**Supplementary tables**

**Table S1.**

**Community prevalences of *P. falciparum* asexual parasitemia and gametocytemia according to microscopy of RDT by age group in North A and Micheweni districts of Zanzibar, May-June 2003 to 2015.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *P. falciparum* | Age group | Year | Micheweni | | North A | |
| n (%) | (95% CI) | n (%) | (95% CI) |
| Asexual | <5 y | 2003 | 64/298 (21·5%) | 16·8-26·2 | 47/576 (8·2%) | 6·0-10·4 |
| 2005 | 58/283 (20·5%) | 15·8-25·2 | 15/314 (4·8%) | 2·4-7·2 |
| 2006 | 26/309 (8·4%) | 5·3-11·5 | 1/315 (0·3%) | 0·0-0·9 |
| 2007 | 7/395 (1·8%) | 0·5-3·1 | 0/375 (0·0%) | 0·0-0·9 |
| 2008 | 4/507 (0·8%) | 0·0-1·6 | 1/388 (0·3%) | 0·0-0·8 |
| 2009 | 0/372 (0·0%) | 0·0-1·0 | 0/281 (0·0%) | 0·0-1·3 |
| 2011\* | 2/265 (0·8%) | 0·0-1·9 | 1/337 (0·3%) | 0·0-0·9 |
| 2013\* | 1/334 (0·3%) | 0·0-0·9 | 0/312 (0·0%) | 0·0-1·2 |
| 2015 | 2/306 (0·7%) | 0·0-1·6 | 1/330 (0·3%) | 0·0-0·9 |
| 5-14 y | 2003 | 76/265 (28·7%) | 23·3-34·2 | 90/657 (13·7%) | 11·1-16·3 |
| 2005 | 59/323 (18·3%) | 14·1-22·5 | 17/441 (3·9%) | 2·1-5.7 |
| 2006 | 23/269 (8·6%) | 5·3-12·0 | 6/371 (1·6%) | 0·3-2·9 |
| 2007 | 6/420 (1·4%) | 0·3-2·5 | 0/387 (0·0%) | 0·0-0·9 |
| 2008 | 10/637 (1·6%) | 0.6-2.8 | 2/459 (0·4%) | 0·0-1·0 |
| 2009 | 0/431 (0·0%) | 0·0-0·9 | 0/220 (0·0%) | 0·0-1·7 |
| 2011\* | 3/357 (0·8%) | 0·0-1·7 | 0/398 (0·0%) | 0·0-0·9 |
| 2013\* | 4/483(0·8%) | 0·0-1·6 | 1/389 (0·3%) | 0·0-0·8 |
| 2015\* | 5/488 (1·0%) | 0·1-1·9 | 3/431 (0·7%) | 0·0-1·5 |
| >14y | 2003 | 32/626 (5·1%) | 3·4-6·8 | 37/934 (4·0%) | 2·7-5·3 |
| 2005 | 18/635 (2·8%) | 1·5-4·1 | 16/748 (2·1%) | 1·1-3·1 |
| 2006 | 7/604 (1·2%) | 0·3-2·1 | 5/747 (0·7%) | 0·1-1·3 |
| 2007 | 2/760 (0·3%) | 0·0-0·7 | 0/737 (0·0%) | 0·0-0·5 |
| 2008 | 2/947 (0·2%) | 0·0-0·5 | 1/899 (0·1%) | 0·0-0·3 |
| 2009 | 0/726 (0·0%) | 0·0-0·5 | 0/662 (0·0%) | 0·0-0·6 |
| 2011\* | 5/649 (0·8%) | 0·1-1·5 | 1/826 (0·1%) | 0·0-0·3 |
| 2013\* | 2/762 (0·3%) | 0·0-0·7 | 2/746 (0·3%) | 0·0-0·7 |
| 2015\* | 2/721 (0·3%) | 0·0-0·7 | 0/736 (0·0%) | 0·0-0·5 |
| Gametocytes | <5 y | 2003 | 3/298 (1·0%) | 0·0-2·1 | 11/576 (1·9%) | 0·8-3·0 |
| 2005 | 1/283 (0·4%) | 0·0-1·1 | 0/314 (0·0%) | 0·0-1·2 |
| 2006 | 2/309 (0·3%) | 0·0-0.9 | 3/315(0·9%) | 0·0-1·9 |
| 5-14 y | 2003 | 1/265 (0·4%) | 0·0-1.2 | 7/657 (1·1%) | 0·3-1·9 |
| 2005 | 1/323 (0·3%) | 0·0-0·9 | 3/441 (0·7%) | 0·0-1·5 |
| 2006 | 0/301 (0·0%) | 0·0-1·2 | 0/371 (0·0%) | 0·0-1·0 |
| >14y | 2003 | 2/626 (0·3%) | 0·0-0·7 | 5/934 (0·5%) | 0·1-1·0 |
| 2005 | 0/635 (0·0%) | 0·0-0·0 | 0/748 (0·0%) | 0·0-0·5 |
| 2006 | 0/651 (0·0%) | 0·0-0·0 | 2/747 (0·3%) | 0·0-0·7 |

