**Data Dictionary**

**Synthetic Dataset**

**Total records (N) = 2,686**

**Total variables = 138**

**Note for variables labeled as Interventions:**

These are admitabx\_adm\_\_\_1, admitabx\_adm\_\_\_2, admitabx\_adm\_\_\_3, admitabx\_adm\_\_\_4, admitabx\_adm\_\_\_5, admitabx\_adm\_\_\_6, admitabx\_adm\_\_\_7, admitabx\_adm\_\_\_8, admitabx\_adm\_\_\_9, admitabx\_adm\_\_\_10, admitabx\_adm\_\_\_11, admitabx\_adm\_\_\_12, admitabx\_adm\_\_\_13, admitabx\_adm\_\_\_14, admitabx\_adm\_\_\_15, admitabx\_adm\_\_\_16, admitabx\_adm\_\_\_17, admitabx\_adm\_\_\_18, admitabx\_adm\_\_\_19, admitabx\_adm\_\_\_20, admitabx\_adm\_\_\_21

These variables are interventions and should not be used in the model. While they have strong capabilities, we will penalize the use of them as they are difficult to collect.

**March 12, 2025 Update:** Variables“cookfuel\_adm\_\_\_8” and “symtoms\_adm\_\_\_17” removed from training dataset.

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| **Collection Type** | **Variable Name** | **Field Label** | **Variable Type** | **Missing Pattern** | **Details** |
| Admission | studyid\_adm | Study ID | Discrete  (Patient details) | No missing values |  |
| Admission | agecalc\_adm | Age at admission (in months) | Continuous  (Patient details) | No missing values |  |
| Admission | sex\_adm | Sex | Categorical  (Patient details) | No missing values |  |
| Admission | height\_cm\_adm | Height or length (in cm) | Continuous  (Clinical) | 14 missing values  (0.5%) |  |
| Admission | weight\_kg\_adm | Weight (in kg) | Continuous  (Clinical) | 9 missing values  (0.3%) |  |
| Admission | muac\_mm\_adm | MUAC (in mm) | Continuous  (Clinical) | 13 missing values  (0.5%) |  |
| Admission | hr\_bpm\_adm | Heart rate | Continuous  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | rr\_brpm\_app\_adm | Respiratory rate | Continuous  (Clinical) | 5 missing values  (0.2%) |  |
| Admission | sysbp\_mmhg\_adm | Systolic blood pressure | Continuous  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | diasbp\_mmhg\_adm | Diastolic blood pressure | Continuous  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | temp\_c\_adm | Axillary temperature (Celsius) | Continuous  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | spo2site1\_pc\_oxi\_adm | Oxygen saturation (measure 1) | Continuous  (Clinical) | 4 missing values  (0.2%) |  |
| Admission | spo2site2\_pc\_oxi\_adm | Oxygen saturation (measure 2) | Continuous  (Clinical) | 205 missing values  (7.6%) |  |
| Admission | spo2other\_adm | SpO2 from other device | Continuous  (Clinical) | 2505 missing values  (93.2%) |  |
| Admission | spo2onoxy\_adm | Was SpO2 measured while on oxygen? | Categorical  (Clinical) | 4 missing values  (0.1%) |  |
| Admission | oxygenavail\_adm | What is the child's supplementary oxygen status? | Categorical  (Clinical) | No missing values |  |
| Admission | respdistress\_adm | Does the child have severe respiratory distress (grunting/severe chest indrawing)? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | caprefill\_adm | Does the child have a capillary refill of 3 or more seconds? | Categorical  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | bcseye\_adm | Eye movement (Blantyre Coma Scale) | Categorical  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | bcsmotor\_adm | Best motor response (Blantyre Coma Scale) | Categorical  (Clinical) | No missing values |  |
| Admission | bcsverbal\_adm | Best verbal response (Blantyre Coma Scale) | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Intervention | admitabx\_adm\_\_\_1 | What anti-infective(s) were given at admission (check all that apply)?  [IV Ampicillin or Amoxicillin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_2 | What anti-infective(s) were given at admission (check all that apply)?  [PO Ampicillin/Amoxicillin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_3 | What anti-infective(s) were given at admission (check all that apply)?  [IV Penicillin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_4 | What anti-infective(s) were given at admission (check all that apply)?  [PO Penicillin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_5 | What anti-infective(s) were given at admission (check all that apply)?  [IV Cloxacillin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_6 | What anti-infective(s) were given at admission (check all that apply)?  [PO Amoxicillin-Clavulanic Acid] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_7 | What anti-infective(s) were given at admission (check all that apply)?  [PO Cefpodoxime or Cefuroxime] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_8 | What anti-infective(s) were given at admission (check all that apply)?  [IV Ceftriaxone] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_9 | What anti-infective(s) were given at admission (check all that apply)?  [IV Gentamicin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_10 | What anti-infective(s) were given at admission (check all that apply)?  [PO or IV Ciprofloxacin or Levofloxacin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_11 | What anti-infective(s) were given at admission (check all that apply)?  [PO Nalidixic Acid] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_12 | What anti-infective(s) were given at admission (check all that apply)?  [IV Vancomycin] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_13 | What anti-infective(s) were given at admission (check all that apply)?  [PO Sulfamethoxazole Trimethoprim] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_14 | What anti-infective(s) were given at admission (check all that apply)?  [IV or PO Metronidazole] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_15 | What anti-infective(s) were given at admission (check all that apply)?  [IV or PO Albendazole or Mebendazole] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_16 | What anti-infective(s) were given at admission (check all that apply)?  [IV or PO antimalarial] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_17 | What anti-infective(s) were given at admission (check all that apply)?  [TB medications] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_18 | What anti-infective(s) were given at admission (check all that apply)?  [HIV medications] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_19 | What anti-infective(s) were given at admission (check all that apply)?  [Malaria medications] | Categorical  (Clinical) | No missing values |  |
| Intervention | admitabx\_adm\_\_\_20 | What anti-infective(s) were given at admission (check all that apply)?  [Other (specify)] | Categorical  (Clinical) | No missing values | Indicates an antimicrobial was given that is not one of the specific options provided. |
| Intervention | admitabx\_adm\_\_\_21 | What anti-infective(s) were given at admission (check all that apply)?  [None] | Categorical  (Clinical) | No missing values |  |
| Admission | bcgscar\_adm | Has BCG scar (if <6m, verbal report of vaccine OK)? | Categorical  (Clinical) | No missing values |  |
| Admission | vaccmeasles\_adm | Has the child received a measles vaccination? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | vaccmeaslessource\_adm | What is the source of the information regarding measles vaccination? | Categorical  (Clinical) | 946 missing values  (35.2%) |  |
| Admission | vaccpneumoc\_adm | Has the child received a pneumococcal vaccination? | Categorical  (Clinical) | No missing values |  |
| Admission | vaccpneumocsource\_adm | What is the source of the information regarding pneumococcal vaccination? | Categorical  (Clinical) | 185 missing values  (6.8%) |  |
| Admission | vaccdpt\_adm | Has the child received a DPT/Penta vaccination? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | vaccdptsource\_adm | What is the source of the information regarding DPT/Penta vaccination? | Categorical  (Clinical) | 143 missing values  (5.3%) |  |
| Admission | priorweekabx\_adm | Has the child used antibiotics in the past week? | Categorical  (Clinical) | No missing values |  |
| Admission | priorweekantimal\_adm | Has the child used antimalarials in the past week? | Categorical  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | symptoms\_adm\_\_\_1 | Symptoms during the course of this illness (check all that apply)?  [Rash] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_2 | Symptoms during the course of this illness (check all that apply)?  [Cough < 14 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_3 | Symptoms during the course of this illness (check all that apply)?  [Cough >14 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_4 | Symptoms during the course of this illness (check all that apply)?  [Diarrhea < 14 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_5 | Symptoms during the course of this illness (check all that apply)?  [Diarrhea >14 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_6 | Symptoms during the course of this illness (check all that apply)?  [Fever/hotness of body <7 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_7 | Symptoms during the course of this illness (check all that apply)?  [Fever/hotness of body>7 days] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_8 | Symptoms during the course of this illness (check all that apply)?  [Vomiting everything] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_9 | Symptoms during the course of this illness (check all that apply)?  [Abnormally sleepy] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_10 | Symptoms during the course of this illness (check all that apply)?  [Swelling of both feet] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_11 | Symptoms during the course of this illness (check all that apply)?  [Changes in urine color] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_12 | Symptoms during the course of this illness (check all that apply)?  [Making less urine than usual] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_13 | Symptoms during the course of this illness (check all that apply)?  [Blood in stool] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_14 | Symptoms during the course of this illness (check all that apply)?  [Seizure/convulsions] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_15 | Symptoms during the course of this illness (check all that apply)?  [Coma] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_16 | Symptoms during the course of this illness (check all that apply)?  [Yellow soles (if < 2mold)] | Categorical  (Clinical) | No missing values |  |
