## Table 1: Maternal Micronutrients and Child Immune Status

| Maternal Micronutrients and Child Immune Status | Outcome | N | 25th Percentile | 75th Percentile | Outcome, 75th Percentile v. 25th Percentile | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Adjusted | | | |
|  |  |  |  |  | Predicted Outcome at 25th Percentile | Predicted Outcome at 75th Percentile | Coefficient (95% CI) | P-value |
| Vitamin D (nmol/L) | Ln AGP Age 14 months (g/L) | 298 | 32.56 | 53.69 | -0.15 | -0.11 | 0.03 (-0.03, 0.1) | 0.3 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 32.26 | 53.69 | -0.03 | 0.19 | 0.23 (-0.08, 0.53) | 0.14 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 31.81 | 52.2 | 1.78 | 1.69 | -0.09 (-0.25, 0.06) | 0.23 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 31.81 | 52.2 | -0.38 | -0.43 | -0.04 (-0.25, 0.17) | 0.71 |
|  | Ln AGP Age 28 months (g/L) | 174 | 32.59 | 56.25 | -0.24 | -0.29 | -0.05 (-0.15, 0.05) | 0.31 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 32.54 | 55.55 | -0.11 | -0.24 | -0.14 (-0.53, 0.26) | 0.51 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 32.43 | 55.49 | 1.7 | 1.69 | -0.01 (-0.1, 0.08) | 0.83 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 32.43 | 55.49 | -0.42 | -0.43 | -0.01 (-0.14, 0.12) | 0.91 |
|  |  |  |  |  |  |  |  |  |
| Vitamin D deficiency | Ln AGP Age 14 months (g/L) | 298 | 0 | 1 | -0.12 | -0.18 | -0.06 (-0.19, 0.06) | 0.31 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 0 | 1 | 0.04 | -0.16 | -0.2 (-0.63, 0.24) | 0.38 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 0 | 1 | 1.78 | 1.66 | -0.12 (-0.27, 0.04) | 0.15 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 0 | 1 | -0.32 | -0.45 | -0.14 (-0.42, 0.15) | 0.36 |
|  | Ln AGP Age 28 months (g/L) | 174 | 0 | 1 | -0.22 | -0.26 | -0.04 (-0.22, 0.13) | 0.62 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 0 | 1 | -0.28 | -0.46 | -0.19 (-0.51, 0.14) | 0.27 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 0 | 1 | 1.7 | 1.72 | 0.02 (-0.15, 0.19) | 0.85 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 0 | 1 | -0.43 | -0.39 | 0.04 (-0.21, 0.29) | 0.78 |
|  |  |  |  |  |  |  |  |  |
| Ln RBP (umol/L) | Ln AGP Age 14 months (g/L) | 298 | 0.14 | 0.53 | -0.1 | -0.15 | -0.05 (-0.2, 0.11) | 0.57 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 0.14 | 0.54 | 0.45 | 0.05 | -0.4 (-0.94, 0.15) | 0.15 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 0.14 | 0.54 | 1.84 | 1.62 | -0.22 (-0.44, -0.01) | 0.04 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 0.14 | 0.54 | -0.36 | -0.82 | -0.47 (-0.84, -0.09) | 0.01 |
|  | Ln AGP Age 28 months (g/L) | 174 | 0.13 | 0.49 | -0.24 | -0.24 | -0.01 (-0.08, 0.07) | 0.88 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 0.13 | 0.52 | -0.32 | -0.32 | 0 (-0.01, 0.02) | 0.61 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 0.13 | 0.51 | 1.6 | 1.69 | 0.08 (0.01, 0.16) | 0.03 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 0.13 | 0.51 | -0.54 | -0.43 | 0.11 (0, 0.22) | 0.05 |
|  |  |  |  |  |  |  |  |  |
| Vitamin A deficiency | Ln AGP Age 14 months (g/L) | 298 | 0 | 1 | -0.13 | -0.15 | -0.02 (-0.4, 0.36) | 0.94 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 0 | 1 | 0.07 | 0.47 | 0.41 (-0.9, 1.71) | 0.55 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 0 | 1 | 1.76 | 2.12 | 0.36 (-0.13, 0.85) | 0.15 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 0 | 1 | -0.46 | 0.45 | 0.91 (0.04, 1.79) | 0.04 |
|  | Ln AGP Age 28 months (g/L) | 174 | 0 | 1 | -0.24 | -0.26 | -0.02 (-0.4, 0.36) | 0.92 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 0 | 1 | -0.32 | -0.5 | -0.18 (-1.03, 0.66) | 0.69 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 0 | 1 | 1.7 | 1.35 | -0.34 (-0.76, 0.08) | 0.11 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 0 | 1 | -0.42 | -0.69 | -0.27 (-0.9, 0.36) | 0.41 |
|  |  |  |  |  |  |  |  |  |
| Ln ferritin (ug/L) | Ln AGP Age 14 months (g/L) | 298 | 2.56 | 3.92 | -0.11 | -0.16 | -0.05 (-0.13, 0.03) | 0.25 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 2.53 | 3.96 | 0.33 | 0.13 | -0.2 (-0.85, 0.45) | 0.56 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 2.53 | 3.94 | 1.82 | 1.69 | -0.13 (-0.24, -0.02) | 0.02 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 2.53 | 3.94 | -0.17 | -0.41 | -0.24 (-0.44, -0.04) | 0.02 |
|  | Ln AGP Age 28 months (g/L) | 174 | 2.52 | 3.69 | -0.24 | -0.23 | 0 (-0.11, 0.11) | 0.95 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 2.61 | 3.87 | -0.43 | -0.31 | 0.11 (-0.02, 0.25) | 0.1 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 2.62 | 3.91 | 1.64 | 1.76 | 0.12 (0.01, 0.22) | 0.03 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 2.62 | 3.91 | -0.46 | -0.36 | 0.1 (-0.06, 0.26) | 0.21 |
|  |  |  |  |  |  |  |  |  |
| Ln sTfR (mg/L) | Ln AGP Age 14 months (g/L) | 298 | 1.28 | 1.68 | -0.13 | -0.15 | -0.03 (-0.09, 0.04) | 0.41 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 1.3 | 1.68 | 0.11 | -0.04 | -0.15 (-0.39, 0.08) | 0.21 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 1.28 | 1.68 | 1.75 | 1.74 | -0.01 (-0.09, 0.07) | 0.89 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 1.28 | 1.68 | -0.36 | -0.33 | 0.03 (-0.12, 0.17) | 0.71 |
|  | Ln AGP Age 28 months (g/L) | 174 | 1.29 | 1.66 | -0.24 | -0.24 | 0 (-0.07, 0.07) | 0.97 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 1.28 | 1.69 | -0.34 | -0.35 | -0.01 (-0.02, 0) | 0.13 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 1.29 | 1.68 | 1.72 | 1.68 | -0.03 (-0.11, 0.05) | 0.44 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 1.29 | 1.68 | -0.41 | -0.43 | -0.01 (-0.13, 0.1) | 0.83 |
|  |  |  |  |  |  |  |  |  |
| Iron deficiency | Ln AGP Age 14 months (g/L) | 298 | 0 | 1 | -0.17 | -0.04 | 0.13 (0.02, 0.24) | 0.03 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 0 | 1 | 0.02 | 0.23 | 0.21 (-0.21, 0.62) | 0.33 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 0 | 1 | 1.74 | 1.78 | 0.04 (-0.11, 0.18) | 0.65 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 0 | 1 | -0.4 | -0.34 | 0.05 (-0.22, 0.32) | 0.73 |
|  | Ln AGP Age 28 months (g/L) | 174 | 0 | 1 | -0.28 | -0.17 | 0.11 (-0.06, 0.28) | 0.2 |
|  | Ln CRP Age 28 months (mg/L) | 373 | 0 | 1 | -0.32 | -0.33 | -0.01 (-0.32, 0.3) | 0.96 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | 0 | 1 | 1.73 | 1.59 | -0.13 (-0.29, 0.02) | 0.09 |
|  | Sum score of 13 cytokines Age 28 months | 365 | 0 | 1 | -0.38 | -0.57 | -0.19 (-0.43, 0.04) | 0.11 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |
| \* P-value < 0.2 after adjusting for multiple comparisons using the Benjamini-Hochberg procedure | | | | | | | | |

