# CHAIN Number [1][0][0][0][1][ ][ ][ ]

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| Eligibility Checklist | | |
|---|---|---|
| **Age between 7 days and before 2nd birthday** | Y | N - ineligible |
| **Being admitted to hospital because of acute illness** | Y | N- ineligible |
| **Parent or guardian able and available to consent** | Y | N- ineligible |
| **Able to feed orally in usual state of health** | Y | N- ineligible |
| **Known congenital syndrome** | Y- ineligible | N |
| **Cleft palate** | Y- ineligible | N |
| **Known congenital cardiac disease** | Y- ineligible | N |
| **Known terminal illness e.g. cancer** | Y- ineligible | N |
| **Admission for surgery, or likely to require surgery within 6m** | Y- ineligible | N |
| **Admission for trauma?** | Y- ineligible | N |
| **Sibling enrolled in study** | Y- ineligible | N |
| **Previously enrolled** | Y- ineligible | N |

## Part 1

### 1. Admission to Hospital and Study Enrolment

| **DATE arrived at the hospital** | __ __ / __ __ / __ __ __ __ <br> *D D / M M / Y Y Y Y* | **TIME arrived at the hospital** | __ __ : __ __ <br> *24h Clock* | ☐ Arrival time unknown | |
| **DATE of enrolment** <br> i.e. date consented and seen by research team | __ __ / __ __ / __ __ __ __ <br> *D D / M M / Y Y Y Y* | **TIME of enrolment** | __ __ : __ __ <br> *24h Clock* | **Sex** | ☐ Male <br> ☐ Female |
| **DOB** | __ __ / __ __ / __ __ __ __ <br> *D D / M M / Y Y Y Y* | **Is the DOB:** | ☐ True <br> ☐ Estimated* | **Child's Initials** | ___ ___ ___ |
| **Brought into hospital by:** <br> *Select all that apply* | ☐ Mother <br> ☐ Sibling <18 | ☐ Father <br> ☐ Sibling >18 | ☐ Grandparent <br> ☐ Carer (care home) | ☐ Aunt/Uncle <br> ☐ Other_____ | |

*if DOB is estimated, and the day is uncertain, write '15' for DD*

### 2. Presenting Complaints

☐ Fever / Hotness of body  ☐ Vomiting  ☐ Lethargy

☐ Difficulty breathing  ☐ Diarrhoea <14 days  ☐ Convulsions

☐ Cough<14 days  ☐ Diarrhoea >14 days  ☐ Altered consciousness

☐ Cough>14days  ☐ Blood in stool  ☐ Not feeding

☐ Poor feeding/ Weight loss  ☐ Developmental delay  ☐ Body swelling / limb swelling/ Oedema

☐ Rash/ skin lesion  ☐ Neonatal jaundice  ☐ Umbilical infection

☐ Other *(only one complaint, if not covered by above options)*

_____

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| **3. Initial Observations** (to be taken at time of examination by research team) | | | |
|---|---|---|---|
| **Axillary temperature** | _____ _____ . _____ °C | **Respiratory rate** *Count for 1 minute* | _____ _____ _____ /minute |
| **Heart rate** *Count for 1 minute* | _____ _____ _____ /minute | | |
| **SaO2** *To be taken from finger or toe using pulse oximeter* | _____ _____ _____ % *Write 000 if unrecordable* | ☐ Measured in Oxygen    ☐ Measured in Room Air | ☐ Unrecordable |

| **4. Anthropometry** | | | |
|---|---|---|---|
| **Weight** *to be taken using SECA scales for CHAIN study* | ___ ___ . ___ ___ kg | **Length** *to be taken using SECA 416 infantometer provided for CHAIN study* | Measurer 1 _____ _____ . _____ cm |
| | | | Measurer 2 _____ _____ . _____ cm |
| **MUAC** *To be taken using MUAC tape for CHAIN study* | Measurer 1 _____ _____ . _____ cm | **Head circumference** *To be taken using CHAIN measuring tape* | Measurer 1 _____ _____ . _____ cm |
| | Measurer 2 _____ _____ . _____ cm | | Measurer 2 _____ _____ . _____ cm |
| **Oedema** | ☐ None    ☐ +    ☐ ++    ☐ +++ | **Initials** | Measurer 1 __ __ __    Measurer 2 __ __ __ |

*NB: If the child is unwell the Length and Head Circumference can be taken at a later time.*

| **5. Current Health** | |
|---|---|
| **Previously admitted to hospital.** *Include other hospitals / health centres. Select 1* | ☐ No    ☐ < 1 week ago    ☐ 1 weeks-1month ago    ☐ >1month ago |
| **Any medication last 7 days.** *Select all that apply* | ☐ No medication    ☐ Antibiotic    ☐ Antimalarial    ☐ Traditional<br>☐ Deworming    ☐ Vitamin    ☐ Paracetamol or Ibuprofen<br>☐ Yes, but unknown    ☐ Other |
| **Urine volume in last 24hrs?** *Select 1* | ☐ Not passing urine    ☐ Less than normal    ☐ Normal or greater    ☐ Unknown |

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## 6. Examination

*Examination should be performed by CHAIN study clinician trained in clinical examination of children, and able to formulate a diagnosis based on clinical history and findings. Refer to Clinical Examination SOP*

| | |
|---|---|
| **Airway** *(select one)* | ☐ **Clear**　　　☐ Needs active support　　　☐ Obstructed/Stridor |
| **Breathing** *(select all that apply)* | ☐ **Normal – no concerns**, (move to circulation)<br><br>☐ Central cyanosis　　☐ Nasal flaring　　☐ Reduced air-entry<br>☐ Wheeze　　☐ Acidotic Breathing　　☐ Grunting<br>☐ Lower chest wall indrawing　　☐ Crackles　　☐ Dull to percussion<br>☐ Head nodding |

