

# Online Supplementary Document

Johansson et al. Determinants of Integrated Management of Childhood Illness (IMCI) non-severe pneumonia classification and care in Malawi health facilities: Analysis of a national facility census

J Glob Health 2017;7:020408

**Table S1: Characteristics of outpatients aged 2-59 months with cough or difficult breathing complaints with a 60-second respiratory rate count taken in the observed consultation, Malawi health facilities, 2013-2014**

|  | Total             | N sick child clients 2-59 months with CDB complaint | N 60-second respiratory rate count | % 60-second respiratory rate count |
|--|-------------------|---|------------------------------------|------------------------------------|
|  |                   | <b>2271</b>   | <b>422</b>                         | <b>18.6 (15.9-21.6)</b>            |
| <b>Patient or consultation characteristics</b> |                   |   |                                    |                                    |
| Fever complaint                                | No                | 673   | 137                                | 20.4 (16.1-25.6)                   |
|  | Yes               | 1,541   | 269                                | 17.5 (14.6-20.7)                   |
| Diarrhea complaint                             | No                | 1,653   | 334                                | 20.2 (17.1-23.6)                   |
|  | Yes               | 617   | 88                                 | 14.3 (11.3-18.0)                   |
| Ear problem complaint                          | No                | 2,244   | 417                                | 18.6 (15.9-21.6)                   |
|  | Yes               | 27  | 5                                  | 17.1 (6.7-37.1)                    |
| Eye problem complaint                          | No                | 2,215   | 413                                | 18.7 (16.0-21.7)                   |
|  | Yes               | 56  | 8                                  | 15.1 (7.7-27.5)                    |
| Skin problem complaint                         | No                | 2,188   | 414                                | 18.9 (16.2-22.0)                   |
|  | Yes               | 83  | 8                                  | 9.6 (4.4-19.7)                     |
| Any danger sign complaint                      | No                | 1,236   | 242                                | 19.6 (16.4-23.2)                   |
|  | Yes               | 1,035   | 180                                | 17.4 (14.3-21.0)                   |
| RDT done prior to consultation                 | No                | 1,540   | 266                                | 17.2 (14.3-20.7)                   |
|  | Yes               | 731   | 156                                | 21.4 (17.2-26.3)                   |
| RDT result                                     | Positive          | 245   | 33                                 | 13.3 (8.4-20.5)                    |
|  | Negative          | 464   | 115                                | 24.8 (19.2-31.4)                   |
| Temperature (Celsius)                          | 37.5 or less      | 1,763   | 319                                | 18.1 (15.3-21.3)                   |
|  | 37.6 – 38.9       | 409   | 80                                 | 19.5 (14.8-25.2)                   |
|  | 39.0 – 40.8       | 69  | 11                                 | 16.7 (8.7-29.5)                    |
| Child sex                                      | Male              | 1,145   | 204                                | 17.8 (14.7-21.4)                   |
|  | Female            | 1,126   | 218                                | 19.4 (16.1-23.1)                   |
