## 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) | 257 | 32.1 | 52.54 | -0.09 | -0.02 | 0.06 (0, 0.13) | 0.06 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 32.04 | 52.62 | -0.24 | -0.04 | 0.2 (-0.11, 0.5) | 0.2 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 31.66 | 51.71 | 1.65 | 1.55 | -0.1 (-0.27, 0.06) | 0.22 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 31.66 | 51.71 | -0.3 | -0.51 | -0.21 (-0.48, 0.07) | 0.14 |
|  | Ln AGP Age 28 months (g/L) | 164 | 32.57 | 56.33 | -0.33 | -0.42 | -0.08 (-0.29, 0.12) | 0.43 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 32.61 | 55.8 | -0.15 | -0.22 | -0.06 (-0.47, 0.34) | 0.77 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 32.58 | 55.76 | 1.67 | 1.66 | -0.01 (-0.11, 0.08) | 0.84 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 32.58 | 55.76 | -0.49 | -0.5 | -0.02 (-0.17, 0.13) | 0.84 |
|  |  |  |  |  |  |  |  |  |
| Vitamin D deficiency | Ln AGP Age 14 months (g/L) | 257 | 0 | 1 | -0.03 | -0.14 | -0.12 (-0.25, 0.02) | 0.09 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 0 | 1 | -0.14 | -0.42 | -0.28 (-0.74, 0.18) | 0.23 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 0 | 1 | 1.64 | 1.54 | -0.1 (-0.27, 0.06) | 0.22 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 0 | 1 | -0.31 | -0.4 | -0.09 (-0.39, 0.21) | 0.57 |
|  | Ln AGP Age 28 months (g/L) | 164 | 0 | 1 | -0.29 | -0.36 | -0.07 (-0.25, 0.11) | 0.45 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 0 | 1 | -0.27 | -0.51 | -0.25 (-0.58, 0.09) | 0.15 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 0 | 1 | 1.66 | 1.7 | 0.04 (-0.14, 0.22) | 0.69 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 0 | 1 | -0.5 | -0.44 | 0.07 (-0.2, 0.34) | 0.62 |
|  |  |  |  |  |  |  |  |  |
| Ln RBP (umol/L) | Ln AGP Age 14 months (g/L) | 257 | 0.14 | 0.53 | -0.07 | -0.08 | -0.01 (-0.08, 0.05) | 0.7 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 0.14 | 0.55 | 0.17 | -0.02 | -0.19 (-0.76, 0.37) | 0.51 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 0.14 | 0.54 | 1.71 | 1.43 | -0.28 (-0.51, -0.05) | 0.02 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 0.14 | 0.54 | -0.28 | -0.85 | -0.57 (-0.98, -0.17) | 0.01\* |
|  | Ln AGP Age 28 months (g/L) | 164 | 0.13 | 0.49 | -0.31 | -0.31 | 0 (-0.07, 0.08) | 0.99 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 0.13 | 0.52 | -0.42 | -0.42 | 0 (0, 0) | 0.63 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 0.13 | 0.51 | 1.58 | 1.66 | 0.09 (0.01, 0.17) | 0.03 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 0.13 | 0.51 | -0.61 | -0.49 | 0.12 (0.01, 0.24) | 0.04 |
|  |  |  |  |  |  |  |  |  |