**Circulation:**

| | |
|---|---|
| **Cap Refill** (select one) | ☐ >3s　　☐ 2-3s　　☐ <2s |
| **Cold Peripheries** (select one) | ☐ Shoulder　　☐ Elbow　　☐ Hand　　☐ Warm peripheries |

**Disability:**

| | | | |
|---|---|---|---|
| **Conscious level** (select one) | ☐ **Alert** | ☐ Voice | ☐ Pain | ☐ Unresponsive |
| **Fontanelle** (select one) | ☐ **Normal** | ☐ Bulging | ☐ Sunken | ☐ Not present |
| **Tone** (select one) | ☐ **Normal** | ☐ Hypertonic | | ☐ Hypotonic |
| **Posture** (select one) | ☐ **Normal** | ☐ Decorticate | | ☐ Decerebrate |
| **Activity** (select one) | ☐ **Normal** | ☐ Irritable/Agitated | | ☐ Lethargic |

**Dehydration:**

| | |
|---|---|
| **Sunken eyes?** | ☐ Y　　　☐ N |
| **Skin pinch** (*select one*) | ☐ >2 seconds　　☐ <2 seconds　　☐ Immediate |

| | |
|---|---|
| **Drinking/Breastfeeding** *(Select one)* | ☐ **Normal**　　☐ Poorly　　☐ Not drinking　　☐ Eager / Thirsty |
| **Abdomen** *(select any that apply)* | ☐ **Normal – no concerns**　　☐ Distension　　☐ Hepatomegaly<br>☐ Tenderness　　☐ Splenomegaly　　☐ Other abdominal mass |
| **Signs of Rickets** | ☐ **None**　　☐ Wrist widening　　☐ Rachitic rosary　　☐ Swollen knees　　☐ Bow legs　　☐ Frontal bossing |
| **Jaundice** *(Select one)* | ☐ **Not jaundiced**　　☐ +　　☐ ++　　☐ +++ |
| **ENT/Oral/Eyes** *(select any that apply)* | ☐ Mouth Normal　　☐ Ears Normal　　☐ Eyes Normal<br>☐ Oral ulceration　　☐ Pus from ear　　☐ Conjunctivitis<br>☐ Oral candidiasis　　☐ Tender swelling behind ear (mastoiditis)　　☐ Eye discharge<br>☐ Stomatitis　　☐ Lymphadenopathy　　☐ Visual impairment |
| **Skin** *(select any that apply)* | ☐ Normal　　☐ Hyperpigmentation　　☐ Depigmentation<br>☐ Broken skin/excoriation　　☐ Dermatitis　　☐ 'Flaky paint'<br>☐ Cellulitis　　☐ Impetigo　　☐ Pustules<br>☐ Vesicles　　☐ Desquamation　　☐ Macular or papular |
| **Site of skin lesions.** *(select any that apply)* | ☐ Not applicable (No rash)　　☐ Trunk　　☐ Face / scalp　　☐ Legs<br>☐ Palms / soles　　☐ Buttocks　　☐ Arms　　☐ Perineum |

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## 7. Suspected Chronic Conditions

| Select confirmed, suspected or none for all conditions: | Confirmed (diagnosed previously/ recorded) | Suspected (clinician's impression) | None |
|---|---|---|---|
| **Cerebral palsy/neurological problem/ epilepsy** | ☐ | ☐ | ☐ |
| **Hydrocephalus** | ☐ | ☐ | ☐ |
| **Sickle Cell disease** *family history, crisis* | ☐ | ☐ | ☐ |
| **Thalassaemia** | ☐ | ☐ | ☐ |
| **Visual problem / Blindness** *Not fixing and following* | ☐ | ☐ | ☐ |
| **Losing weight or not gaining weight** | ☐ | ☐ | ☐ |

## 8. TB Screening

| Known TB (on treatment) | | Child has cough >14 days | | Household contact has TB, or cough >14 days | | Child has suspected extra-pulmonary TB | |
|---|---|---|---|---|---|---|---|
| Y | N | Y | N | Y | N | Y | N |

## 9. Feeding

| | |
|---|---|
| **Currently in outpatient nutrition program?** *Select one.* | ☐ Supplementary *(corn soy blend, RUSF, khichuri, halwa)*    ☐ Therapeutic *(RUTF, Plumpy-nut)*    ☐ None |
| **Has the child eaten these nutrition products in the last 3 days?** | ☐ Supplementary    ☐ Therapeutic    ☐ None |
| **Currently Breastfeeding?** | ☐ Y   ☐ N    **If yes is the child taking anything else (exclude medicine)?**    ☐ Y   ☐ N   ☐ N/A |
| **If NO breastfeeding at all, age stopped in months?** *(select one)* | ☐ 0-3m   ☐ 4-6m   ☐ 7-12m   ☐ >12m   ☐ Unknown   ☐ N/A |
| **What did the child receive other than breast milk in the first 3 days of life?** *Select all that apply* *Do not include medications e.g. ARV.* | ☐ Sweetened/sugar water   ☐ Formula/powder milk   ☐ Animal milk <br> ☐ Fruit Juice   ☐ Tea   ☐ Other <br> ☐ Water   ☐ Porridge/pulp   ☐ Gutthi / gripe water <br> ☐ Pure Honey   ☐ Glycerine   ☐ Nothing |