| Child age (months)                             | 2 – 11            | 892   | 200                                | 22.4 (18.5-26.8)                   |
|  | 12 – 23           | 657   | 106                                | 16.2 (12.6-20.5)                   |
|  | 24 – 35           | 363   | 60                                 | 16.6 (12.0-22.5)                   |
|  | 36 – 47           | 204   | 33                                 | 16.2 (10.6-23.8)                   |
|  | 48 – 59           | 154   | 23                                 | 14.7 (9.3-22.4)                    |
| Caregiver age (years)                          | 11 – 19           | 241   | 52                                 | 21.4 (15.3-29.2)                   |
|  | 20 – 29           | 1,297   | 219                                | 16.9 (14.1-20.0)                   |
|  | 30 – 39           | 574   | 121                                | 21.1 (16.5-26.7)                   |
|  | 40 or more        | 74  | 12                                 | 16.3 (9.0-27.6)                    |
| Caregiver education                            | None              | 260   | 40                                 | 15.6 (11.3-21.1)                   |
|  | Primary           | 1,461   | 280                                | 19.2 (16.2-22.5)                   |
|  | Secondary or more | 549   | 100                                | 18.3 (13.3-24.6)                   |
| Consultation start hour                        | 7am – 10am        | 1,743   | 325                                | 18.7 (15.6-22.2)                   |

|  |  |       |     |                  |
|--|--|-------|-----|------------------|
|  | 11am – 2 pm                                | 419   | 91  | 21.8 (15.8-29.3) |
|  | 3pm – 5 pm                                 | 109   | 5   | 4.9 (1.9-12.2)   |
| Wait time reported (minutes)               | 10 or less                                 | 494   | 89  | 18.0 (13.5-23.4) |
|  | 11 – 30                                    | 336   | 47  | 14.1 (10.1-19.3) |
|  | 31 – 60                                    | 436   | 78  | 17.9 (13.8-22.8) |
|  | 60 or more                                 | 858   | 177 | 20.7 (16.6-25.4) |
|  | Don't know                                 | 148   | 31  | 20.8 (14.4-29.1) |
| Illness duration (days)                    | 0 – 1                                      | 479   | 88  | 18.3 (13.8-23.9) |
|  | 2 – 4                                      | 1,494 | 274 | 18.3 (15.2-21.9) |
|  | 5 or more                                  | 293   | 59  | 20.1 (15.0-26.4) |
| First visit for current illness            | First visit                                | 2,113 | 399 | 18.9 (16.1-22.0) |
|  | Follow-up visit                            | 113   | 18  | 15.8 (10.0-24.0) |
| <b>Facility characteristics</b>            |  |       |     |                  |
| Malaria endemicity (PfPR <sub>2-10</sub> ) | Under 0.20                                 | 1646  | 266 | 16.2 (13.3-19.4) |
|  | 0.20 – 0.39                                | 625   | 156 | 25.0 (19.1-31.9) |
| Transmission season                        | Peak                                       | 2003  | 374 | 18.7 (15.8-22.0) |
|  | Off-peak                                   | 267   | 48  | 17.8 (12.2-25.4) |
| Residence                                  | Urban                                      | 730   | 88  | 12.0 (8.1-17.4)  |
|  | Rural                                      | 1541  | 334 | 21.7 (18.5-25.3) |
| Facility type                              | Hospital (central, district, rural, other) | 842   | 127 | 15.0 (10.6-20.9) |
|  | Other facility type                        | 1428  | 295 | 20.7 (17.7-24.0) |
