

# Annexes

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# Annex 1 – Data sources and methods

## Sections 1–8

### Section 1: Introduction

**Figure 1.1** The map shows the estimated incidence of malaria cases per 1000 population in 2013. See notes for Figures 8.3–8.5 for estimation of malaria cases per 1000 population.

**Figure 1.2** The map shows the proportion of a country's population that lives on less than US\$ 2 per day, as estimated by the World Bank.<sup>1</sup>

### Section 2: Financing for malaria programmes

**Figures 2.1 and 2.2** *International financing data* were obtained from three sources. The Global Fund supplied information on disbursements for malaria control to WHO up to 2013. Information on funding from the United States Agency for International Development (USAID) was obtained from ForeignAssistance.gov.<sup>2</sup> Malaria funding for the United States Centers for Disease Control was obtained from Congressional Justifications and Operating Plans (1).<sup>3</sup> For other development agencies, information on disbursements was available up to and including 2012, through the Organisation for Economic Co-operation and Development (OECD) Development Co-operation Directorate database on official development assistance (ODA).<sup>4</sup> Contributions from the Department for International Development (DFID), United Kingdom of Great Britain and Northern Ireland (UK) were assumed to have increased in 2013 in line with 2010–2012 disbursements. For other agencies, funding for 2013 was assumed to have remained at 2012 levels.

*Domestic financing data* were obtained from national malaria control programmes (NMCPs). Data included government total malaria budget and expenditures, broken down by programme components including malaria commodities, programme supervision and management, training, and behavioural change interventions. Where domestic financing data were not available, data from previous years were used. Domestic financing data do not include the cost of the time that health workers spend testing, treating and tracking malaria patients; capital costs (e.g. infrastructure or vehicles); and household spending on malaria prevention and treatment.

**Figures 2.3 and 2.4** The potential for increasing global (domestic and international) malaria investments between 2014 and 2020 was explored through two financing scenarios:

- Global investments from endemic and donor countries increase at the projected rate of total government expenditures estimated by the International Monetary Fund

(IMF) for 2014–2020.<sup>5</sup> In the case of multilateral donors such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), the average growth rate of government expenditures for all the countries contributing to the Global Fund over the 2014–2020 period was used.<sup>6</sup> For the European Union (EU), which is a Global Fund contributor, the average government expenditure growth rate of EU countries contributing to the Global Fund's budget in 2011–2013 was used.

- Data on net ODA from countries that participated in funding malaria control and elimination activities between 2010 and 2013 were used to calculate a donor investment effort for 2012,<sup>7</sup> as the percentage of the donor country's gross national income (GNI) allocated to ODA. The 2012 global average donor investment effort was then compared to the 0.7% target of GNI for ODA by 2015 (2, 3), and the necessary rate of increase was calculated for the 2012 global investment effort to reach the 2015 target of 0.7%. The rate of increase was then applied to international investments in malaria control until 2015. It was assumed that, after 2015, investments in malaria control and elimination would match the rate of increase of total government expenditures estimated by the IMF for 2016–2020. This second scenario also assumed that governments of endemic countries increase the priority they give to malaria funding. Levels of investment priority for malaria were estimated using the domestic investment priority index (DIPI), calculated as (government spending on malaria/government revenue) × (total population/population at risk). Countries were then classified into quartiles depending on their DIPI. Countries in the lowest quartile, Q1 (i.e. with DIPI ≤25th percentile), were assumed to increase their investment in malaria to reach the level of priority of countries in Q2. Similarly, countries in Q2 were assumed to increase their investments to the level of the next quartile (Q3). Countries in Q3 or Q4 were assumed to increase their investments in malaria control and elimination at the same rate of growth as their total government expenditures (as under scenario 2). For countries with insufficient data available for calculating the DIPI, it was assumed that spending increased at the same rate as government expenditures; for countries for which there were no IMF data, it was assumed that domestic funding remained constant.