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| 10. Vaccinations – *Ask carer or check book / card if available* | | | | | | | |
|---|---|---|---|---|---|---|---|
| **BCG scar** | ☐ Yes | ☐ No | **Rotavirus** | ☐ Book | ☐ Self report | ☐ Not received | **Doses received:**    3   2   1   ☐ Unknown |
| **Measles** | ☐ Book    ☐ Self report | | **Pneumococcus** | ☐ Book | ☐ Self report | ☐ Not received | **Doses received:**    3   2   1   ☐ Unknown |
| | ☐ Not received    ☐ Unknown | | **DTP/Penta** | ☐ Book | ☐ Self report | ☐ Not received | **Doses received:**    3   2   1   ☐ Unknown |
| | | | **Polio** | ☐ Book | ☐ Self report | ☐ Not received | ☐ Unknown |
| | | | **MenAfriVac** | ☐ Book | ☐ Self report | ☐ Not received | ☐ Unknown |

| 11. CLINICIANS IMPRESSION OF RISK |
|---|
| *How likely does the clinical team think this child is to die during this admission? Select one* |
| ☐ Almost certainly not    ☐ Very unlikely    ☐ Quite unlikely    ☐ Unsure    ☐ Quite likely    ☐ Very likely    ☐ Almost certainly |

| 12. Immediate Clinical Investigations and HIV status | | | | | | |
|---|---|---|---|---|---|---|
| **Malaria RDT** *circle result* | Positive | | Negative | | Not done | |
| **Blood glucose** | ___ ___ . ___ mmol/L | | **Time glucose measured** | | ___ ___:___ ___   *24h clock*   ☐ Unknown | |
| **Urine Dipstick** *(can be done at any time during admission)* ☐ Not done ☐ Bag ☐ Clean catch | Protein | Nitrites | Leucocytes | Blood | Ketones | Glucose |
| | None + ++ +++ | Pos   Neg | None + ++ +++ | None + ++ +++ | None + ++ +++ | None + ++ +++ |
| **HIV status known?** | ☐ Yes, known PCR positive    ☐ Yes, antibody positive, unknown PCR status | | ☐ Yes, known exposed, known PCR negative (children under 18m with PCR result SEEN BY RESEARCH TEAM. If not seen select below and perform HIV RDT | | | |
| | ☐ No, known to be HIV exposed, but child untested     ☐ No, child not tested, not known to be exposed | | | | | |
| **If child known HIV positive or exposed** | **On any ART?** ☐Y   ☐N   ☐ Unknown | | **If on treatment,** ARV 1_____ ARV 2_____ ARV 3_____ | | **If on prophylaxis** ☐ Nevirapine prophylaxis only ☐ AZT + NVP prophylaxis ☐ Caregiver unsure | |

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| | Co-trimoxazole *select one* | ☐ On prophylactic dose co-trimoxazole | ☐ On high dose co-trimoxazole | ☐ Not on co-trimoxazole | ☐ Caregiver unsure |
|---|---|---|---|---|---|
| **If not known positive** | **HIV RDT now** *select one* | ☐ Reactive / positive PCR sent: ☐ Y ☐ N | ☐ Non-Reactive / Negative | | ☐ Declined |
| | **Referred to HIV clinic** | ☐ Yes | ☐ No (select 'No' if referral not indicated) | | |
| | **HIV test offered to caregiver?** | ☐ Yes, Reactive ☐ Yes, Non-reactive | ☐ Yes, but Declined | ☐ No, Caregiver is known positive | ☐ Missed ☐ N/A child in care home |
| | **Did the mother have interventions or medication during delivery to prevent transmission of HIV to baby?** | ☐ Yes | ☐ No | ☐ Unknown | |

## 13. Initial Treatment

| **Admitted to:** *select one* | ☐ Admission to ward | ☐ Admission to HDU | ☐ Admission to ICU | ☐ Admission to neonatal unit |
|---|---|---|---|---|
| **Date and time First antibiotics given** | __ __ / __ __ / __ __ __ __          __ __:__ __ | | ☐Not given | |
| **Intravenous Antibiotics Given?** ☐ **Not given** | ☐ Benzylpenicillin  ☐ Gentamicin  ☐ Ceftriaxone / Cefotaxime ☐ Co-amoxiclav/ Augmentin  ☐ Flu/Cloxacillin  ☐ Chloramphenicol ☐ Ampicillin  ☐ Amikacin  ☐ Meropenem / Imipenem ☐ Levofloxacin  ☐ Vancomycin  ☐ Metronidazole ☐ Ceftazidime  ☐ Pivmecillinam ☐ Other_____ | | | |
| **Oral Antibiotics Given?** ☐ **Not given** | ☐ Amoxicillin  ☐ Erythromycin  ☐ Azithromycin ☐ Co-trimoxazole  ☐ Metronidazole  ☐ Ciprofloxacin ☐ Cefalexin / cefaclor  ☐ Co-amoxiclav / Augmentin  ☐ Nalidixic acid ☐ Penicillin  ☐ Flucloxacillin  ☐ Levofloxacin ☐ Other _____ | | | |
| **Initial treatment given** *First 6 hours.* *Select any that apply.* | ☐ IV Fluid Bolus | ☐ IV Maintenance Fluids | | |
| | ☐ Oxygen | ☐ CPAP | | |
| | ☐ IV Glucose  ☐ Oral Glucose | ☐ Warmth (heater, warmed fluids) | | |
| | ☐ Blood transfusion | ☐ Commercial F75 | | |
| | ☐ Phenobarbitone | ☐ Commercial F100 | | |
| | ☐ Diazepam | ☐ Locally prepared F75/ milk suji | | |
| | ☐ Paracetamol | ☐ Local prepared F100 / milk suji 100 | | |
| | ☐ Ibuprofen | ☐ Expressed breast milk | | |
| | ☐ Diclofenac | ☐ Dilute F100/ dilute milk or formula | | |
| | ☐ Salbutamol / atrovent / other bronchodilator | ☐ Other milk/ formula/ feed | | |
| | | ☐ RUTF | | |