| Managing authority                         | Government                                 | 1752  | 324 | 18.5 (15.3-22.2) |
|  | CHAM or other private                      | 519   | 98  | 18.8 (14.4-24.2) |
| Region                                     | North                                      | 330   | 68  | 20.6 (14.3-28.8) |
|  | Central                                    | 1224  | 272 | 22.2 (18.0-27.2) |
|  | South                                      | 717   | 82  | 11.4 (8.4-15.3)  |
| Any antibiotic available                   | No   | 3     | 0   | 0.0              |
|  | Yes  | 2266  | 422 | 18.6 (15.9-21.6) |
| Amoxicillin available                      | No   | 39    | 1   | 2.8 (0.5-13.5)   |
|  | Yes  | 2230  | 421 | 18.9 (16.1-21.9) |
| Timer available                            | No   | 127   | 19  | 15.2 (6.8-30.5)  |
|  | Yes  | 2143  | 403 | 18.8 (16.0-21.9) |
| Total staff doctors                        | 0  | 1539  | 343 | 22.3 (19.3-25.7) |
|  | 1  | 108   | 18  | 17.2 (8.8-30.8)  |
|  | 2 – 4                                      | 346   | 39  | 1.2 (5.5-21.6)   |
|  | 5 or more                                  | 278   | 21  | 7.7 (3.1-18.0)   |
| User fees (routine, general)               | No   | 1613  | 308 | 19.1 (15.8-22.9) |
|  | Yes  | 658   | 114 | 17.3 (13.0-22.7) |
| IMCI guidelines available                  | No   | 642   | 100 | 15.6 (11.8-20.5) |
|  | Yes  | 1629  | 322 | 19.7 (16.4-23.6) |
| <b>Provider characteristics</b>            |  |       |     |                  |
| Job qualification                          | Doctor                                     | 261   | 41  | 15.7 (10.0-23.7) |
|  | Medical assistant                          | 1705  | 341 | 20.0 (16.7-23.8) |
|  | Nurse or other lower-level provider        | 305   | 40  | 13.0 (8.5-19.3)  |
| Year qualification received                | Before 2000                                | 415   | 80  | 19.4 (13.2-27.6) |
|  | 2000 – 2009                                | 811   | 205 | 25.3 (20.9-30.3) |
|  | 2010 to present                            | 978   | 132 | 13.5 (9.9-18.2)  |
| Provider sex                               | Male                                       | 1447  | 295 | 20.4 (16.9-24.4) |
|  | Female                                     | 757   | 123 | 16.2 (11.4-22.4) |
| Supervisor or in-charge                    | No   | 1064  | 144 | 13.5 (10.1-17.8) |
|  | Yes  | 1139  | 274 | 24.1 (20.5-28.1) |
| IMCI in-service training                   | None                                       | 1117  | 145 | 13.0 (10.2-16.5) |
|  | Ever received                              | 1087  | 273 | 25.1 (20.6-30.2) |
| Recent supervision                         | None                                       | 397   | 69  | 17.4 (11.7-25.1) |

|                      |      |     |                  |
|----------------------|------|-----|------------------|
| Within past 3 months | 1465 | 272 | 18.5 (15.1-22.5) |
| Over 3 months ago    | 342  | 77  | 22.6 (16.7-29.8) |

**Table S2: Characteristics of outpatients aged 2-59 months with IMCI non-severe pneumonia receiving antibiotic treatment by type, Malawi health facilities, 2013-2014**

|  |               | <b>N outpatients 2-59 months with IMCI non-severe pneumonia</b> | <b>N Amoxicillin or benzyl penicillin injection</b> | <b>% Amoxicillin or benzyl penicillin injection (95% CI)</b> | <b>N Cotrimoxazole</b> | <b>% Cotrimoxazole (95% CI)</b> | <b>N Other antibiotic</b> | <b>% Other antibiotic (95% CI)</b> | <b>N No antibiotic</b> | <b>% No antibiotic (95% CI)</b> |
