|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary Table 1: Components of the BRINDA Correction Equation for Serum Ferritin under Differing Analytic Approaches for C-reactive Protein Less Than the Limit of Detection Within 29 Surveys Across 7 Countries 1** | | | | | | | | | | | | | | | | | | | | | | | |
|  | Women of Reproductive Age (*n*=12,944) 2 | | | | | | |  | Preschool-Age Children (*n*=18,208) 3 | | | | | | |  | School-Age Children (*n*=4,625) 4 | | | | | | |
| Survey 5 | LW | LB | MB | S2 | UB | RN | MI |  | LW | LB | MB | S2 | UB | RN | MI |  | LW | LB | MB | S2 | UB | RN | MI |
| Democratic Republic of Congo - 2011 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.18 | 1.10 | 1.15 | 1.15 | 1.16 | 1.15 | 1.14 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 3.69 | 4.34 | 3.83 | 3.78 | 3.74 | 3.83 | 3.90 |  |  |  |  |  |  |  |  |
| Democratic Republic of Congo - 2015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.24 | 1.21 | 1.23 | 1.23 | 1.23 | 1.23 | 1.23 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 1.90 | 1.95 | 1.91 | 1.90 | 1.90 | 1.91 | 1.91 |  |  |  |  |  |  |  |  |
| Ghana – 2019 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  |  |  |  |  |  |  |  |  | 0.080 | 0.000 | 0.025 | 0.035 | 0.050 | 0.014 | 0.010 |
| β CRP | 1.13 | 1.05 | 1.12 | 1.14 | 1.15 | 1.11 | 1.09 |  |  |  |  |  |  |  |  |  | 1.10 | 1.03 | 1.08 | 1.08 | 1.09 | 1.07 | 1.06 |
| β AGP | 1.51 | 1.45 | 1.29 | 1.27 | 1.27 | 1.33 | 1.38 |  |  |  |  |  |  |  |  |  | 1.39 | 1.55 | 1.45 | 1.44 | 1.44 | 1.46 | 1.50 |
| Guatemala – 2013 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP | 1.16 | 1.15 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 |  | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |  |  |  |  |  |  |  |  |
| β AGP | 0.97 | 0.99 | 0.97 | 0.97 | 0.98 | 0.99 | 0.98 |  | 1.38 | 1.40 | 1.39 | 1.39 | 1.40 | 1.40 | 1.40 |  |  |  |  |  |  |  |  |
| Guatemala - 2015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |  | 1.04 | 1.02 | 1.04 | 1.04 | 1.04 | 1.04 | 1.04 |  |  |  |  |  |  |  |  |
| β AGP | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 | 1.10 |  | 1.26 | 1.29 | 1.25 | 1.25 | 1.25 | 1.25 | 1.26 |  |  |  |  |  |  |  |  |
| Guatemala - 2016/17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP | 1.19 | 1.16 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 |  | 1.06 | 1.06 | 1.06 | 1.06 | 1.06 | 1.06 | 1.06 |  |  |  |  |  |  |  |  |
| β AGP | 1.05 | 1.09 | 1.06 | 1.06 | 1.06 | 1.06 | 1.07 |  | 1.28 | 1.28 | 1.27 | 1.27 | 1.27 | 1.27 | 1.27 |  |  |  |  |  |  |  |  |
| Guatemala - 2017/18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  | 0.105 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 | 0.095 |
| β CRP |  |  |  |  |  |  |  |  | 1.04 | 1.02 | 1.04 | 1.04 | 1.04 | 1.04 | 1.03 |  | 1.06 | 1.04 | 1.06 | 1.06 | 1.06 | 1.06 | 1.03 |
| β AGP |  |  |  |  |  |  |  |  | 1.37 | 1.41 | 1.36 | 1.35 | 1.35 | 1.35 | 1.37 |  | 1.39 | 1.45 | 1.40 | 1.40 | 1.40 | 1.40 | 1.53 |
| Guatemala - 2018/19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP | 1.15 | 1.07 | 1.13 | 1.13 | 1.14 | 1.11 | 1.11 |  | 1.05 | 1.02 | 1.04 | 1.04 | 1.05 | 1.03 | 1.03 |  |  |  |  |  |  |  |  |
| β AGP | 0.99 | 1.11 | 1.04 | 1.04 | 1.03 | 1.08 | 1.06 |  | 1.53 | 1.57 | 1.50 | 1.49 | 1.48 | 1.54 | 1.53 |  |  |  |  |  |  |  |  |
