**Supplement Table 1:** Variables defined and parameterization evaluated against groups of children with sub-clinical infections of enteroaggregative *Escherichia coli* (EAEC) with and without other enteric pathogens.

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| **Category** | **Concept to capture** | **Variable defined** |
| Child code and characteristics | Child code and site of study | PID = Child ID |
| Country |
| Child characteristic | CAFSEX = Gender of child |
| CAFBWT = Birthweight (kg) |
| CAFWT = Current weight (kg) |
| Socio-economic and sanitation | Water/sanitation, household Assets, Maternal education and household Income | Asset = sum of 8 assets scores: mattress, chair, table, television, refrigerator, bank account, kitchen, < 2 people per room. Positive responses for each of these get a score of 1 while negative responses get 0.  |
| Newincome = reported income multiplied by US$ exchange rate. |
| Fsemed = How many years of schooling have you completed? |
| Newdrink = What is the main source of drinking water for members of your household? 0= inadequate; 4=adequate. |
| Newsanitation = 0= inadequate; 4=adequate |
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| **WAMI****(W**ater/sanitation, household **A**ssets, **M**aternal education and household **I**ncome)  | *Water/Sanitation* | Using World Health Organization definitions of access to improved water and improved sanitation, households with access to improved water or improved sanitation are assigned score of 4 for each. Households without access to improved water or improved sanitation are assigned a score of 0 for each. These scores are summed. [0-8] |
| *Assets* | Eight priority assets were selected using random forests with HAZ as the outcome. For each asset, households were assigned a 1 if they have the asset, and 0 if they do not have the asset. These scores were summed. [0-8] |
| *Maternal Education* | Each child’s mother provided the number of years of schooling she had completed, ranging from 0 to 16 years. This number was divided by 2. [0-8] |
| *Income* | Monthly household income was converted to US dollars using the exchange rate from January 1, 2010. Income was divided into octiles using the following scores and cutoffs: 1 (0-26), 2 (26.01-47), 3 (47.01-72), 4 (72.01-106), 5 (106.01-135), 6 (135.01-200), 7 (200.01-293), 8 (293+). [0-8] |
| *TOTAL* | Scores in water and sanitation, assets, mother’s education, and income were summed then divided by 32. [0-1] |
| Food security | Food security | Hfiacat = Household Food Insecurity Access Scale Category (based on Coates J, Swindale A, Bilinsky P 2007 FANTA) 1=none, 2=mild, 3=moderate, 4=severe |
| Surveillance variables | Morbidities | SomaDedalri = REF - diagnosis of ALRI by a medical professional |
| SomaDesafab = Maternal report of antibiotic use, 1=yes, 0=no |
| SomaDe\_BF = No breastfeeding reported at last reported diet day. |
| ContarDemaxdehyd = Maximum severity of dehydration during diarrhea episode (1=some dehydration, 2=severe dehydration) |
| SomaDediar = Binary variable that indicates whether or not child had study-defined diarrhea. Diar=1 if numls>2 or if [safblood==1 and the child had 1 to 2 loose stools]. Days when the study definition is met, but there was an LM test that day or the previous day, were set to 0 (not 'diarrhea' since LM has been found to cause loose stools). |
| SomaDefever = 0 if maximum temperature reported during episode was <37.5, 1 if temperature >37.5 was reported during episode (IMCI fever definition) |
| CountDepid = total days of observation |
| Calculation for dalri = Percentage of dedalri in relation to depid |
| Calculation for safab = Percentage of desafab in relation to depid |
| Calculation for yesbfrun = Percentage of deyesbfrun in relation to depid |
| Calculation for maxdehyd = Percentage of demaxdehyd in relation to depid |
| Calculation for diar = Percentage of dediar in relation to depid |
| Calculation for fever = Percentage of fever in relation to depid |
| Systemic biomarker and gut function | Biomarkers for immune-inflammatory responses and gut function (measured at 3, 6, 9 and 15 months) | Percentage of Mannitol excretion in urine (%M)Percentage of Lactulose excretion in urine (%L)Lactulose:Mannitol ratio (LM ratio)Z-scores for %M, %L and LM ratioAlpha-1 antitrypsin (AAT; stool samples)Myeloperoxidase (MPO; stool samples)Neopterin (NEO; stool samples) |
| Anthropometric parameters | Growth evaluation | Length-for-age, weight-for-age and length-for-weight measured monthly over 12 months and each three months until 24 months. |
| Enteric pathogens groups | Groups of Children with sub-clinical infections (monthly stool samples) for seven groups of children with enteric pathogens categorization | Children with non-pathogens detected |
| Children with enteroaggregative *Escherichia coli* (EAEC) alone |
| Children with EAEC and one pathogen detected |
| Children with EAEC and two pathogens detected |
| Children with EAEC and ≥3 pathogens detectedChildren with 1 or 2 pathogens other than EAECChildren with ≥3 pathogens other than EAEC |
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