|--|---------------|---|---|--|------------------------|---------------------------------|---------------------------|------------------------------------|------------------------|---------------------------------|
| <b>Total</b>                                   |               | <b>590</b>  | <b>228</b>  | <b>38.7 (33.0-44.7)</b>                                      | <b>157</b>             | <b>26.6 (21.7-32.1)</b>         | <b>44</b>                 | <b>7.5 (5.0-11.1)</b>              | <b>159</b>             | <b>26.9 (21.3-33.4)</b>         |
| <b>Patient or consultation characteristics</b> |               |   |   |  |                        |                                 |                           |                                    |                        |                                 |
| Fever complaint                                | No            | 164   | 63  | 38.6 (29.7-48.3)   | 43                     | 26.1 (17.7-36.6)                | 17                        | 10.2 (4.9-20.0)                    | 39                     | 28.4 (21.4-36.6)                |
|  | Yes           | 397   | 154   | 38.9 (32.1-46.2)   | 104                    | 26.2 (20.6-32.6)                | 26                        | 6.6 (3.8-11.2)                     | 113                    | 23.8 (14.6-36.2)                |
| Diarrhea complaint                             | No            | 423   | 171   | 40.3 (34.5-46.5)   | 123                    | 29.1 (23.6-35.2)                | 27                        | 6.5 (3.8-10.9)                     | 100                    | 23.6 (18.5-29.6)                |
|  | Yes           | 166   | 58  | 34.7 (24.6-46.4)   | 34                     | 20.4 (13.7-29.3)                | 17                        | 10.0 (4.6-20.4)                    | 58                     | 35.0 (23.5-48.5)                |
| Ear problem complaint                          | No            | 579   | 222   | 38.3 (32.4-44.6)   | 156                    | 26.9 (22.0-32.4)                | 43                        | 7.4 (4.8-11.0)                     | 157                    | 27.1 (21.2-33.9)                |
|  | Yes           | 11  | 6   | 57.8 (16.9-90.2)   | 1                      | 10.0 (1.1-51.8)                 | 1                         | 13.1 (2.1-51.7)                    | 2                      | 19.1 (3.4-61.6)                 |
| Eye problem complaint                          | No            | 572   | 221   | 38.7 (33.0-44.6)   | 154                    | 26.9 (22.0-32.5)                | 43                        | 7.5 (4.9-11.2)                     | 152                    | 26.5 (21.3-32.4)                |
|  | Yes           | 18  | 7   | 38.4 (15.1-68.6)   | 3                      | 14.7 (4.2-40.7)                 | 1                         | 6.7 (1.4-26.7)                     | 7                      | 40.2 (12.4-76.1)                |
| Skin problem complaint                         | No            | 575   | 224   | 38.9 (33.2-45.0)   | 151                    | 26.2 (21.2-31.0)                | 43                        | 7.5 (4.9-11.0)                     | 156                    | 27.1 (21.3-33.0)                |
|  | Yes           | 14  | 4   | 27.8 (12.3-51.3)   | 6                      | 42.7 (22.8-65.3)                | 1                         | 7.4 (1.0-38.1)                     | 3                      | 22.1 (7.2-50.9)                 |
| Any danger sign complaint                      | No            | 307   | 121   | 39.5 (31.6-48.0)   | 85                     | 27.6 (21.4-34.8)                | 21                        | 7.0 (3.6-13.0)                     | 78                     | 25.6 (18.4-34.4)                |