## Table 2: Maternal Cortisol and Child Immune Status

| Maternal Cortisol and Child Immune Status | Outcome | N | 25th Percentile | 75th Percentile | Outcome, 75th Percentile v. 25th Percentile | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Adjusted | | | |
|  |  |  |  |  | Predicted Outcome at 25th Percentile | Predicted Outcome at 75th Percentile | Coefficient (95% CI) | P-value |
| Ln Cortisol (ug/dL) | Ln AGP Age 14 months (g/L) | 295 | 2.53 | 3.27 | -0.14 | -0.22 | -0.08 (-0.17, 0.01) | 0.07 |
|  | Ln CRP Age 14 months (mg/L) | 269 | 2.56 | 3.28 | 0.00 | -0.23 | -0.22 (-0.53, 0.08) | 0.15 |
|  | Ln IFN-y Age 14 months (pg/mL) | 294 | 2.49 | 3.27 | 1.72 | 1.67 | -0.05 (-0.15, 0.05) | 0.37 |
|  | Sum score of 13 cytokines Age 14 months | 289 | 2.49 | 3.27 | -0.26 | -0.33 | -0.07 (-0.29, 0.15) | 0.54 |
|  | Ln AGP Age 28 months (g/L) | 174 | 2.42 | 3.24 | -0.34 | -0.33 | 0.02 (-0.1, 0.14) | 0.78 |
|  | Ln CRP Age 28 months (mg/L) | 370 | 2.53 | 3.27 | -0.42 | -0.36 | 0.06 (-0.13, 0.25) | 0.55 |
|  | Ln IFN-y Age 28 months (pg/mL) | 362 | 2.51 | 3.27 | 1.47 | 1.59 | 0.12 (-0.05, 0.29) | 0.17 |
|  | Sum score of 13 cytokines Age 28 months | 362 | 2.51 | 3.27 | -0.44 | -0.50 | -0.06 (-0.21, 0.09) | 0.45 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |
| \* P-value < 0.2 after adjusting for multiple comparisons using the Benjamini-Hochberg procedure | | | | | | | | |