| Vitamin A deficiency | Ln AGP Age 14 months (g/L) | 257 | 0 | 1 | -0.08 | -0.14 | -0.07 (-0.56, 0.43) | 0.81 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 0 | 1 | -0.22 | 0.27 | 0.49 (-1.15, 2.14) | 0.57 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 0 | 1 | 1.62 | 1.76 | 0.13 (-0.5, 0.76) | 0.69 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 0 | 1 | -0.34 | 0.01 | 0.34 (-0.77, 1.45) | 0.56 |
|  | Ln AGP Age 28 months (g/L) | 164 | 0 | 1 | -0.31 | -0.36 | -0.05 (-0.47, 0.36) | 0.82 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 0 | 1 | -0.32 | -0.69 | -0.37 (-1.25, 0.51) | 0.41 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 0 | 1 | 1.66 | 1.21 | -0.45 (-0.9, 0) | 0.05 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 0 | 1 | -0.49 | -0.86 | -0.38 (-1.05, 0.3) | 0.28 |
|  |  |  |  |  |  |  |  |  |
| Ln ferritin (ug/L) | Ln AGP Age 14 months (g/L) | 257 | 2.59 | 3.97 | -0.05 | -0.15 | -0.1 (-0.19, -0.01) | 0.03 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 2.52 | 4.01 | -0.15 | -0.09 | 0.06 (-0.45, 0.57) | 0.84 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 2.58 | 4 | 1.68 | 1.58 | -0.1 (-0.22, 0.02) | 0.09 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 2.58 | 4 | -0.18 | -0.33 | -0.15 (-0.36, 0.06) | 0.17 |
|  | Ln AGP Age 28 months (g/L) | 164 | 2.56 | 3.74 | -0.31 | -0.3 | 0.01 (-0.11, 0.13) | 0.91 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 2.59 | 3.89 | -0.35 | -0.31 | 0.03 (-0.15, 0.21) | 0.73 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 2.61 | 3.91 | 1.61 | 1.72 | 0.11 (0, 0.23) | 0.05 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 2.61 | 3.91 | -0.51 | -0.4 | 0.12 (-0.05, 0.29) | 0.18 |
|  |  |  |  |  |  |  |  |  |
| Ln sTfR (mg/L) | Ln AGP Age 14 months (g/L) | 257 | 1.27 | 1.68 | -0.09 | -0.12 | -0.03 (-0.18, 0.11) | 0.69 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 1.3 | 1.7 | -0.21 | -0.28 | -0.08 (-0.31, 0.16) | 0.54 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 1.27 | 1.69 | 1.64 | 1.57 | -0.07 (-0.27, 0.14) | 0.52 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 1.27 | 1.69 | -0.21 | -0.27 | -0.06 (-0.43, 0.3) | 0.74 |
|  | Ln AGP Age 28 months (g/L) | 164 | 1.27 | 1.66 | -0.31 | -0.31 | 0 (-0.07, 0.08) | 0.95 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 1.28 | 1.7 | -0.35 | -0.36 | -0.01 (-0.02, 0) | 0.08 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 1.28 | 1.69 | 1.68 | 1.66 | -0.03 (-0.11, 0.06) | 0.55 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 1.28 | 1.69 | -0.48 | -0.48 | 0 (-0.13, 0.12) | 0.97 |
|  |  |  |  |  |  |  |  |  |
| Iron deficiency | Ln AGP Age 14 months (g/L) | 257 | 0 | 1 | -0.06 | 0.15 | 0.21 (0.09, 0.33) | 0\* |
|  | Ln CRP Age 14 months (mg/L) | 232 | 0 | 1 | -0.23 | 0.05 | 0.28 (-0.15, 0.72) | 0.2 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 0 | 1 | 1.61 | 1.65 | 0.04 (-0.12, 0.2) | 0.65 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 0 | 1 | -0.33 | -0.26 | 0.07 (-0.22, 0.36) | 0.65 |