|  | Yes           | 283   | 107   | 37.8 (30.3-45.0)   | 72                     | 25.4 (19.2-32.0)                | 23                        | 8.0 (4.2-14.0)                     | 80                     | 28.4 (21.7-36.0)                |
| RDT done prior to consultation                 | No            | 358   | 139   | 38.7 (31.5-46.4)   | 86                     | 23.9 (18.3-30.6)                | 27                        | 7.5 (4.6-12.1)                     | 105                    | 29.3 (22.4-37.2)                |
|  | Yes           | 232   | 90  | 38.6 (30.8-47.1)   | 71                     | 30.7 (23.7-38.7)                | 17                        | 7.4 (3.5-14.0)                     | 54                     | 23.3 (17.1-31.0)                |
| RDT result                                     | Positive      | 78  | 26  | 33.5 (22.2-47.0)   | 15                     | 18.9 (11.0-30.4)                | 3                         | 3.5 (0.9-13.3)                     | 34                     | 44.1 (31.6-57.4)                |
|  | Negative      | 151   | 63  | 41.7 (32.2-51.0)   | 55                     | 36.6 (26.7-40.0)                | 14                        | 9.5 (4.2-19.0)                     | 19                     | 12.3 (7.4-19.0)                 |
| Temperature (Celsius)                          | 37.5C or less | 410   | 158   | 38.6 (31.9-45.6)   | 114                    | 27.8 (21.9-34.6)                | 29                        | 7.1 (4.6-11.0)                     | 106                    | 26.0 (20.0-32.9)                |
|  | 37.6 – 38.9   | 144   | 50  | 34.8 (25.1-46.0)   | 36                     | 25.1 (17.5-34.7)                | 14                        | 9.8 (4.0-22.3)                     | 44                     | 30.2 (20.6-42.0)                |
|  | 39.0 – 40.8   | 30  | 18  | 59.7 (41.9-70.0)   | 5                      | 16.0 (6.9-30.0)                 | 1                         | 1.8 (0.2-10.0)                     | 7                      | 22.4 (10.9-40.0)                |
| Child sex                                      | Male          | 310   | 123   | 39.7 (32.3-47.6)   | 69                     | 22.3 (16.7-29.2)                | 25                        | 8.1 (4.9-13.3)                     | 90                     | 29.2 (21.3-38.7)                |
|  | Female        | 280   | 105   | 33.5 (30.3-45.0)   | 88                     | 31.2 (24.8-38.5)                | 19                        | 6.7 (3.4-12.9)                     | 68                     | 24.4 (18.3-31.0)                |
| Child age (months)                             | 2 – 11        | 166   | 76  | 45.9 (36.7-55.4)   | 29                     | 17.5 (11.4-25.9)                | 14                        | 8.7 (4.2-17.3)                     | 45                     | 27.2 (20.4-35.3)                |
|  | 12 – 23       | 261   | 106   | 40.8 (31.9-50.4)   | 65                     | 24.8 (18.7-32.2)                | 15                        | 5.8 (3.2-10.0)                     | 74                     | 28.2 (18.6-40.4)                |
|  | 24 – 35       | 88  | 30  | 33.8 (22.5-47.3)   | 35                     | 40.3 (28.9-52.8)                | 3                         | 4.0 (1.5-10.0)                     | 19                     | 22.0 (12.7-35.4)                |
|  | 36 – 47       | 39  | 9   | 23.8 (13.0-39.5)   | 15                     | 39.8 (21.9-60.9)                | 5                         | 11.9 (5.0-25.8)                    | 9                      | 24.4 (13.2-40.7)                |
|  | 48 – 59       | 37  | 7   | 18.3 (7.8-37.2)  | 12                     | 33.1 (18.4-52.0)                | 6                         | 17.4 (3.1-50.0)                    | 12                     | 31.2 (17.2-49.9)                |