## Table 3: Maternal Estriol and Child Immune Status

| Maternal Estriol and Child Immune Status | Outcome | N | 25th Percentile | 75th Percentile | Outcome, 75th Percentile v. 25th Percentile | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Adjusted | | | |
|  |  |  |  |  | Predicted Outcome at 25th Percentile | Predicted Outcome at 75th Percentile | Coefficient (95% CI) | P-value |
| Ln Estriol (ng/mL) | Ln AGP Age 14 months (g/L) | 294 | 0.76 | 1.71 | -0.15 | -0.08 | 0.08 (-0.1, 0.25) | 0.42 |
|  | Ln CRP Age 14 months (mg/L) | 266 | 0.76 | 1.71 | -0.05 | 0.20 | 0.25 (-0.37, 0.88) | 0.44 |
|  | Ln IFN-y Age 14 months (pg/mL) | 288 | 0.78 | 1.72 | 1.73 | 1.72 | -0.01 (-0.11, 0.08) | 0.82 |
|  | Sum score of 13 cytokines Age 14 months | 288 | 0.78 | 1.72 | -0.20 | -0.12 | 0.09 (-0.32, 0.49) | 0.69 |
|  | Ln AGP Age 28 months (g/L) | 174 | 0.45 | 1.69 | -0.24 | -0.27 | -0.03 (-0.16, 0.09) | 0.62 |
|  | Ln CRP Age 28 months (mg/L) | 370 | 0.82 | 1.75 | -0.41 | -0.41 | 0.01 (0, 0.01) | 0.05 |
|  | Ln IFN-y Age 28 months (pg/mL) | 362 | 0.78 | 1.74 | 1.69 | 1.69 | 0 (-0.09, 0.09) | 0.95 |
|  | Sum score of 13 cytokines Age 28 months | 362 | 0.78 | 1.74 | -0.42 | -0.44 | -0.02 (-0.16, 0.12) | 0.78 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |
| \* P-value < 0.2 after adjusting for multiple comparisons using the Benjamini-Hochberg procedure | | | | | | | | |