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| | | |
|---|---|---|
| | ☐ Prednisolone/ dexamethasone/ hydrocortisone | ☐ Nasogastric tube |
| | ☐ Adrenaline | ☐ Multivitamin |
| | ☐ Zinc | ☐ Micronutrients |
| | ☐ Folic acid | ☐ Vitamin A |
| | ☐ Antimalarial (any) | ☐ Albendazole / deworming |
| | ☐ ReSoMal | ☐ Other |
| | ☐ ORS | _____ |

## 14. Suspected Initial Diagnoses:
*Clinical diagnosis should be based on examination and investigation findings.*
*Tick the three most likely diagnoses.*

| Respiratory | Infection | CNS |
|---|---|---|
| ☐ LRTI/pneumonia | ☐ Gastroenteritis | ☐ Febrile convulsions |
| ☐ Bronchiolitis | ☐ Sepsis | ☐ Epilepsy |
| ☐ URTI | ☐ Malaria | ☐ Probable meningitis |
| ☐ Pulmonary TB | ☐ Extra pulmonary TB | ☐ Other encephalopathy |
| ☐ Otitis media | ☐ Soft tissue infection | ☐ Hydrocephalus |
| ☐ Asthma | ☐ UTI | ☐ Developmental delay |
| **General** | ☐ HIV related illness | ☐ Cerebral palsy |
| ☐ Anaemia | ☐ Measles | **Other suspected diagnosis:** |
| ☐ Sickle Cell Disease | ☐ Varicella | ☐ Other |
| ☐ Thalassaemia | ☐ Osteomyelitis | ☐ Unknown |
| ☐ Renal impairment | ☐ Febrile illness unspecified | ☐ Failed appetite test only |
| ☐ Nephrotic syndrome | ☐ Enteric fever | |
| ☐ Nephritis | ☐ Infected umbilicus | ☐ Breast-feeding difficulty |
| ☐ Liver dysfunction | | |
| ☐ Ileus | | |
| ☐ Congenital cardiac disease | | |
| ☐ Haemolytic disease newborn | | |
| ☐ Neonatal jaundice | | |

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| 15. Admission Core Cohort Investigations and Sample Collection | | | | | |
|---|---|---|---|---|---|
| **CBC taken** | ☐ Y | ☐ N | **Plain Blood (serum)** | ☐ Y | ☐ N |
| **Clinical chemistry taken** | ☐ Y | ☐ N | **Blood spot taken** | ☐ Y | ☐ N |
| **EDTA 2ml blood taken** | ☐ Y | ☐ N | **Blood culture taken** *(if available at site)* | ☐ Y BEFORE ABX<br>☐ Y AFTER ABX | ☐ N |
| **EDTA 0.5ml blood taken** | ☐ Y | ☐ N | **Blood gas taken** *(if available at site)* | ☐ Capillary<br>☐ Venous | ☐ N |
| **Date Taken** | Date taken<br>__ __ / __ __ / __ __ __ __<br>*D D / M M / Y Y Y Y* | | Time taken___ ___: ___ ___ | | |
| **Unable to take blood samples, why?** | ☐ Difficult venepuncture ☐ Child uncooperative ☐ Parent refused ☐ Other | | | | |
| **Rectal swabs taken** | ☐ Y BEFORE ABX ☐ Y AFTER ABX ☐ N | Number taken ☐1 ☐2 | | Time taken___ ___: ___ ___ | |
| **Stool sample** | Taken in first 24h? | ☐ Y ☐ N | Date taken<br>__ __ / __ __ / __ __ __ __<br>*D D / M M / Y Y Y Y* | Time taken___ ___: ___ ___ | |
| **Chest x-ray indicated** *(respiratory signs symptoms)* | ☐ Yes, but too unwell ☐ Yes, done ☐ Indicated but not done, unclear ☐ Not indicated | | | | |
| **Lumbar puncture indicated** *(signs of meningitis documented)* | ☐ Yes, but too unwell ☐ Yes, done ☐ Not indicated | | | | |

| | |
|---|---|
| **Blood Samples taken by (initials)** | __ __ __ |
| **Rectal Swabs taken by (initials)** | __ __ __ |

| CRF Completed by (Initials) – to be signed when complete. *Do not sign if any fields are empty* | __ __ __ | Date<br>__ __ / __ __ / __ __ __ __<br>*D D / M M / Y Y Y Y* | Time<br>__ __: __ __ |
|---|---|---|---|

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| PART 2 |
|---|

| 16. CHAIN ADMISSION CRF: SOCIAL INFORMATION. |
|---|

*To be completed within 48h of admission when child is stable. This should ideally be done in a conversational and unhurried way, with the interviewer sitting with the caregiver.*

| Initials of person interviewing caregiver and completing part 2<br><br>___ ___ ___<br><br>☐ Doctor  ☐ Clinical officer  ☐ Nurse  ☐ Field worker  ☐ Research Assistant  ☐ Other | Date<br><br>__ __ / __ __ / __ __ __ __<br>*D D / M M / Y Y Y Y*<br><br>Time<br><br>___ ___: ___ ___ |
|---|---|

| Who is being interviewed? | | | | | |
|---|---|---|---|---|---|
| ☐ Primary caregiver only | ☐ Care home staff | ☐ Primary caregiver and one other person | ☐ Primary caregiver and more than one other person | ☐ One person who is not the primary caregiver | ☐ More than one person who is not the primary caregiver |

| 17. Care-seeking Behaviour | | | |
|---|---|---|---|
| Was the child in generally good health before this illness? | ☐ Y | ☐ N | ☐ Unknown |
| If No, how long has the child had this problem of generally bad health? | — — weeks | ☐ N/A | |
| Does the child have health insurance? | ☐ Y | ☐ N | ☐ Unknown |

**What was the main reason for bringing the child to this hospital today?** *Reasons given, select one*

☐ Referred by health care worker　　☐ Caregiver concern of child's condition　　☐ Received money for transport to hospital (e.g. from family, neighbour, paid work)?

