**Supplement Table 1. Non-diarrheal indications for antibiotics among children aged 2-59 months per Integrated Management for Childhood Illness (IMCI) guidelines\***

|  |  |
| --- | --- |
| **Conditions** | **Symptoms and signs** |
| Severe pneumonia or very severe disease | Cough or difficult breathing with any one of following   * Any general danger sign (not able to drink/breastfeed, vomit everything, convulsion during current illness, and lethargic/unconscious) OR * Chest indrawing OR * Stridor in calm child |
| Pneumonia | Cough or difficult breathing AND  Fast breathing (40 breaths per minute or more) |
| Very severe febrile disease | Fever (by history, feels hot or temperature 37.5°C or higher) with any one of following   * Any general danger sign (not able to drink/breastfeed, vomit everything, convulsion during current illness, and lethargic/unconscious) OR * Stiff neck |
| Severe complicated measles\* | Fever with any one of following   * Any general danger sign OR * Clouding of cornea OR * Deep or extensive mouth ulcers |
| Mastoiditis\* | Ear problem AND  tender swelling behind the ear |
| Acute ear infection | Ear problem with any one of following   * Pus is seen draining from the ear OR * Ear pain |

\*Surveillance data not sufficient to determine whether criteria for these conditions were met; visits were excluded if they had a discharge diagnosis of mastoiditis or measles

**Supplement Table 2. Multivariate analysis for factors associated with antibiotic over-prescription among diarrheal children under 5 years old without dysentery in Western Kenya, Asembo (N=2,685)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Gastroenteritis diagnosis** | | | **No gastroenteritis diagnosis** | | | **ORs (95% CI) for gastroenteritis diagnosis within strata** |
|  | **Antibiotic prescribed**  **(n=1,292)** | **No antibiotic prescribed**  **(n=792)** | **ORs (95% CI) for concurrent** **ORS within strata** | **Antibiotic prescribed**  **(n=118)** | **No antibiotic prescribed**  **(n=483)** | **ORs (95% CI) for concurrent** **ORS within strata** |
| **No concurrent** **ORS\*** | 182 (14.6%) | 52 (6.6%) | Ref | 91 (77.1%) | 393 (81.4%) | Ref | 13.36 (5.42-32.9)  *p* < 0.01 |
| **Concurrent** **ORS** | 1,103 (85.4%) | 740 (93.4%) | 0.35 (0.22-0.54)  *p* < 0.01 | 27 (22.9%) | 90 (18.6%) | 1.02 (0.87-1.19)  *p* = 0.30 | 3.42 (1.54-7.57)  *p* < 0.01 |

\* ORS=Oral rehydration solution

†Shown ORs are adjusted by sore throat, vomiting, restless or irritable, sunken eyes, and malaria diagnosis