|  | Ln AGP Age 28 months (g/L) | 164 | 0 | 1 | -0.35 | -0.26 | 0.09 (-0.09, 0.27) | 0.34 |
|  | Ln CRP Age 28 months (mg/L) | 346 | 0 | 1 | -0.32 | -0.34 | -0.02 (-0.34, 0.3) | 0.9 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | 0 | 1 | 1.69 | 1.57 | -0.12 (-0.29, 0.05) | 0.16 |
|  | Sum score of 13 cytokines Age 28 months | 337 | 0 | 1 | -0.45 | -0.64 | -0.2 (-0.45, 0.05) | 0.12 |
| 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) | 259 | 2.57 | 3.28 | -0.09 | -0.12 | -0.02 (-0.11, 0.06) | 0.58 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 2.61 | 3.29 | -0.24 | -0.38 | -0.14 (-0.4, 0.12) | 0.29 |
|  | Ln IFN-y Age 14 months (pg/mL) | 255 | 2.54 | 3.28 | 1.55 | 1.54 | -0.01 (-0.11, 0.09) | 0.87 |
|  | Sum score of 13 cytokines Age 14 months | 249 | 2.57 | 3.27 | -0.39 | -0.38 | 0.01 (-0.2, 0.22) | 0.95 |
|  | Ln AGP Age 28 months (g/L) | 164 | 2.45 | 3.24 | -0.36 | -0.34 | 0.02 (-0.1, 0.14) | 0.73 |
|  | Ln CRP Age 28 months (mg/L) | 343 | 2.57 | 3.27 | -0.38 | -0.33 | 0.05 (-0.14, 0.24) | 0.63 |
|  | Ln IFN-y Age 28 months (pg/mL) | 334 | 2.56 | 3.27 | 1.48 | 1.60 | 0.12 (-0.06, 0.31) | 0.19 |
|  | Sum score of 13 cytokines Age 28 months | 334 | 2.56 | 3.27 | -0.41 | -0.51 | -0.1 (-0.25, 0.05) | 0.21 |
| 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) | 254 | 0.78 | 1.71 | -0.14 | -0.05 | 0.09 (-0.01, 0.2) | 0.09 |
|  | Ln CRP Age 14 months (mg/L) | 229 | 0.79 | 1.71 | -0.33 | -0.35 | -0.02 (-0.29, 0.25) | 0.9 |
|  | Ln IFN-y Age 14 months (pg/mL) | 250 | 0.79 | 1.72 | 1.60 | 1.62 | 0.02 (-0.08, 0.12) | 0.7 |
|  | Sum score of 13 cytokines Age 14 months | 250 | 0.79 | 1.72 | -0.31 | -0.21 | 0.1 (-0.34, 0.54) | 0.66 |
|  | Ln AGP Age 28 months (g/L) | 164 | 0.45 | 1.70 | -0.31 | -0.33 | -0.02 (-0.15, 0.11) | 0.73 |
|  | Ln CRP Age 28 months (mg/L) | 343 | 0.90 | 1.78 | -0.35 | -0.23 | 0.13 (-0.04, 0.3) | 0.13 |
|  | Ln IFN-y Age 28 months (pg/mL) | 334 | 0.86 | 1.77 | 1.65 | 1.65 | 0 (-0.09, 0.09) | 1 |
|  | Sum score of 13 cytokines Age 28 months | 334 | 0.86 | 1.77 | -0.48 | -0.50 | -0.02 (-0.16, 0.12) | 0.79 |
| 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) | 257 | -1.08 | -0.53 | -0.03 | -0.07 | -0.04 (-0.1, 0.02) | 0.24 |
|  | Ln CRP Age 14 months (mg/L) | 232 | -1.06 | -0.53 | -0.23 | -0.19 | 0.04 (-0.16, 0.24) | 0.73 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | -1.06 | -0.53 | 1.63 | 1.62 | -0.01 (-0.09, 0.07) | 0.81 |
|  | Sum score of 13 cytokines Age 14 months | 252 | -1.06 | -0.53 | -0.3 | -0.34 | -0.04 (-0.19, 0.1) | 0.58 |
|  | Ln AGP Age 28 months (g/L) | 164 | -1.18 | -0.59 | -0.3 | -0.32 | -0.02 (-0.1, 0.06) | 0.71 |
|  | Ln CRP Age 28 months (mg/L) | 346 | -1.1 | -0.56 | -0.27 | -0.34 | -0.07 (-0.24, 0.11) | 0.46 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | -1.08 | -0.56 | 1.64 | 1.67 | 0.03 (-0.04, 0.11) | 0.41 |