☐ Relative / neighbour concern of child's condition　　☐ Primary caregiver returned home e.g. if working away　　☐ Other

**How did you travel to the hospital?** *Select all that apply*

☐Car/ Taxi　☐ Ambulance　☐ Bus　☐Motorbike　☐ Tuk-tuk /CNG　☐ Cycle rickshaw　☐ Train　☐ Walking　☐ Other

| How long did it take you to travel to hospital? | ☐ <1h | ☐ 1- < 2h | ☐ 2-4h | ☐ >4h | ☐ > 1 day |
|---|---|---|---|---|---|

| How much did it cost the family to travel to hospital today (in local currency? *Estimate amount. If walked, drove own car or free ambulance write* | ___ ___ ___ ___ |
|---|---|

**Have you sought treatment for this illness prior to coming to hospital?** *Select all that apply*

☐ No treatment sought　　☐ Shop　　☐ Government hospital　　☐ Government dispensary　　☐ Traditional Healer

☐ Pharmacy　　　☐ Private Medical Facility/ NGO　　☐ Herbalist　　☐ Homeopathist ☐ Other

| Received treatment from traditional healer, homeopathist or herbalist in last 4 weeks? | Y　　　　N |
|---|---|

| 18. Child's Health Status Before Admission |
|---|

**Before this illness, how did this child's health compare to other children of similar age in your neighbourhood?** *Select one*

☐Similar　　　　　　　☐Better　　　　☐Worse　　　　☐Don't know

**Before this illness, how did this child's health compare to his/her siblings at a similar age?** *Select one*

☐Similar　　　　☐Better　　　　☐Worse　　　　☐ Don't know　　　☐ N/A only child

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| 19.  Birth History | | | | |
|---|---|---|---|---|
| **Source of information** | ☐ Maternal/caregiver recall | | ☐ Book/medical records | |
| **Birth weight** | ___ .___ ___kg | | ☐Unknown | |
| **Birth details** *Select any that apply* | ☐ Premature ☐ Born small <2.5kg ☐Twin/multiple birth ☐ Born at term ☐ Unknown | | | |
| **Delivery location** *Select one* | ☐ Born in hospital ☐ Community facility/clinic with midwife/nurse midwife/doctor<br><br>☐ Home without birth attendant ☐ Home with traditional birth attendant (untrained) ☐ Home with midwife/nurse<br>☐ Other ☐ Unknown | | | |
| **Delivery details** *Select all that apply* | ☐ Normal, spontaneous vaginal delivery ☐ Admitted neonatal unit | ☐ Assisted delivery (forceps, ventouse) ☐ Mother admitted to hospital >48h | ☐ Caesarean section ☐ Unknown | |
| **Mother's age at first pregnancy** | ___ ___years ☐ unknown | **Mother's age now** | ___ __years | ☐ unknown |
| **Participant birth order** | ___ ___ of ___ ___ total live births *(e.g. if youngest of 3 children 3 of 3, if oldest of 3 children 1 of 3)* | | | |
| **Are the biological parents of this child consanguineous?** *Ask if parents have relatives in common or are related.* | ☐ Yes ☐ No ☐ Unknown | | | |

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| **20. Primary Caregiver Information** |
|---|
| *This is the person who has responsibility for day to day care of the child, but is not a substitute carer such as childminder or grandparent who cares for child whilst, for example, mother is at work.* |

| **Who is the Primary Caregiver?** *Select one* | ☐Biological Parent ☐Grandparent ☐Sibling ☐Aunt / Uncle / Cousin ☐ Stepmother / father ☐ Care home /orphanage ☐Other/ Unclear |
|---|---|

| **Is the child's biological father alive?** | ☐Y ☐N ☐ Unknown | **Is the child's biological mother alive?** | ☐Y ☐N ☐ Unknown |
|---|---|---|---|

| **Primary Care Giver Age** *Select one* | ☐ <18years ☐ >=18 years ☐ >50years ☐ N/A (care home or unclear) |
|---|---|

| **Primary Care Giver Sex** *Select one* | ☐ Male ☐ Female ☐ N/A | **Primary caregiver present at admission?** | ☐ Y ☐ N |
|---|---|---|---|

| **Has the primary caregiver lived in the same household as the child for the last 2 months?** | ☐ Y ☐ N ☐ N/A (care home) |
|---|---|

| **Marital status of primary caregiver** *Select one* | ☐ Married/ monogamous ☐ Married polygamous ☐ Single ☐ Separated / divorced ☐ Widowed ☐ N/A |
|---|---|

**If not present at admission, where is the primary caregiver?** *Select one*

☐ Home ☐ Work ☐ School ☐ Unknown ☐ Other_____ ☐ N/A

**If the primary caregiver is present, caregiver anthropometry:**
*Use locally available adult scales and stadiometer, and adult MUAC tapes provided by CHAIN.*

☐ Primary caregiver not present during admission, or care home

| **Weight** ___ ___ . ___ kg | **MUAC** ___ ___ . ___ .cm | **Height:** ___ ___ ___ cm |
|---|---|---|

| **Education:** *Select highest level of education achieved* | ☐ None ☐ Primary ☐ Secondary ☐ Above secondary ☐ Unknown ☐ N/A care home |
|---|---|

| **Able to read?** | ☐ Y ☐ N ☐Unknown | **Is the primary caregiver primarily responsible for financial support and providing for the child?** | ☐ Y ☐ N |
|---|---|---|---|

| **Primary caregiver HIV status in last 6 months** *Select one* | ☐ Tested Positive ☐ Tested Negative ☐ Not tested or unknown |
|---|---|