| Admission | symptoms\_adm\_\_\_18 | Symptoms during the course of this illness (check all that apply)?  [Don't know] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_1 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Reactive airway disease/asthma/allergy] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_2 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Oncologic disease] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_3 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Cardiac disease] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_4 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Endocrine disease (like diabetes)] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_5 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Sickle cell disease] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_6 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Tuberculosis] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_7 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Physical/mental/developmental disability] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_8 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Hydrocephalus] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_9 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Trauma/injury] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_10 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Other co-morbidity] | Categorical  (Clinical) | No missing values | Indicates comorbidity that is not one of the specific options provided. |
| Admission | comorbidity\_adm\_\_\_11 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [None] | Categorical  (Clinical) | No missing values |  |
| Admission | comorbidity\_adm\_\_\_12 | Co-morbid diagnoses (check all that apply). Note: Do not include HIV, anemia or malnutrition here.  [Don't know] | Categorical  (Clinical) | No missing values |  |
| Admission | priorhosp\_adm | How long has it been since your child's last hospitalization? | Categorical  (Clinical) | 5 missing values  (0.2%) |  |
| Admission | prioryearwheeze\_adm | Prior to this illness, has your child had wheezing in the last year? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | prioryearcough\_adm | Prior to this illness, has your child had cough, difficulty breathing or chest indrawing in the last year? | Categorical  (Clinical) | No missing values |  |
| Admission | diarrheaoften\_adm | Does your child have diarrhea often? | Categorical  (Clinical) | No missing values |  |
| Admission | tbcontact\_adm | Does anyone living with the child have chronic cough, frequent fevers or weight loss? | Categorical  (Clinical) | No missing values |  |
| Admission | feedingstatus\_adm | Current feeding/drinking status (for both breastfed and non-breastfed subjects)? | Categorical  (Clinical) | No missing values |  |
| Admission | exclbreastfed\_adm | For how many months was this child exclusively breastfed (months)? | Categorical  (Clinical) | 1 missing value  (0.0%) |  |
| Admission | nonexclbreastfed\_adm | Non-exclusive breastfeeding details | Categorical  (Clinical) | 2603 missing values  (96.9%) | Only asked if prior question is “0” |
| Admission | totalbreastfed\_adm | How long was your child breastfed in total? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | deliveryloc\_adm | Where was your child born? | Categorical  (Clinical) | 2 missing values  (0.1%) |  |
| Admission | birthattend\_adm | Did anyone help with the birth of your child? | Categorical  (Clinical) | No missing values |  |
| Admission | duedateknown\_adm | Do you remember the due date of this child? | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_1 | Please provide birth details (select any that apply)  [Premature] | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_2 | Please provide birth details (select any that apply)  [Born small (<2500g)] | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_3 | Please provide birth details (select any that apply)  [Born small (weight not known)] | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_4 | Please provide birth details (select any that apply)  [Twin/multiple birth] | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_5 | Please provide birth details (select any that apply)  [Born at term] | Categorical  (Clinical) | No missing values |  |
| Admission | birthdetail\_adm\_\_\_6 | Please provide birth details (select any that apply)  [Don't know] | Categorical  (Clinical) | No missing values |  |
| Admission | travelmethod\_adm | How did you travel to the hospital? | Categorical  (Social) | 1 missing value  (0.0%) |  |
| Admission | traveldist\_adm | How long did it take you to travel to the hospital? | Categorical  (Social) | 1 missing value  (0.0%) |  |
