Table S1: Geo-spatial and non-spatial risk factors of endline infection status[1] among Ghanaian children in the *No-iron* group (Brong-Ahafo Region, Sept-Nov 2010)

Covariates	Estimate (95% CrI) on the exponential scale[2]		Range parameter in km (95% CrI)	Standard deviations of random effects (95% CrI)	
				Spatial	Compound
Outcome 1: Inflammation and/or parasitaemia (n=894)					
Intercept	0.550	(0.298, 1.034)	7.050	0.506	0.008
Age per month			(2.016,	(0.271,	(0.004,
6-23 months	1.004	(0.975, 1.035)	18.26)	0.979)	0.030)
24-35 months	1.018	(0.964, 1.074)			
Sex (male reference)	1.016	(0.760, 1.357)			
Length-for-age z-score	0.984	(0.869, 1.113)			
Weight-for-length z-score	1.229	(1.056, 1.431)*			
Asset score	0.893	(0.760, 1.047)			
Distance to health facility (km)	1.072	(0.963, 1.188)			
Elevation (m)	0.995	(0.990, 1.001)			
Baseline infection status	1.887	(1.384, 2.576)*			
Baseline iron status	1.051	(0.938, 1.179)			
Outcome 2: Inflammation without parasitaemia (n=894)					
Intercept	0.219	(0.109, 0.426)*	9.458	0.442	0.007
Age per month			(2.389,	(0.206,	(0.004,
6-23 months	1.011	(0.971, 1.052)	23.57)	0.965)	0.029)
24-35 months	0.920	(0.843, 0.996)*			
Sex (male reference)	1.001	(0.671, 1.493)			
Length-for-age z-score	1.153	(0.977, 1.360)			
Weight-for-length z-score	1.302	(1.058, 1.603)*			
Asset score	0.872	(0.705, 1.075)			
Distance to health facility (km)	1.065	(0.953, 1.176)			
Elevation (m)	0.997	(0.991, 1.003)			
Baseline infection status	1.034	(0.556, 1.813)			
Baseline iron status	1.003	(0.841, 1.166)			
Outcome 3: Parasitaemia with fever (n=979)					
Intercept	0.003	(0.002, 0.004)*	7.690	0.448	0.007
Age per month			(2.821,	(0.243,	(0.004,
6-23 months	1.001	(0.979, 1.023)	18.01)	0.858)	0.028)
24-35 months	0.970	(0.927, 1.013)			
Sex (male reference)	0.896	(0.718, 1.116)			
Length-for-age z-score	1.009	(0.919, 1.107)			
Weight-for-length z-score	0.896	(0.797, 1.007)			
Asset score	1.075	(0.947, 1.220)			
Distance to health facility (km)	1.047	(0.959, 1.142)			

Elevation (m)	0.998	(0.993, 1.003)			
Baseline infection status	0.757	(0.467, 1.161)			
Baseline iron status	1.040	(0.953, 1.125)			
Outcome 4: All parasitaemia (n=894)					
Intercept	0.186	(0.089, 0.400)*	6.535	0.652	0.008
Age per month			(2.037,	(0.344,	(0.004,
6-23 months	0.974	(0.936, 1.014)	15.08)	1.255)	0.029)
24-35 months	1.067	(1.026, 1.110)*			
Sex (male reference)	1.050	(0.756, 1.459)			
Length-for-age z-score	0.901	(0.780, 1.037)			
Weight-for-length z-score	1.095	(0.923, 1.298)			
Asset score	0.941	(0.781, 1.130)			
Distance to health facility (km)	1.023	(0.896, 1.165)			
Elevation (m)	0.996	(0.989, 1.004)			
Baseline infection status	2.864	(1.968, 4.172)*			
Baseline iron status	1.036	(0.914, 1.169)			

[1]Infection status definitions:

Outcome 1: Inflammation and/or parasitaemia (binary): 1 = CRP > 5 mg/L and/or any malaria parasitaemia, 0 = CRP ≤ 5 mg/L and absence of parasitaemia;

Outcome 2: Inflammation without parasitaemia (binary): 1 = CRP > 5 mg/L without malaria parasitaemia, 0 = CRP ≤ 5 mg/L without parasitaemia;

Outcome 3: Parasitaemia with fever (count): any malaria parasitaemia with concurrent fever (axillary temperature >37.5^{0}C) or history of reported fever (within 48 hours);

Outcome 4: All parasitaemia (binary): 1 = any malaria parasitaemia (with/without fever), 0 = absence of parasitaemia with/without fever

Model prior shape = 1.117, model prior rate = 0.157

[2]Exponentials of posterior medians and 2.5% and 97.5% posterior quantiles of model parameters, with a value of 1.05 indicating that a variable increases the risk of infection by 5% (odds ratio from logistic model for all binary outcomes; relative risk from Poisson model for count outcome)

CrI = credible interval

Baseline infection status = baseline infection status (yes/no) according to corresponding definition

Baseline iron status = baseline serum ferritin concentration (µg/dL) corrected for CRP using the regression method (Namaste et al.) and re-scaled by multiplying by the inverse of the inter-quartile range

*Statistical significance at the 0.05 level