**Have there been ANY changes to the child's social situation in the last 2 MONTHS?** *Select any that apply,*

| | | | | |
|---|---|---|---|---|
| **Child moved to a different household** | Y | N | **Relocation from rural to urban setting** *Select 'yes' even if this is temporary* | Y   N |
| | | | **Relocation from urban to rural setting** *Select 'yes' even if this is temporary* | Y   N |
| | | | **Relocation to live with different caregiver** *Select 'yes' even if this is temporary* | Y   N |
| **Mother sick** | Y | N | **Mother Died** | Y   N |
| **Father sick** | Y | N | **Father Died** | Y   N |
| **Other primary caregiver sick** | Y   N | N/A | **Other primary caregiver died** | Y   N   N/A |
| **Primary caregiver changed** | Y | N | **Child went into care home** | Y   N |
| **Primary caregiver started employment / returned to school** | Y | N | **Person providing for the child has lost income** | Y   N |
| **Primary caregiver divorced / separated from partner** | Y | N | **Primary caregiver in new relationship** | Y   N |
| **Mother is pregnant** | Y | N | **Mother gave birth** | Y   N |
| **Other primary caregiver pregnant?** | Y   N | N/A | **Other primary caregiver gave birth** | Y   N   N/A |

**If primary caregiver has changed in the last 2 months, who was the child's previous primary caregiver?** *Select one*

☐Biologic Mother ☐Biologic Father ☐Sibling ≥18 years old ☐Sibling <18 years old

☐Grandparent ☐Aunt/Uncle/Cousin ☐Other ☐ N/A

| **Primary caregiver earns an income now?** *Ask the person accompanying the child and select one* |
|---|

# CHAIN Number [1][0][0][0][1][ ][ ][ ]

| | |
|---|---|
| ☐ Employed full time by someone else | ☐ Employed part time by someone else |
| ☐ Works for self | ☐ No work income |
| ☐ Works casually/irregularly for someone | ☐ Don't know |
| If works casually, Occupation: | ☐ N/A care home |

| How many days worked a week? *Select one* | ☐ <3 | ☐ 3-5 | ☐ >5 | ☐ N/A, does not work for income |
|---|---|---|---|---|

**If the primary caregiver earns, main source of income?** *Select one*

| | | | |
|---|---|---|---|
| ☐ Farmer | ☐ Business/trader | ☐ Labourer | ☐ Domestic work |
| ☐ Other private sector employment | ☐ Public sector employment | ☐ Retired with pension income | |
| ☐ Begging | ☐ Other_____ | ☐ N/A | |

**If the primary caregiver works (earning or non-earning), main place of work?** *Select one*

| | | |
|---|---|---|
| ☐ In/around home (where child lives) | ☐ Away for <4 hours per day | ☐ Away >4 hours but comes home daily |
| ☐ Away > 8h a day but returns home daily | ☐ Away >1 day, comes home weekly | ☐ Away comes home, less than weekly |
| ☐ Primary caregiver lives and works away | ☐ Don't know | ☐ N/A |

**The person primarily providing financial support to this child is this child's:** *Select one*

| | | | |
|---|---|---|---|
| ☐ Biologic Mother | ☐ Biologic Father | ☐ Stepfather | ☐ Stepmother |
| ☐ Grandparent | ☐ Sibling ≥18 years old | ☐ Sibling <18 years old | ☐ Aunt/Uncle/Cousin |
| ☐ More than one person responsible, unclear | ☐ Unsupported / care home | ☐ Other -specify_____ | |

**Person responsible for providing financial support to child, place of usual residence**? *Select one*

| | |
|---|---|
| ☐ Always sleeps at home | ☐ Sleeps away but returns weekly |
| ☐ Sleeps away for > two months per year | ☐ Works and lives abroad, contact with child once a year or less |
| ☐ Sleeps away but return monthly or less often | ☐ Don't know |
| ☐ Other_____ | ☐ N/A (e.g. care home, unsupported) |

**What is the Father or person responsible for providing financial support to child source of income**?
*Select one. If the primary carer is also the person providing financial support do not complete this section.*

| | | | |
|---|---|---|---|
| ☐ Farmer | ☐ Business/trader | ☐ Labourer | ☐ Domestic work |
| ☐ Other private sector employment | ☐ Public sector employment | ☐ Retired with pension income | |
| ☐ Begging   ☐ None   ☐ Unknown | ☐ Other _____ | ☐ N/A | |

# CHAIN Number [1][0][0][0][1][ ][ ][ ]

| **21. Substitute Care:** *Who usually looks after child when primary caretaker is working or away? Select all that apply* | | | | | |
|---|---|---|---|---|---|
| ☐ Not applicable, caregiver looks after child full time | | ☐ Not applicable, child accompanies caregiver to work | | | |
| ☐ No substitute care, child left alone | | ☐ No substitute care / unclear | | ☐ Child in care home | |
| ☐ Biological Mother | ☐ Biological Father | ☐ Sibling <18 years old | | ☐ Sibling ≥18 years old | |
| ☐ Grandparent | ☐ Aunt/Uncle/Cousin | ☐ Childcare facility outside home | | ☐ Childminder/ day care at home | |