| Admission | badhealthduration\_adm | How long has the child had this problem of generally bad health? | Categorical  (Social) | 4 missing values  (0.1%) |  |
| Admission | caregiver\_adm\_new | Who is this child's primary caregiver | Categorical  (Social) | 3 missing values  (0.1%) |  |
| Admission | caregiverage\_adm | Primary caregiver age | Categorical  (Social) | 2 missing values  (0.1%) |  |
| Admission | caregivermarried\_adm | Current marital status of primary caregiver | Categorical  (Social) | No missing values |  |
| Admission | momalive\_adm | Is the child's mother alive? | Categorical  (Social) | 1 missing value  (0.0%) |  |
| Admission | momageknown\_adm | Is mother's age known? | Categorical  (Social) | 22 missing values  (0.8%) |  |
| Admission | momage\_adm | How old is the child's mother?  (Show the field ONLY if:  [momageknown\_adm] = '1') | Continuous  (Social) | 19 missing values  (0.7%) |  |
| Admission | momagefirstpregknown\_adm | Is the child's mother's age at first pregnancy known? | Categorical  (Social) | 1 missing value  (0.0%) |  |
| Admission | momagefirstpreg\_adm | How old was the child's mother at her first pregnancy?  (Show the field ONLY if: [momagefirstpregknown\_adm] = '1') | Continuous  (Social) | 224 missing values  (8.3%) |  |
| Admission | momedu\_adm | What is the education level of the child's mother? | Categorical  (Social) | No missing values |  |
| Admission | momhiv\_adm | Maternal HIV status | Categorical  (Social) | 6 missing values  (0.2%) |  |
| Admission | householdsize\_adm | How many people sleep in the same house as the child? | Continuous  (Social) | 3 missing values  (0.1%) |  |
| Admission | alivechildren\_adm | Number of children in family who are alive (including subject) | Continuous  (Social) | 4 missing values  (0.1%) |  |
| Admission | deadchildren\_adm | Number of children in family who have died | Continuous  (Social) | 1 missing value  (0.0%) |  |
| Admission | watersource\_adm | Primary water source for drinking water | Categorical  (Social) | 2 missing values  (0.1%) |  |
| Admission | waterpure\_adm | Do you boil, filter (good sand/ceramic) or disinfect (using bleach/waterguard) all drinking water? | Categorical  (Social) | 2 missing values  (0.1%) |  |
| Admission | cookfuel\_adm\_\_\_1 | Which types of cooking fuel do you use (check all that apply)?  [Charcoal] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_2 | Which types of cooking fuel do you use (check all that apply)?  [Wood] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_3 | Which types of cooking fuel do you use (check all that apply)?  [Grass/shrubs] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_4 | Which types of cooking fuel do you use (check all that apply)?  [Propane] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_5 | Which types of cooking fuel do you use (check all that apply)?  [Electricity] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_6 | Which types of cooking fuel do you use (check all that apply)?  [Kerosene or Paraffin] | Categorical  (Social) | No missing values |  |
| Admission | cookfuel\_adm\_\_\_7 | Which types of cooking fuel do you use (check all that apply)?  [Biogas] | Categorical  (Social) | No missing values |  |
| Admission | cookloc\_adm | Where is the cooking usually done? | Categorical  (Social) | 2 missing values  (0.1%) |  |
| Admission | lightfuel\_adm | What is your primary source of lighting? | Categorical  (Social) | 3 missing values  (0.1%) |  |
| Admission | tobacco\_adm | How often does anyone smoke tobacco in your house | Categorical  (Social) | No missing values |  |
| Admission | bednet\_adm | Does your child sleep under a mosquito net? | Categorical  (Social) | 3 missing values  (0.1%) |  |
| Admission | hematocrit\_gpdl\_adm | Hematocrit (%) | Continuous  (Laboratory) | 457 missing values  (17.0%) |  |
| Admission | hctpretransfusion\_adm | Was above hematocrit collected prior to any transfusion? | Categorical  (Laboratory) | 43 missing values  (1.6%) |  |
| Admission | hivstatus\_adm | HIV status | Categorical  (Laboratory) | 5 missing values  (0.2%) |  |
| Admission | malariastatuspos\_adm | Malaria test positive? | Categorical  (Laboratory) | 2 missing values  (0.1%) |  |
| Admission | lactate\_mmolpl\_adm | Lactate level (mmol/L) | Continuous  (Laboratory) | 464 missing values  (17.2%) | Collected within 4hrs of admission |
| Admission | lactate2\_mmolpl\_adm | Late lactate level (mmol/L) (optional) | Continuous  (Laboratory) | 2217 missing values  (82.5%) | Collected within 8hrs of admission |
| Admission | glucose\_mmolpl\_adm | Blood glucose (mmol/L) | Continuous  (Laboratory) | 9 missing values  (0.3%) |  |
| Admission | sqi1\_perc\_oxi\_adm | Best admission SQI | Continuous  (Recording data) | 130 missing values  (4.8%) |  |
| Admission | sqi2\_perc\_oxi\_adm | 2nd best admission SQI | Continuous  (Recording data) | 207 missing values  (7.7%) |  |
| Outcome | lengthadm | Length of admission | Discrete  (Clinical) | No missing values |  |
| Outcome | inhospital\_mortality | Did the patient die in hospital? | Categorical  (Clinical) | No missing values | 0, No  1, Yes |