## Table 4: Maternal Immune Status and Child Immune Status

| Maternal Immune Status and Child Immune Status | Outcome | N | 25th Percentile | 75th Percentile | Outcome, 75th Percentile v. 25th Percentile | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  | Adjusted | | | |
|  |  |  |  |  | Predicted Outcome at 25th Percentile | Predicted Outcome at 75th Percentile | Coefficient (95% CI) | P-value |
| Ln AGP (g/L) | Ln AGP Age 14 months (g/L) | 298 | -1.08 | -0.53 | -0.13 | -0.16 | -0.02 (-0.08, 0.03) | 0.38 |
|  | Ln CRP Age 14 months (mg/L) | 270 | -1.08 | -0.53 | 0.07 | 0.06 | -0.01 (-0.21, 0.18) | 0.9 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | -1.08 | -0.54 | 1.76 | 1.74 | -0.02 (-0.1, 0.06) | 0.68 |
|  | Sum score of 13 cytokines Age 14 months | 291 | -1.08 | -0.54 | -0.39 | -0.45 | -0.06 (-0.23, 0.1) | 0.46 |
|  | Ln AGP Age 28 months (g/L) | 174 | -1.16 | -0.57 | -0.22 | -0.24 | -0.03 (-0.11, 0.06) | 0.53 |
|  | Ln CRP Age 28 months (mg/L) | 373 | -1.08 | -0.56 | -0.28 | -0.34 | -0.06 (-0.22, 0.1) | 0.47 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | -1.08 | -0.56 | 1.66 | 1.7 | 0.04 (-0.03, 0.11) | 0.29 |
|  | Sum score of 13 cytokines Age 28 months | 365 | -1.08 | -0.56 | -0.46 | -0.42 | 0.04 (-0.07, 0.15) | 0.47 |
|  |  |  |  |  |  |  |  |  |
| Ln CRP (mg/L) | Ln AGP Age 14 months (g/L) | 298 | 0.02 | 1.42 | -0.13 | -0.14 | -0.02 (-0.1, 0.07) | 0.74 |
|  | Ln CRP Age 14 months (mg/L) | 270 | 0.03 | 1.5 | 0.12 | 0.02 | -0.1 (-0.33, 0.14) | 0.42 |
|  | Ln IFN-y Age 14 months (pg/mL) | 291 | 0.03 | 1.41 | 1.75 | 1.75 | 0 (-0.09, 0.08) | 0.99 |
|  | Sum score of 13 cytokines Age 14 months | 291 | 0.03 | 1.41 | -0.41 | -0.39 | 0.02 (-0.13, 0.16) | 0.8 |
|  | Ln AGP Age 28 months (g/L) | 174 | -0.15 | 1.41 | -0.18 | -0.34 | -0.16 (-0.36, 0.03) | 0.11 |
|  | Ln CRP Age 28 months (mg/L) | 373 | -0.13 | 1.44 | -0.34 | -0.35 | 0 (-0.01, 0) | 0.02 |
|  | Ln IFN-y Age 28 months (pg/mL) | 365 | -0.16 | 1.42 | 1.68 | 1.69 | 0.01 (-0.1, 0.13) | 0.82 |
|  | Sum score of 13 cytokines Age 28 months | 365 | -0.16 | 1.42 | -0.5 | -0.51 | -0.01 (-0.31, 0.3) | 0.98 |
|  |  |  |  |  |  |  |  |  |
| Initial Ln IFN-y (pg/mL) | Ln AGP Age 14 months (g/L) | 249 | 1.67 | 2.33 | -0.23 | -0.2 | 0.02 (-0.04, 0.09) | 0.48 |
|  | Ln CRP Age 14 months (mg/L) | 227 | 1.67 | 2.32 | -0.01 | -0.04 | -0.03 (-0.08, 0.01) | 0.17 |
|  | Ln IFN-y Age 14 months (pg/mL) | 241 | 1.67 | 2.32 | 1.76 | 1.78 | 0.02 (-0.06, 0.1) | 0.66 |
|  | Sum score of 13 cytokines Age 14 months | 241 | 1.67 | 2.32 | -0.35 | -0.34 | 0 (-0.14, 0.15) | 0.96 |
|  | Ln AGP Age 28 months (g/L) | 174 | 1.53 | 2.1 | -0.26 | -0.24 | 0.03 (-0.06, 0.11) | 0.56 |
|  | Ln CRP Age 28 months (mg/L) | 360 | 1.64 | 2.3 | -0.27 | -0.36 | -0.1 (-0.31, 0.11) | 0.38 |
|  | Ln IFN-y Age 28 months (pg/mL) | 350 | 1.63 | 2.29 | 1.87 | 1.85 | -0.02 (-0.1, 0.06) | 0.63 |
|  | Sum score of 13 cytokines Age 28 months | 350 | 1.63 | 2.29 | -0.13 | -0.18 | -0.05 (-0.18, 0.08) | 0.45 |
|  |  |  |  |  |  |  |  |  |
| Sum score of 13 cytokines | Ln AGP Age 14 months (g/L) | 249 | -0.68 | 0.64 | -0.22 | -0.18 | 0.05 (-0.02, 0.12) | 0.18 |
|  | Ln CRP Age 14 months (mg/L) | 227 | -0.7 | 0.64 | -0.05 | -0.09 | -0.04 (-0.29, 0.21) | 0.77 |
|  | Ln IFN-y Age 14 months (pg/mL) | 241 | -0.68 | 0.64 | 1.77 | 1.76 | -0.01 (-0.11, 0.09) | 0.81 |
|  | Sum score of 13 cytokines Age 14 months | 241 | -0.68 | 0.64 | -0.33 | -0.37 | -0.03 (-0.19, 0.13) | 0.69 |
|  | Ln AGP Age 28 months (g/L) | 174 | -0.83 | 0.39 | -0.25 | -0.23 | 0.02 (-0.07, 0.11) | 0.68 |
|  | Ln CRP Age 28 months (mg/L) | 360 | -0.64 | 0.69 | -0.28 | -0.35 | -0.07 (-0.29, 0.16) | 0.58 |
|  | Ln IFN-y Age 28 months (pg/mL) | 350 | -0.64 | 0.67 | 1.89 | 1.85 | -0.04 (-0.13, 0.05) | 0.37 |
|  | Sum score of 13 cytokines Age 28 months | 350 | -0.64 | 0.67 | -0.01 | -0.3 | -0.28 (-0.61, 0.04) | 0.08 |
| N, 25th Percentile, and 75th Percentile are from the adjusted analyses | | | | | | | | |
| \* P-value < 0.2 after adjusting for multiple comparisons using the Benjamini-Hochberg procedure | | | | | | | | |