents anti-rotavirus IgA ≥20 U/mL for the *i*th infant, in the *j*th trial

b0j represents a random intercept for each trial

β0 represents the intercept

βa-c represent regression coefficients for host, country and interaction term, respectively

H represents a vector of host characteristics, a1 through an

C represents a vector of country factors, b1 through bn

H\*C represents a vector of interaction terms for host/country characteristics and child

mortality strata

Linear model: Ln(Yij) = b0j + β0 + βa1…an(H) + βb1…bn(C) + βc1…cn(H\*C) + ε

Yij represents the anti-rotavirus IgA antibody titer for the *i*th infant, in the *j*th trial

b0j represents a random intercept for each trial

β0 represents the intercept

βa-c represent regression coefficients for host, country and interaction term, respectively

H represents a vector of host characteristics, a1 through an

C represents a vector of country factors, b1 through bn

H\*C represents a vector of interaction terms for host/country characteristics and child

mortality strata

ε represents error