| | | | | | |
|---|---|---|---|---|---|
| **How many days a week is the child in day care?** | ☐ N/A | ☐ 1-2 | ☐ 3-4 | ☐ 5-6 | ☐ >6 |
| **How many hours per day is the child in day care?** | ☐ N/A | ☐ 1-4h | ☐ 5-8h | ☐ 9-12h | ☐ >12h |
| **How many children are looked after at this day care?** | ☐ <3 | ☐ 4-6 | ☐ 7-10 | ☐ >10 | ☐Unknown ☐ N/A |
| **How many of these are under 2y?** | ☐ <3 | ☐ 4-6 | ☐ 7-10 | ☐ >10 | ☐Unknown ☐ N/A |
| **How many adults look after these children?** | ☐ 1 | ☐2-4 | ☐5-10 | ☐ >10 | ☐ N/A |
| **Do you feel the day care is good?** | ☐ Y | ☐ N | ☐ N/A | | |
| **Who provides food for the child at day care?** *Select one* | | | | | |
| ☐ Caregiver provides food for the child | ☐ Day care provides food for the child | ☐ Someone else provides food for the child | ☐ Don't know | | ☐ N/A |
| **Is feeding supervised / assisted at day care?** | ☐ Y | ☐ N | ☐ Unknown | ☐ N/A | |

| **22. Household Food Security** (if child in care home include **children** in the care home only) | | | |
|---|---|---|---|
| **During the past 7 DAYS** has ANY member of the household missed a meal due to food shortage? | ☐ Y | ☐ N | ☐ Unknown |
| **During the past 4 WEEKS** <br> Did you worry that your household would not have enough food? | ☐ Y | ☐ N | ☐ Unknown |
| Were any of your household unable to eat the kinds of food preferred because of a lack of resources? | ☐ Y | ☐ N | ☐ Unknown |
| Have any of your household had to eat a limited variety of food due to lack of resources? | ☐ Y | ☐ N | ☐ Unknown |
| Have any of your household eaten some foods that you really didn't want to eat because of lack of resources? | ☐ Y | ☐ N | ☐ Unknown |
| Have any of your household eaten fewer meals in a day because there was not enough food? | ☐ Y | ☐ N | ☐ Unknown |
| Did household members go to sleep at night hungry because there was not enough food? | ☐ Y | ☐ N | ☐ Unknown |
| Did you or your household members go a whole day and night without eating anything because there was not enough food? | ☐ Y | ☐ N | ☐ Unknown |

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| 23. Child Dietary Diversity |
|---|
| *What does the child eat on a typical day?* <br> • *Ask this as an open question and select all that the caregiver mentions.* <br> • *Do not present the caregiver with this list.* <br> • *You may prompt the caregiver with open questions, e.g. What does your child usually eat for breakfast* |
| ☐ **Milk and Milk Products**: Fresh/fermented milk, cheese, yogurt, or other milk products |
| ☐ **Breast milk** |
| ☐ **Cereals and Cereal Products**: Maize, rice, pasta, porridge, bread, biscuits, millet, sorghum, wheat, locally available grains |
| ☐ **Fish and Sea Foods**: fresh or dried fish or shellfish |
| ☐ **Roots and Tubers**: potatoes, sweet potatoes, yams, cassava, or foods made from roots or wild roots and tubers |
| ☐ **Vegetables**: Cabbages, carrots, spinach, and any other locally available vegetables including wild vegetables |
| ☐ **Fruits**: Oranges, bananas, mangoes, avocados, apples, grapes       etc |
| ☐ **Meats and Poultry**: Camel, beef, lamb, goat, rabbit, wild game, chicken or other birds, liver, kidney, heart or other organ meats or blood-based foods |
| ☐ **Eggs**: Hen or other bird eggs |
| ☐ **Pulses / Legumes / Nuts and Seeds**: Beans, peas, lentils, nuts, seeds or foods made from these |
| ☐ **Fats and Oils**: Oil, fats, ghee, margarine or butter added to food or used for cooking |
| ☐ **Sugars / Honey and Commercial Juices**: Sugar in tea, honey, sweetened soda, juices, chocolates, sweets or candies |
| ☐ **Miscellaneous**: Spices, unsweetened beverages |
| ☐ **UNKNOWN** |

| 24 Feeding practices | |
|---|---|
| **How is food USUALLY given to the child?** *Select one* | |
| ☐ Fed by adult | ☐ Child feeds self, unsupervised |
| ☐ Child feeds self, supervised by adult | ☐ Fed from common plate or bowl |
| ☐ Child feeds self, supervised by older children | ☐ Child exclusively breastfed |
| ☐ Unknown | ☐ Other |

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| **25   Assessment of household wealth** |
|---|
| **(DHS 7 questionnaire. Please answer all questions, for all participants, including children in care homes)** |

**What is the main source of drinking water for members of your household?** *Choose one*

| | | |
|---|---|---|
| ☐ Piped water to dwelling | ☐ Cart with small tank | ☐ from vendor |
| ☐ Piped water to yard / plot | ☐ Tanker truck | ☐ Rainwater |
| ☐ Piped to neighbour | ☐ Bottled water | ☐ Stream/river/lake/pond/dam |
| ☐ Public tap/ Standpipe | ☐ Protected spring | ☐ Unknown |
| ☐ Protected well / borehole | ☐ Unprotected spring | |
| ☐ Unprotected well | ☐ Other | |

**What is the MAIN source of water used by your household for other purposes such as cooking and handwashing? SELECT ONE ONLY**

| | | |
|---|---|---|
| ☐ Piped water to dwelling | ☐ Cart with small tank | ☐ Bought from vendor |
| ☐ Piped water to yard / plot | ☐ Tanker truck | ☐ Rainwater |
| ☐ Piped to neighbour | ☐ Bottled water | ☐ Stream/river/lake/pond/dam |
| ☐ Public tap/ Standpipe | ☐ Protected spring | ☐ Unknown |
| ☐ Protected well / borehole | ☐ Unprotected spring | |
| ☐ Unprotected well | ☐ Other | |

| | |
|---|---|
| **How long does it take to get DRINKING water and come back?** (State 0 if water supplied within home or compound) | __ __ __minutes        ☐ Don't know |
| **In the past 2 weeks was the water from this source not available for at least one full day?** | ☐ Y        ☐ N        ☐ Unknown |