\* Parasite detection by RDT

**Table S2**

**Proportions of confirmed malaria patients (all age groups) among tested patients attending public health care facilities in Micheweni and North A districts between 1999 and 2015.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Year** | **Micheweni** | | | **North A** | | |
| **Tested** | **Confirmed\*** | **Positivity rate (95% CI)** | **Tested** | **Confirmed \*** | **Positivity rate**  **(95% CI)** |
| 1999 | 10754 | 5506 | 51·2%  (50·2-52·1) | 5181 | 1522 | 29·4%  (28·1-30·6) |
| 2000 | 9221 | 4925 | 53·4%  (52·4-54·4) | 6051 | 1446 | 23·9%  (22·8-25·0) |
| 2001 | 12075 | 5618 | 46·5%  (45·6-47·4) | 5303 | 1843 | 34·8%  (33·4-36·1) |
| 2002 | 11088 | 5125 | 46·2%  (45·2-47·2) | 5919 | 1377 | 23·3%  (22·2-24·4) |
| 2003 | 9881 | 4410 | 44·6%  (43·6-45·6) | 6151 | 1417 | 23·0%  (22·0- 24·1) |
| 2004 | 11972 | 4154 | 34·7%  (33·8-35·6) | 6635 | 1265 | 19·1%  (18·1-20·0) |
| 2005 | 13395 | 2469 | 18·4%  (17·8-19·1) | 8581 | 1059 | 12·3%  (11·6-13·1) |
| 2006 | 16906 | 1255 | 7·4%  (7·0-7·8) | 24990 | 391 | 1·6%  (1·4-1·7) |
| 2007 | 15135 | 955 | 6·3%  (5·9-6·7) | 27937 | 261 | 0·9%  (0·8-1·1) |
| 2008 | 20497 | 354 | 1·7%  (1·6-1·9) | 19020 | 224 | 1·2%  (1·0-1·3) |
| 2009 | 11608 | 305 | 2·6%  (2·3-2·9) | 17512 | 139 | 0·8%  (0·7-0·9) |
| 2010 | 19959 | 336 | 1·7%  (1·5-1·9) | 17185 | 142 | 0·8%  (0·7-1·0) |
| 2011 | 38478 | 292 | 0·8%  (0·7-0·9) | 31799 | 130 | 0·4%  (0·3-0·5) |
| 2012 | 26455 | 654 | 2·5%  (2·3-2·7) | 24606 | 152 | 0·6%  (0·5-0·7) |
| 2013 | 22122 | 255 | 1·2 %  (1·1-1·3) | 17684 | 181 | 1·0%  (0·9-1·2) |
| 2014 | 17719 | 295 | 1·7% (1·5-1·9) | 19793 | 326 | 1·6% (1·4-1·8) |
| 2015 | 19534 | 391 | 2·0%  (1·8-2-2) | 13283 | 316 | 2·4%  (2·1-2·7) |

\* Confirmation of malaria diagnosis using microscopy 1999-2005 and microscopy or RDT 2006-2015.

Linear time trends in positivity starting 2012 are decreasing in Micheweni (p < 0.01) and increasing in North A (p < 0.01). Woolf interaction test (p < 0.001).

**Table S3**

**All-cause mortality in children <5years of age in North A district between 1998 and 2014. Data from Vital Registry.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Year** | **Total <5 population** | **Total deaths among infants <1** | **Total deaths among children between 1-4 y** | **Total deaths among children <5 y** | **Total child mortality/year among children <5y (95% CI)** |
| **1998** | 11995 | 87 | 74 | 161 | 1·34% (1·14-1·56) |
| **1999** | 12283 | 97 | 68 | 165 | 1·34% (1·15-1·56) |
| **2000** | 12578 | 91 | 66 | 157 | 1·25% (1·06-1·46) |
| **2001** | 12878 | 86 | 45 | 131 | 1·02% (0·85-1·21) |
| **2002** | 13189 | 67 | 66 | 133 | 1·01% (0·84-1·19) |
| **2003** | 13506 | 63 | 62 | 125 | 0·93% (0·77-1·10) |
| **2004** | 13830 | 57 | 40 | 97 | 0·70% (0·57-0·85) |
| **2005** | 14162 | 45 | 19 | 64 | 0·45% (0·35-0·58) |
| **2006** | 14501 | 46 | 18 | 64 | 0·44% (0·34-0·56) |
| **2007** | 14849 | 24 | 11 | 35 | 0·24% (0·16-0·33) |
| **2008** | 15206 | 34 | 15 | 49 | 0·32% (0·24-0·43) |
| **2009\*** | 15571 | 20 | 24 | 44 | 0·28% (0·21-0·38) |
| **2010** | 15945 | 35 | 12 | 47 | 0·29% (0·21-0·37) |
| **2011** | 16328 | 71 | 14 | 85 | 0·52% (0·42-0·64) |
| **2012** | 16720 | 19 | 10 | 29 | 0·17% (0·12-0·25) |
| **2013** | 17092 | 37 | 15 | 52 | 0·30% (0·23-0·40) |
| **2014** | 17493 | 50 | 13 | 63 | 0.36% (0·28-0·48) |

\*2009 report covered only Jan-June and the figure was doubled as an estimate for the whole year.