### Section 3: Vector control for malaria

**Tables 3.1 and 3.2** Policies regarding vector control interventions were reported to WHO by NMCPs.

1 <http://data.worldbank.org/products/wdi>

2 <http://www.foreignassistance.gov/web/default.aspx>

3 <http://www.cdc.gov/fmo/topic/Budget%20Information/>

4 <http://stats.oecd.org/Index.aspx?datasetcode=CRS1#>

5 <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/weoselgr.aspx>

6 <http://www.theglobalfund.org/en/partners/governments/>

7 <http://www.oecd.org/dac/stats/documentupload/ODA%202013%20Tables%20and%20Charts%20En.pdf>

**Figures 3.1 and 3.2** Estimates of insecticide-treated mosquito net (ITN) coverage were derived from a model developed by the Malaria Atlas Project (MAP), University of Oxford. The model built on two earlier studies that sought to model aspects of ITN delivery, distribution and coverage – a study by Flaxman et al. (4) and the work of Killian, which culminated in the NetCALC tool (5) – and a series of related publications (6). A two-stage process was followed. First, a mechanism was defined for estimating net crop – that is, the total number of ITNs in households in a country at a given point in time – taking into account inputs to the system (e.g. deliveries of ITNs to a country) and outputs (e.g. the discard of worn ITNs from households). Second, empirical modelling was used to translate estimated net crops into resulting levels of coverage (e.g. access within households).

### Sources of data for the models

- *Long-lasting insecticidal nets (LLINs) delivered to countries:* Milliner Global Associates provided data to WHO by on the number of LLINs delivered by approved manufacturers to each country each year (7). The data were complete for each country from 2000 to 2013 inclusive.
- *ITNs distributed within countries:* NMCPs provided data to WHO on the number of conventional ITNs and LLINs distributed annually within each country. Data were available for 400 of the 616 country-years addressed in the study.
- *Nationally representative household surveys:* a total of 93 national surveys from 39 sub-Saharan African countries from 2001 to 2013 were assembled, covering 15% of all possible country-years since 2000. For 89 of the 93 surveys, it was possible to access the underlying data; for the remaining four surveys, data from the survey reports were used.

### Countries and populations at risk

The main analysis covered 40 of the 47 (8) malaria endemic countries or areas of sub-Saharan Africa. The islands of Mayotte (for which no ITN delivery or distribution data were available) and Cabo Verde (which does not distribute ITNs) were excluded, as were the low-transmission countries of Namibia, Sao Tome and Principe, South Africa and Swaziland, for which ITNs make up a small proportion of vector control. Analyses were limited to populations categorized by NMCPs as being at risk.

### Estimating national net crops through time

As outlined in Flaxman et al. (4), national ITN systems were represented using a discrete time stock-and-flow model. Nets delivered to a country by manufacturers were modelled as first entering a “country stock” compartment (i.e. stored in-country but not yet distributed to households). Nets were then available from this stock for distribution to households by the NMCP or other distribution channels. To accommodate uncertainty in net distribution, we specified the number of nets distributed in a given year as a range, with all available country stock (i.e. the maximum nets that could be delivered) as one extreme and the

NMCP-reported value (i.e. the assumed minimum distribution level) as the other. New nets reaching households joined older nets remaining from earlier time-steps to constitute the total household net crop, with the duration of net retention by households governed by a loss function. Rather than fitting the loss function to a small external dataset, as was done by Flaxman et al., the loss function was fitted directly to the distribution and net crop data within the stock-and-flow model itself. Loss functions were fitted on a country-by-country basis, allowed to vary through time, and defined separately for conventional ITNs and LLINs. The fitted loss functions were compared to existing assumptions about rates of net loss from households. The stock-and-flow model was fitted using Bayesian inference and Markov chain Monte Carlo (MCMC) methods, providing time-series estimates of national household net crop for conventional ITNs and LLINs in each country, together with evaluation of under-distribution, all with posterior credible intervals.

### Estimating national ITN access and use indicators from net crop

Rates of ITN access within households depend not only on the total number of ITNs in a country (i.e. net crop), but also on how those nets are distributed between households. One aspect that is known to strongly influence the relationship between net crop and the distribution of household ownership of nets is the size of households found in different countries (6), which varies greatly across sub-Saharan Africa.

Many recent national surveys report the number of ITNs observed in each surveyed household. These data make it possible not only to estimate net crop, but also to generate a histogram that summarizes the net ownership pattern (i.e. the proportion of households with zero nets, one net, two nets and so on). In this way, the size of the net crop can be linked to distribution patterns among households, taking into account household size, making it possible to generate ownership distributions for each household size stratum. The bivariate histogram of net crop to distribution of nets among households by household size allowed for calculation of the proportion of households with at least one ITN. Also, because the number of both ITNs and people in every household can be triangulated, this histogram allowed for the direct calculation of two additional indicators: the proportion of households with at least one ITN for every two people, and the proportion of the population with access to an ITN within their household.