| Caregiver age (years)                          | 11 – 19       | 58  | 19  | 33.2 (18.7-51.8)   | 14                     | 23.6 (13.6-37.7)                | 3                         | 4.7 (1.6-13.2)                     | 22                     | 38.5 (22.3-57.9)                |
|  | 20 – 29       | 342   | 129   | 37.7 (30.7-45.2)   | 91                     | 26.7 (20.5-34.0)                | 29                        | 8.4 (5.3-12.9)                     | 92                     | 26.8 (21.3-33.1)                |
|  | 30 – 39       | 151   | 64  | 42.3 (32.0-53.4)   | 40                     | 26.5 (19.5-35.0)                | 9                         | 6.1 (1.6-20.1)                     | 37                     | 24.5 (16.2-35.3)                |
|  | 40 or more    | 20  | 9   | 46.2 (18.4-76.5)   | 7                      | 35.9 (14.9-64.2)                | 2                         | 8.6 (1.2-43.0)                     | 2                      | 9.3 (2.3-30.7)                  |
| Caregiver education                            | None          | 80  | 24  | 30.0 (19.9-42.6)   | 23                     | 29.1 (18.6-42.4)                | 9                         | 11.0 (2.8-34.6)                    | 24                     | 29.9 (17.5-46.1)                |

|  |                     |     |     |                  |       |                  |    |                 |     |                  |
|--|---------------------|-----|-----|------------------|-------|------------------|----|-----------------|-----|------------------|
|  | Primary             | 350 | 136 | 38.7 (30.9-47.2) | 101   | 28.7 (22.8-35.5) | 16 | 4.5 (2.7-7.5)   | 98  | 28.0 (20.4-37.1) |
|  | Secondary or more   | 130 | 51  | 39.0 (27.8-51.5) | 28    | 21.2 (13.8-31.1) | 17 | 13.3 (6.8-24.6) | 34  | 26.5 (15.8-40.8) |
| Consultation start hour                    | 7am – 10am          | 439 | 160 | 36.5 (30.4-43.1) | 131   | 29.8 (24.7-35.5) | 32 | 7.2 (4.5-11.3)  | 114 | 25.9 (20.0-32.9) |
|  | 11am – 2 pm         | 115 | 51  | 44.5 (31.0-58.8) | 21    | 18.7 (11.4-29.3) | 12 | 10.7 (4.2-20.0) | 30  | 26.1 (16.0-39.7) |
|  | 3pm – 5 pm          | 36  | 17  | 46.3 (24.8-69.4) | 4     | 11.6 (3.2-34.5)  | 0  | 0.0             | 15  | 42.0 (21.2-66.2) |
| Wait time reported (mins)                  | 10 or less          | 165 | 60  | 36.2 (25.9-47.9) | 27    | 20.1 (13.1-29.7) | 32 | 12.5 (6.1-23.8) | 89  | 31.0 (21.6-42.4) |
|  | 11 – 30             | 73  | 27  | 37.2 (27.3-48.4) | 23    | 31.7 (21.7-43.7) | 5  | 6.4 (2.2-17.3)  | 18  | 24.7 (16.6-35.0) |
|  | 31 – 60             | 81  | 32  | 39.3 (27.6-52.4) | 26    | 32.2 (22.8-43.5) | 3  | 3.4 (1.2-9.4)   | 20  | 25.1 (16.2-36.7) |
|  | 60 or more          | 226 | 89  | 39.7 (29.1-51.0) | 61    | 27.2 (20.4-35.4) | 15 | 6.5 (3.7-10.9)  | 59  | 26.1 (18.4-35.8) |
| Illness duration (days)                    | 0 – 1               | 135 | 58  | 43.0 (31.6-55.2) | 29    | 21.3 (13.9-31.3) | 4  | 3.0 (1.2-7.3)   | 44  | 32.7 (22.3-45.1) |
|  | 2 – 4               | 363 | 130 | 35.8 (29.5-42.7) | 104   | 28.8 (23.5-34.7) | 35 | 9.7 (5.8-15.7)  | 92  | 25.4 (18.9-33.2) |
|  | 5 or more           | 92  | 40  | 43.5 (27.1-61.4) | 24    | 25.5 (14.7-40.3) | 5  | 5.3 (2.3-11.9)  | 23  | 24.5 (15.2-37.0) |
| First visit for current illness            | First visit         | 555 | 213 | 38.3 (32.5-44.5) | 150   | 27.0 (21.9-32.8) | 42 | 7.5 (4.9-11.3)  | 150 | 27.0 (21.2-33.7) |
|  | Follow-up visit     | 25  | 9   | 36.3 (21.3-54.7) | 7     | 27.8 (14.7-46.2) | 2  | 9.9 (3.3-26.1)  | 6   | 22.9 (11.0-41.7) |
