

## 1 Appendix 1. Definitions of independent variables

| Characteristics          | Description   |
|--------------------------|---|
| <i>Child</i>             |   |
| Age                      | Age of child (in month) categorised as: 0-11, 12-23, 24-59 months   |
| Sex                      | Sex of child (male or female)   |
| Birth size               | Maternal-reported size of child at birth (small, average, large). It is a useful proxy for birthweight variable because many of the children birthweights were unknown  |
| Birth order              | Ascending order in which the children were born. This was categorised as: 1 <sup>st</sup> , 2 <sup>nd</sup> to 4 <sup>th</sup> , >4 <sup>th</sup>   |
| Birth type               | Type of birth: singleton, multiple (twins or triplet)   |
| Birth interval           | Interval between the index and preceding birth categorised as: first birth, <24 months, 24-47 months and ≥48 months   |
| Anaemia status           | Children aged 6-59 months blood specimens for haemoglobin (Hb) analysis were collected subject to their parents' consent. A child is anaemic if Hb <11.0 g/dl; otherwise, non-anaemic.  |
| Recent illness           | This is defined by a dummy variable equal to 1 if the mother reported that the child had diarrhoea, fever or cough within two weeks preceding the survey  |
| <i>Maternal</i>          |   |
| Age                      | Current mother's age (in years) categorised as: 15-24, 25-34, ≥35 years   |
| Education                | Mother's highest level of educational attainment categorised as: none, primary, secondary/higher  |
| BMI                      | Mother's body mass index (BMI) was categorized into four namely: underweight (BMI <18.5 kg/m <sup>2</sup> ), normal weight (18.5 ≤ BMI ≤ 24.9 kg/m <sup>2</sup> ), overweight/obese (BMI ≥ 30 kg/m <sup>2</sup> ) and pregnant/postpartum. Pregnant/postpartum group was to account for the likely weight gain by women who were pregnant or had a birth within the two months preceding the survey.  |
| Marital                  | Marital status of the mother: Not married nor in-union, married or in-union   |
| Employment               | Mother's employment status within a week preceding the survey: working, not working   |
| No of living children    | Mother's number of living children: 1, 2, ≥ 3   |
| Health insurance         | Mother who had health insurance coverage: covered, not covered  |
| Breastfeeding status     | Mother's current breastfeeding status at the time of the survey (never, currently, formerly)  |
| <i>Household</i>         |   |
| Region                   | Region of residence (Northern, Central, Southern)   |
| Residence                | Type of residence (urban, rural)  |
| Wealth status            | Proxy measure of household socio-economic status due to non-existence of information on household income in the DHS survey, grouped into five quintiles (poorest, poor, middle, rich, and richest), was regrouped as: poor, middle, rich. Household scores were generated based on ownership of household assets (e.g., television, radio, or bicycle/car) and housing characteristics (e.g., flooring, wall or roofing materials) using principal component analysis |
| Household-head sex       | Head of household sex (male, female)  |
| Source of drinking water | Source of drinking water was regrouped as: improved, not improved. Improved source encompasses piped water (into dwelling, to yard/plot or neighbour), public tap/standpipe, tube-well/ borehole, protected well and spring, and bottled water; otherwise, unimproved   |
| Type of toilet facility  | Type of toilet facility was regrouped as: improved, not improved. The improved toilet type includes flush/pour flush (to piped sewer system, septic tank or pit latrine) toilets, ventilated improved pit latrine, pit latrine with slab and composting toilets; other toilet facility types were tagged as not improved  |

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