|  | Sum score of 13 cytokines Age 28 months | 337 | -1.08 | -0.56 | -0.52 | -0.47 | 0.05 (-0.07, 0.16) | 0.43 |
|  |  |  |  |  |  |  |  |  |
| Ln CRP (mg/L) | Ln AGP Age 14 months (g/L) | 257 | 0.02 | 1.49 | -0.08 | -0.13 | -0.06 (-0.14, 0.03) | 0.21 |
|  | Ln CRP Age 14 months (mg/L) | 232 | 0.07 | 1.53 | -0.19 | -0.26 | -0.07 (-0.31, 0.18) | 0.6 |
|  | Ln IFN-y Age 14 months (pg/mL) | 252 | 0.03 | 1.46 | 1.62 | 1.61 | -0.01 (-0.11, 0.08) | 0.78 |
|  | Sum score of 13 cytokines Age 14 months | 252 | 0.03 | 1.46 | -0.32 | -0.34 | -0.02 (-0.18, 0.14) | 0.85 |
|  | Ln AGP Age 28 months (g/L) | 164 | -0.17 | 1.41 | -0.29 | -0.35 | -0.05 (-0.16, 0.05) | 0.31 |
|  | Ln CRP Age 28 months (mg/L) | 346 | -0.12 | 1.43 | -0.36 | -0.28 | 0.08 (-0.12, 0.28) | 0.45 |
|  | Ln IFN-y Age 28 months (pg/mL) | 337 | -0.15 | 1.42 | 1.65 | 1.66 | 0.01 (-0.11, 0.13) | 0.88 |
|  | Sum score of 13 cytokines Age 28 months | 337 | -0.15 | 1.42 | -0.62 | -0.55 | 0.07 (-0.27, 0.41) | 0.69 |
|  |  |  |  |  |  |  |  |  |
| Initial Ln IFN-y (pg/mL) | Ln AGP Age 14 months (g/L) | 212 | 1.67 | 2.32 | -0.1 | -0.09 | 0.01 (0, 0.02) | 0.1 |
|  | Ln CRP Age 14 months (mg/L) | 192 | 1.67 | 2.31 | -0.28 | -0.3 | -0.02 (-0.25, 0.22) | 0.9 |
|  | Ln IFN-y Age 14 months (pg/mL) | 206 | 1.66 | 2.3 | 1.66 | 1.68 | 0.02 (-0.07, 0.11) | 0.69 |
|  | Sum score of 13 cytokines Age 14 months | 206 | 1.66 | 2.3 | -0.27 | -0.32 | -0.05 (-0.26, 0.17) | 0.7 |
|  | Ln AGP Age 28 months (g/L) | 164 | 1.51 | 2.1 | -0.34 | -0.3 | 0.04 (-0.05, 0.12) | 0.38 |
|  | Ln CRP Age 28 months (mg/L) | 333 | 1.63 | 2.3 | -0.27 | -0.35 | -0.09 (-0.3, 0.13) | 0.45 |
|  | Ln IFN-y Age 28 months (pg/mL) | 322 | 1.62 | 2.3 | 1.71 | 1.7 | -0.01 (-0.1, 0.08) | 0.86 |
|  | Sum score of 13 cytokines Age 28 months | 322 | 1.62 | 2.3 | -0.41 | -0.44 | -0.04 (-0.17, 0.1) | 0.61 |
|  |  |  |  |  |  |  |  |  |
| Sum score of 13 cytokines | Ln AGP Age 14 months (g/L) | 212 | -0.71 | 0.62 | -0.1 | -0.08 | 0.03 (-0.05, 0.1) | 0.51 |
|  | Ln CRP Age 14 months (mg/L) | 192 | -0.74 | 0.62 | -0.26 | -0.31 | -0.05 (-0.33, 0.23) | 0.76 |
|  | Ln IFN-y Age 14 months (pg/mL) | 206 | -0.73 | 0.62 | 1.67 | 1.66 | -0.01 (-0.11, 0.09) | 0.88 |
|  | Sum score of 13 cytokines Age 14 months | 206 | -0.73 | 0.62 | -0.29 | -0.36 | -0.06 (-0.23, 0.11) | 0.48 |
|  | Ln AGP Age 28 months (g/L) | 164 | -0.9 | 0.34 | -0.32 | -0.29 | 0.03 (-0.06, 0.13) | 0.52 |
|  | Ln CRP Age 28 months (mg/L) | 333 | -0.64 | 0.69 | -0.29 | -0.34 | -0.05 (-0.28, 0.18) | 0.66 |
|  | Ln IFN-y Age 28 months (pg/mL) | 322 | -0.66 | 0.68 | 1.73 | 1.7 | -0.03 (-0.12, 0.07) | 0.62 |
|  | Sum score of 13 cytokines Age 28 months | 322 | -0.66 | 0.68 | -0.3 | -0.55 | -0.25 (-0.58, 0.09) | 0.15 |
| 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 | | | | | | | | |