| <b>Facility characteristics</b>            |                     |     |     |                  |       |                  |    |                 |     |                  |
| Malaria endemicity (PfPR <sub>2-10</sub> ) | Under 0.20          | 448 | 164 | 36.7 (30.4-43.5) | 121   | 27.1 (21.3-33.8) | 41 | 9.1 (6.0-13.6)  | 120 | 26.9 (20.3-34.7) |
|  | 0.20 – 0.39         | 142 | 64  | 44.9 (32.8-57.7) | 35    | 24.9 (16.8-35.3) | 3  | 2.4 (0.7-7.3)   | 39  | 27.1 (17.8-38.9) |
| Transmission season                        | Off-peak            | 522 | 211 | 40.4 (34.1-47.0) | 130   | 24.8 (19.7-30.8) | 37 | 7.1 (4.4-11.2)  | 143 | 27.4 (21.2-34.6) |
|  | Peak                | 68  | 18  | 25.7 (16.6-37.5) | 27    | 39.9 (30.8-49.6) | 7  | 10.4 (5.5-18.8) | 16  | 23.5 (15.6-33.8) |
| Residence                                  | Urban               | 170 | 83  | 49.2 (34.5-64.0) | 9     | 5.6 (2.8-10.8)   | 17 | 10.2 (4.5-21.5) | 59  | 34.8 (19.9-53.4) |
|  | Rural               | 420 | 145 | 34.4 (29.3-40.0) | 147   | 35.0 (30.1-40.3) | 27 | 6.4 (4.3-9.4)   | 100 | 23.7 (19.6-28.4) |
| Facility type                              | Hospital            | 200 | 92  | 46.1 (32.8-59.9) | 25    | 12.6 (6.2-24.1)  | 20 | 9.8 (4.5-19.9)  | 63  | 31.5 (18.4-48.4) |
|  | Other facility type | 390 | 136 | 34.9 (30.0-40.1) | 131   | 33.7 (29.2-38.5) | 25 | 6.3 (4.3-9.2)   | 96  | 24.6 (20.4-29.3) |
| Managing authority                         | Government          | 454 | 177 | 39.0 (32.0-46.5) | 124   | 27.4 (21.4-34.4) | 28 | 6.1 (3.3-10.8)  | 124 | 27.3 (20.3-35.5) |
|  | CHAM or other       | 136 | 51  | 37.5 (29.9-45.8) | 32    | 23.8 (17.4-31.6) | 16 | 12.1 (7.4-19.0) | 35  | 25.8 (19.4-33.4) |
| Region                                     | North               | 68  | 25  | 35.9 (24.6-49.1) | 20    | 28.9 (20.3-39.5) | 3  | 5.0 (2.3-10.7)  | 21  | 30.1 (20.7-41.6) |
|  | Central             | 317 | 132 | 41.8 (33.1-51.0) | 75    | 23.7 (17.6-31.1) | 13 | 4.3 (2.2-8.0)   | 95  | 30.0 (21.2-40.5) |
|  | South               | 205 | 71  | 34.8 (26.3-44.4) | 62    | 30.2 (20.7-41.8) | 27 | 13.2 (8.1-20.9) | 44  | 21.2 (14.8-29.4) |
| Any antibiotic available                   | No                  | 1   | 0   | 0.0              | 1     | 100.0            | 0  | 0.0             | 0   | 0.0              |
|  | Yes                 | 589 | 228 | 38.7 (33.0-44.7) | 156   | 26.5 (21.6-32.0) | 44 | 7.5 (5.0-11.1)  | 159 | 27.0 (21.3-33.5) |
| Amoxicillin available                      | No                  | 10  | 0   | 0.0              | 5     | 54.2 (27.5-78.6) | 2  | 21.0 (7.6-46.2) | 2   | 24.8 (9.2-51.9)  |
|  | Yes                 | 580 | 228 | 39.3 (33.5-45.4) | 151   | 26.1 (21.2-31.7) | 42 | 7.2 (4.7-10.9)  | 157 | 27.0 (21.3-33.6) |
| Timer available                            | No                  | 32  | 14  | 42.7 (23.1-65.0) | 7     | 21.2 (11.0-36.9) | 2  | 7.1 (2.0-21.9)  | 9   | 29.0 (16.3-46.2) |
|  | Yes                 | 558 | 214 | 38.4 (32.5-44.7) | 150   | 26.9 (21.8-32.7) | 42 | 7.5 (4.9-11.3)  | 150 | 26.8 (20.9-33.6) |
| Total staff doctors                        | 0                   | 408 | 139 | 34.1 (29.4-39.1) | 7     | 33.4 (29.0-38.2) | 27 | 6.4 (4.4-9.3)   | 55  | 25.5 (21.3-30.2) |
|  | 1                   | 31  | 7   | 22.9 (7.6-51.8)  | 11    | 36.7 (16.4-63.2) | 6  | 18.6 (7.3-39.7) | 7   | 21.8 (8.4-46.1)  |
|  | 2 – 4               | 73  | 27  | 36.9 (17.7-61.3) | 4     | 5.4 (1.7-15.4)   | 0  | 0.0             | 42  | 57.8 (31.2-80.5) |
|  | 5 or more           | 78  | 55  | 70.3 (46.8-86.5) | 5     | 6.5 (0.8-37.1)   | 12 | 15.4 (6.0-34.4) | 6   | 7.7 (1.7-28.9)   |
| User fees (routine, general)               | No                  | 413 | 154 | 37.3 (29.9-45.2) | 123   | 29.7 (23.6-36.6) | 22 | 5.4 (2.9-9.8)   | 113 | 27.4 (19.9-36.3) |