**Do you usually do anything to the water to make it safer to drink?** *Select all that apply*

| | | | |
|---|---|---|---|
| ☐ None | ☐ Bleach/ chlorine | ☐ Strain through a cloth | ☐ Let it stand and settle |
| ☐ Use water filter (ceramic/sand/composite etc) | ☐ Solar disinfection | ☐ Boil | ☐ Other |

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| What kind of toilet facility do members of your household usually use? *Select one* | | |
|---|---|---|
| ☐ Flush or pour flush toilet to piped sewer | ☐ Flush to septic tank | ☐ Ventilated improved pit latrine |
| ☐ Flush to pit latrine | ☐ Flush to somewhere else | ☐ Open pit / Pit latrine without slab |
| ☐ Flush don't know where | ☐ Composting toilet | ☐ Bucket toilet |
| ☐ Pit latrine with slab | ☐ Hanging toilet / hanging latrine | ☐ No facility / bush/ field |
| ☐ Unknown | | |

| Do you share this toilet facility with other households? | ☐ Y | ☐ N | ☐ Unknown | |
|---|---|---|---|---|
| If Yes, including your own household, how many households use this toilet facility? | Number if <10__ | ☐ >10 households | ☐ Unknown | ☐ N/A |
| Where is this toilet facility located? | ☐ In own dwelling | ☐ In own yard / plot | ☐ Elsewhere | |
| How many rooms are there in the household for SLEEPING? | ☐ 1 | ☐ 2 | ☐ >2 | |

| What is the MAIN FLOOR material of the rooms in this household? *Select one only* | | |
|---|---|---|
| ☐ Cement | ☐ Earth/sand | ☐ Wood |
| ☐ Dung | ☐ Lives on boat | ☐ Tiles |
| ☐ Carpet | ☐ Other (specify)_____ | ☐ Unknown |

| What is the MAIN WALL material of the rooms in this household? *Select one only* | | | |
|---|---|---|---|
| ☐ Grass/straw/makuti | ☐ Stone | ☐ Wood | ☐ Unknown |
| ☐ Corrugated iron sheet/ Tin | ☐ Mud/wood | ☐ Brick/block | |
| ☐ Planks/shingles | ☐ No wall | ☐ Other (specify) _____ | |

| What is the MAIN ROOF material of the house in this household? *Select one only* | | |
|---|---|---|
| ☐ Grass/Thatch | ☐ Tiles/Asbestos sheets | ☐ Corrugated iron/ Tins |
| ☐ Mud | ☐ Nylon papers/clothes | ☐ Concrete |
| ☐ Other (specify) _____ | | ☐ Unknown |

| What is the MAIN cooking fuel used in this household? *Select one only* | | |
|---|---|---|
| ☐ Electricity | ☐ LPG /Natural gas/Biogas | ☐ Paraffin |
| ☐ Coal / Lignite | ☐ Charcoal | ☐ Firewood |
| ☐ Straw/shrubs/grass | ☐ Agricultural crop | ☐ Animal Dung |
| ☐ No food cooked in household | ☐ Other (specify)_____ | ☐ Unknown |

| Do you have a separate room which is used as a kitchen? | ☐ Y | ☐ N | ☐ Unknown |
|---|---|---|---|

| Where is this household's cooking area located? | | | | |
|---|---|---|---|---|
| ☐ In the house | ☐ Outdoors | ☐ In a separate building | ☐ Other _____ | ☐ Unknown |

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| | | | |
|---|---|---|---|
| **Does this household own any livestock, herds, other farm animals or poultry** | ☐ Y | ☐ N | ☐ Unknown |
| **If yes, how many of the following animals does this household own?** | | | |

| | | |
|---|---|---|
| Cows/bulls__ __ | Sheep__ __ | |
| Horses/Donkeys/Mules__ __ | Goats__ __ | |
| Chickens or Ducks__ __ | Other _____ number ___ ___ | ☐ N/A |

| | | | |
|---|---|---|---|
| **Does any member of this this household own land?** | ☐ Y | ☐ N | ☐ Unknown |
| **If "Yes" How many acres of land does this household own?** | ____Acres | ☐ Unknown | ☐ N/A |
| **Does this household have a bank account?** | ☐ Y | ☐ N | ☐ Unknown |
| **Does this household have electricity** | ☐ Y | ☐ N | ☐ Unknown |
| **Does this household own a radio?** | ☐ Y | ☐ N | ☐ Unknown |
| **Does this household own a television?** | ☐ Y | ☐ N | ☐ Unknown |
| **Does this household own a computer?** | ☐ Y | ☐ N | ☐ Unknown |
| **Does this household own a refrigerator?** | ☐ Y | ☐ N | ☐ Unknown |
| **Does any member of this household own:** | | | |
| **A watch** | ☐ Y | ☐ N | ☐ Unknown |
| **A mobile phone?** | ☐ Y Standard phone / ☐ Y smartphone | ☐ N | ☐ Unknown |
| **An animal-drawn cart?** | ☐ Y | ☐ N | ☐ Unknown |
| **A bicycle?** | ☐ Y | ☐ N | ☐ Unknown |
| **A motorcycle / scooter?** | ☐ Y | ☐ N | ☐ Unknown |
| **A car or truck?** | ☐ Y | ☐ N | ☐ Unknown |
| **A boat with a motor?** | ☐ Y | ☐ N | ☐ Unknown |

| | | | |
|---|---|---|---|
| **CRF Completed by (Initials) – to be signed when complete.** *Do not sign if any fields are empty* | __ __ __ | Date __ __ / __ __ / __ __ __ __ *D D / M M / Y Y Y Y* | Time ___ __: ___ ___ |

END