| Malawi - 2009 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  | 0.170 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 |
| β CRP | 1.07 | 1.05 | 1.06 | 1.06 | 1.06 | 1.05 | 1.06 |  | 1.13 | 1.10 | 1.12 | 1.13 | 1.13 | 1.12 | 1.12 |  | 1.08 | 1.04 | 1.06 | 1.06 | 1.07 | 1.05 | 1.05 |
| β AGP | 1.60 | 1.67 | 1.62 | 1.61 | 1.61 | 1.65 | 1.63 |  | 2.14 | 2.29 | 2.09 | 2.07 | 2.06 | 2.13 | 2.15 |  | 1.61 | 1.89 | 1.71 | 1.71 | 1.68 | 1.76 | 1.76 |
| Malawi - 2015/16 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  | 0.185 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 | 0.120 |
| β CRP | 1.07 | 1.04 | 1.06 | 1.06 | 1.06 | 1.05 | 1.06 |  | 1.13 | 1.08 | 1.12 | 1.12 | 1.12 | 1.11 | 1.11 |  | 1.12 | 1.04 | 1.08 | 1.08 | 1.09 | 1.07 | 1.07 |
| β AGP | 1.26 | 1.33 | 1.29 | 1.29 | 1.28 | 1.30 | 1.30 |  | 1.35 | 1.42 | 1.35 | 1.34 | 1.34 | 1.36 | 1.36 |  | 1.39 | 1.61 | 1.48 | 1.48 | 1.45 | 1.50 | 1.51 |
| Nepal - 2012/13 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.18 | 1.14 | 1.17 | 1.18 | 1.18 | 1.16 | 1.17 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 1.24 | 1.33 | 1.24 | 1.23 | 1.23 | 1.26 | 1.25 |  |  |  |  |  |  |  |  |
| Nepal - 2016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.16 | 1.15 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 1.15 | 1.16 | 1.15 | 1.15 | 1.15 | 1.15 | 1.15 |  |  |  |  |  |  |  |  |
| Nepal - 2016 National |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 | 0.160 |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  | 0.070 | 0.000 | 0.025 | 0.354 | 0.050 | 0.050 | 0.210 |
| β CRP | 1.13 | 1.07 | 1.11 | 1.14 | 1.12 | 1.11 | 1.10 |  | 1.08 | 1.07 | 1.09 | 1.09 | 1.09 | 1.09 | 1.08 |  | 1.12 | 1.05 | 1.10 | 1.11 | 1.12 | 1.09 | 1.07 |
| β AGP | 1.00 | 1.10 | 1.02 | 1.03 | 1.01 | 1.04 | 1.05 |  | 1.08 | 1.08 | 1.05 | 1.05 | 1.06 | 1.06 | 1.06 |  | 1.03 | 1.15 | 1.06 | 1.05 | 1.05 | 1.08 | 1.11 |
| Uganda - 2015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.18 | 1.15 | 1.17 | 1.17 | 1.17 | 1.17 | 1.17 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 1.83 | 1.93 | 1.87 | 1.86 | 1.86 | 1.87 | 1.87 |  |  |  |  |  |  |  |  |
| Uganda - 2016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Reference decile of CRP, mg/L |  |  |  |  |  |  |  |  | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 | 0.104 |  |  |  |  |  |  |  |  |
| β CRP |  |  |  |  |  |  |  |  | 1.17 | 1.14 | 1.16 | 1.16 | 1.16 | 1.16 | 1.16 |  |  |  |  |  |  |  |  |
| β AGP |  |  |  |  |  |  |  |  | 1.84 | 1.92 | 1.87 | 1.86 | 1.86 | 1.88 | 1.87 |  |  |  |  |  |  |  |  |
| 1  AGP, Serum alpha-1-acid glycoprotein; CRP, Serum C-Reactive Protein; LB, Lower bound (zero imputed for CRP <0.05 mg/L); LW, Listwise deletion (complete case analysis); MB, Middle bound (0.025 imputed for CRP <0.05 mg/L); MI, Multiple imputation (100 iterations based on AGP, constrained between 0 and 0.05 for CRP <0.05 mg/L); RN, Random number (a random number constrained by the range 0 to 0.05 imputed for CRP <0.05 mg/L); S2, Limit of detection divided by the square root of 2 (0.0354 imputed for CRP <0.05 mg/L); UB, Upper bound (0.05 imputed for CRP <0.05 mg/L)  2 Women ages 15-49 years.  3 Children ages 6-59 months.  4 Children ages 6-14 years.  5 β estimates are exponentiated and represent a percent change in ferritin per unit percent change in AGP or CRP values. | | | | | | | | | | | | | | | | | | | | | | | |