|  | Yes                 | 177 | 74  | 42.0 (34.4-50.0) | 34    | 19.1 (12.5-28.2) | 22 | 12.3 (7.7-19.2) | 46  | 25.9 (20.3-32.4) |
| Routine management meetings                | No                  | 59  | 27  | 45.1 (33.5-57.2) | 13.0  | 21.9 (10.7-39.7) | 10 | 16.4 (6.4-36.2) | 10  | 16.5 (8.6-29.5)  |
|  | Yes                 | 531 | 201 | 38.0 (31.8-44.6) | 144.0 | 27.1 (21.9-33.0) | 34 | 6.5 (4.2-9.8)   | 149 | 28.1 (22.0-35.1) |
| IMCI guidelines available                  | No                  | 202 | 75  | 36.9 (28.5-46.2) | 47    | 23.2 (15.2-33.8) | 27 | 13.5 (8.3-21.3) | 52  | 25.8 (18.5-34.8) |

|                                 |                   |     |     |                  |     |                  |    |                 |     |                  |
|---------------------------------|-------------------|-----|-----|------------------|-----|------------------|----|-----------------|-----|------------------|
|                                 | Yes               | 388 | 154 | 39.6 (32.2-47.5) | 110 | 28.3 (22.6-34.8) | 17 | 4.3 (2.6-7.1)   | 107 | 27.5 (20.1-36.4) |
| <b>Provider characteristics</b> |                   |     |     |                  |     |                  |    |                 |     |                  |
| Job qualification               | Doctor            | 67  | 39  | 58.7 (44.1-71.9) | 10  | 15.4 (8.0-27.7)  | 7  | 11.1 (2.8-34.9) | 10  | 14.8 (7.6-26.8)  |
|                                 | Medical assistant | 436 | 161 | 36.9 (29.9-44.5) | 116 | 26.5 (20.8-33.1) | 31 | 7.0 (4.4-11.2)  | 127 | 29.1 (22.0-37.4) |
|                                 | Nurse or other    | 87  | 28  | 32.2 (23.3-42.6) | 31  | 35.5 (26.8-45.2) | 6  | 6.8 (3.4-13.2)  | 22  | 25.5 (18.0-34.9) |
| Year qualification received     | Before 2000       | 136 | 43  | 31.9 (22.5-43.1) | 34  | 25.5 (17.4-35.7) | 7  | 5.0 (2.6-9.3)   | 51  | 37.4 (22.7-54.9) |
|                                 | 2000 – 2009       | 183 | 62  | 33.8 (26.1-42.4) | 59  | 32.5 (25.7-40.1) | 13 | 6.9 (3.7-12.6)  | 48  | 26.2 (19.5-34.2) |
|                                 | 2010 to present   | 238 | 110 | 46.1 (36.1-56.5) | 59  | 24.6 (17.5-33.5) | 18 | 7.4 (3.6-14.8)  | 51  | 21.5 (14.5-30.6) |
| Provider sex                    | Male              | 395 | 150 | 38.1 (31.0-45.8) | 103 | 26.2 (20.9-32.2) | 29 | 7.4 (4.5-12.0)  | 109 | 27.7 (20.5-36.3) |
|                                 | Female            | 162 | 64  | 39.8 (29.8-50.7) | 49  | 30.4 (21.4-41.3) | 8  | 4.9 (2.5-9.4)   | 40  | 24.9 (17.1-34.6) |
| Supervisor or in-charge         | No                | 264 | 117 | 44.4 (33.9-55.5) | 52  | 19.7 (13.2-28.4) | 22 | 8.3 (4.4-15.1)  | 72  | 27.3 (16.9-40.8) |
|                                 | Yes               | 292 | 97  | 33.4 (27.9-39.3) | 101 | 34.4 (29.3-39.8) | 15 | 5.2 (3.1-8.5)   | 78  | 26.6 (21.7-32.1) |
| IMCI in-service training        | None              | 270 | 118 | 43.6 (34.5-53.2) | 66  | 24.5 (18.5-31.6) | 20 | 7.6 (4.0-13.7)  | 65  | 24.0 (17.1-32.5) |
|                                 | Ever received     | 287 | 97  | 33.9 (27.2-41.4) | 87  | 30.2 (23.6-37.7) | 17 | 5.9 (3.4-9.8)   | 85  | 29.7 (21.2-39.8) |
| Recent supervision              | None              | 100 | 43  | 42.9 (28.0-59.1) | 20  | 20.2 (12.2-31.6) | 4  | 4.3 (1.6-11.0)  | 32  | 31.8 (18.8-48.5) |
|                                 | Past 3 months     | 379 | 152 | 40.2 (33.6-47.2) | 111 | 29.1 (23.3-35.8) | 26 | 7.0 (4.1-11.7)  | 88  | 23.3 (16.5-31.9) |
|                                 | Over 3 months ago | 77  | 19  | 25.3 (15.6-38.3) | 22  | 28.3 (19.1-39.8) | 6  | 8.2 (4.0-16.2)  | 29  | 38.2 (26.8-51.0) |