# Sample table shells for hemoglobin data quality checks

NOTES FOR USE:

1. Fill in relevant population (ex: Children 6 to 59 months) and survey name/year (ex: Burkina Faso National Micronutrient Survey, 2020) in the spaces indicated by: [population] and [survey name and year], respectively.
2. Add rows as needed location, age groups, team numbers, and Hemocue numbers (ex: a survey with 12 Hemocues would need 12 rows) for each table.
3. Change notation about elevation adjustments in Tables 1 and 5 to reflect whether/how hemoglobin was adjusted for elevation.

**Table 1: Percent of Missing and Biologically Implausible Value (BIV) of Hemoglobin in [population], [survey name and year]**

| Characteristics | N | Missing[a] % | N | Biologically Implausible Value (BIV)[b] % |
|---|---|---|---|---|
| **Age, months** | | | | |
| Age group 1 | | | | |
| Age group 2 | | | | |
| Age group 3 | | | | |
| **Sex** | | | | |
| Male | | | | |
| Female | | | | |
| **Residence** | | | | |
| Urban | | | | |
| Rural | | | | |
| **Location** | | | | |
| x | | | | |
| y | | | | |
| z | | | | |
| **Wealth Quintile** | | | | |
| Lowest | | | | |
| Second | | | | |
| Middle | | | | |
| Fourth | | | | |
| Highest | | | | |
| **Team** | | | | |
| Team 1 | | | | |
| Team 2 | | | | |
| Team 3 | | | | |
| Team 4 | | | | |
| Team 5 | | | | |
| Team 6 | | | | |
| Team 7 | | | | |
| Team 8 | | | | |
| **Total** | | | | |

Note: Unweighted estimates. BIV is defined as an adjusted hemoglobin concentration <4 g/dL or >18 g/dL (Sullivan *et al.*, 2008). Elevation adjustments were made according to 2024 Guidelines (World Health Organization, 2024).

[a]Percentage of missing values among all [population] with completed interviews.

[b]Percentage of BIV among [population] with completed interviews and non-missing hemoglobin concentrations.

**Table 2: Percent of Digit Preference in Hemoglobin Values in [population], [survey name and year]**

| Characteristics | n | Digit preference for hemoglobin values | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0, % | 1, % | 2, % | 3, % | 4, % | 5, % | 6, % | 7, % | 8, % | 9, % |
| **Age, months** | | | | | | | | | | | |
| Age group 1 | | | | | | | | | | | |
| Age group 2 | | | | | | | | | | | |
| Age group 3 | | | | | | | | | | | |
| **Sex** | | | | | | | | | | | |
| Male | | | | | | | | | | | |
| Female | | | | | | | | | | | |
| **Residence** | | | | | | | | | | | |
| Urban | | | | | | | | | | | |
| Rural | | | | | | | | | | | |
| **Location** | | | | | | | | | | | |
| x | | | | | | | | | | | |
| Y | | | | | | | | | | | |
| z | | | | | | | | | | | |
| **Team** | | | | | | | | | | | |
| Team 1 | | | | | | | | | | | |
| Team 2 | | | | | | | | | | | |
| Team 3 | | | | | | | | | | | |
| Team 4 | | | | | | | | | | | |
| Team 5 | | | | | | | | | | | |
| Team 6 | | | | | | | | | | | |
| Team 7 | | | | | | | | | | | |
| Team 8 | | | | | | | | | | | |
| **HemoCue** | | | | | | | | | | | |
| HemoCue 1 | | | | | | | | | | | |
| HemoCue 2 | | | | | | | | | | | |
| HemoCue 3 | | | | | | | | | | | |
| HemoCue 4 | | | | | | | | | | | |
| HemoCue 5 | | | | | | | | | | | |
| HemoCue 6 | | | | | | | | | | | |
| HemoCue 7 | | | | | | | | | | | |
| HemoCue 8 | | | | | | | | | | | |
| **Total** | | | | | | | | | | | |

Note: Unweighted estimates. Hemoglobin concentrations include biologically implausible values (ie., hemoglobin concentration <4 g/dL or >18 g/dL, Sullivan *et al.*, 2008).

**Table 3: Mean, Median, Standard Deviation (SD), Minimum (Min) and Maximum (Max) of Hemoglobin Concentrations, Including Biologically Implausible Values, in [population], [survey name and year]**

| Characteristics | n | Hemoglobin concentration (g/dL) | | | |
|---|---|---|---|---|---|
| | | Mean | Median | SD[a] | Min-Max |
| **Age, months** | | | | | |
| Age group 1 | | | | | |
| Age group 2 | | | | | |
| Age group 3 | | | | | |
| **Sex** | | | | | |
| Male | | | | | |
| Female | | | | | |
| **Residence** | | | | | |
| Urban | | | | | |
| Rural | | | | | |
| **Location** | | | | | |
| x | | | | | |
| y | | | | | |
| z | | | | | |
| **Wealth Quintile** | | | | | |
| Lowest | | | | | |
| Second | | | | | |
| Middle | | | | | |
| Fourth | | | | | |
| Highest | | | | | |
| **Total** | | | | | |

Note: Unweighted estimates. Hemoglobin concentrations include biologically implausible values (ie., hemoglobin concentration <4 g/dL or >18 g/dL).

[a]A standard deviation between 1.1 and 1.5 is considered to be acceptable (Sullivan, 2008).

**Table 4: Mean, Median, Standard Deviation (SD), Minimum (Min) and Maximum (Max) of Hemoglobin Concentrations, Excluding Biologically Implausible Values, in [population], [survey name and year]**

| Characteristics | n | Hemoglobin concentration (g/dL) | | | |
|---|---|---|---|---|---|
| | | Mean | Median | SD[a] | Min-Max |
| **Age, months** | | | | | |
| Age group 1 | | | | | |
| Age group 2 | | | | | |
| Age group 3 | | | | | |
| **Sex** | | | | | |
| Male | | | | | |
| Female | | | | | |
| **Residence** | | | | | |
| Urban | | | | | |
| Rural | | | | | |
| **Location** | | | | | |
| x | | | | | |
| y | | | | | |
| z | | | | | |
| **Wealth Quintile** | | | | | |
| Lowest | | | | | |
| Second | | | | | |
| Middle | | | | | |
| Fourth | | | | | |
| Highest | | | | | |
| **Total** | | | | | |

Note: Unweighted estimates. Hemoglobin concentrations exclude biologically implausible values (ie., hemoglobin concentration <4 g/dL or >18 g/dL).

[a]A standard deviation between 1.1 and 1.5 is considered to be acceptable (Sullivan, 2008).

**Table 5: Skew and Kurtosis of Hemoglobin Concentrations, Including and Excluding Biologically Implausible Values (BIV), in [population], [survey name and year]**

| Characteristics | Hemoglobin concentration, including BIV (g/dL) | | | Hemoglobin concentration, excluding BIV (g/dL) | | |
|---|---|---|---|---|---|---|
| | n | Skew[a] | Kurtosis[b] | n | Skew[a] | Kurtosis[b] |
| **Total** | | | | | | |

Note: Unweighted estimates. BIV is defined as hemoglobin concentration <4 g/dL or >18 g/dL. Elevation adjustments were made according to 2024 Guidelines (World Health Organization, 2024).
[a]Skew is considered acceptable in the range -0.5 to 0.5.
[b]Kurtosis is considered acceptable in the range 2 to 4.