For the final ITN indicator – the proportion of the population who slept under an ITN the previous night – the relationship between ITN use and each of the three access indicators was explored in 74 of the 93 national surveys for which sufficient data were available. The proportion of the population with access to an ITN within their household displayed the largest correlation (adjusted  $R^2 = 0.96$ ). This relationship was fitted using a simple Bayesian regression model, which was used to predict a time series of ITN use for every country.

### Estimating ITN requirements to achieve universal access

The two-stage modelling framework represented the pathway from ITN delivery from manufacturers through to resulting levels of net access and use in households. It also accounted for two potential factors that may reduce access levels (i.e. the efficiency of allocation of nets to households during distribution, and the loss of nets from households over time), and allowed these to be quantified through time for each country. Using this architecture, it was possible to simulate delivery of any volume of ITNs to a given country over a given future time period, to predict the levels of access and use that would result, and to examine the impact of different amounts of allocation efficiency and net loss. The model was used to estimate the levels of access likely to be achieved by 2016 under a broad spectrum of LLIN delivery levels across the 4-year period. These simulations were run under two scenarios: the first being “business-as-usual”, where current levels were maintained for allocation efficiency and net loss (~a 2-year median retention time), and the second using maximized allocation efficiency and a 3-year median retention time.

**Figure 3.3** The number of ITNs available in households was derived from the ITN coverage model described above. The number of ITNs (LLINs and conventional ITNs) distributed within countries were reported by NMCPs to WHO. The number of LLINs delivered to malaria endemic countries was reported by the seven World Health Organization Pesticide Evaluation Scheme (WHOPES)-approved manufacturers.

**Figure 3.4** Estimates of the number of ITNs needed for different levels of access to nets in the population were derived from the ITN coverage model described above.

**Figure 3.5** A total of 50 household surveys from 31 countries, conducted between 2000 and 2013, were analysed to establish a relationship between the proportion of different subpopulations sleeping under ITNs (children aged under 5 years, children aged 5–19 years and pregnant women) and the total population sleeping under an ITN. The results of the linear regression were then applied to estimates of the proportion of the total population sleeping under an ITN, produced by the model described above.

**Figure 3.6** The proportion of households using ITNs below, at or above the standard capacity of two persons per net was calculated by comparing the number of persons with access to an ITN in each household to the number of persons who slept under an ITN as recorded in household surveys. Households in which the number of persons sleeping under an ITN was the same or greater than the number of persons who could have slept under an available ITN were categorized as using ITNs at or above capacity. Households in which the number of persons sleeping under an ITN was less than the number of persons who could have slept under an ITN were categorized as using ITNs below standard capacity.

**Figure 3.7** The number of persons protected by indoor residual spraying (IRS) and the population at risk of malaria was reported by NMCPs to WHO.

**Figure 3.8** See notes for Figures 3.1, 3.2 and 3.7 for derivation of the population at risk with access to an ITN in their household,

and the proportion benefitting from IRS. Analysis of household-survey data indicates that about half of the people in IRS-sprayed households are also protected by ITNs (9). Therefore, the proportion of the population protected by either ITNs or IRS was estimated by adding half the proportion of the population protected by IRS to the proportion with access to an ITN. The coverage estimate is for June 30, 2013.

**Figures 3.9 and 3.10** Insecticide resistance monitoring results were collected from NMCP reports to WHO, the African Network for Vector Resistance, the MAP, the PMI and the published literature. In these studies, confirmed resistance was defined as mosquito mortality of <90% on bioassay test.

### Section 4: Preventive therapies for malaria

**Table 4.1** Policies regarding preventive therapies were reported by NMCPs to WHO. The number of countries where seasonal malaria chemoprevention, intermittent preventive treatment in pregnancy (IPTp) and intermittent preventive treatment in infants (IPTi) are appropriate was based on criteria described in published WHO guidance for these interventions (10).

**Figure 4.1** The number of pregnant women who attended an antenatal care clinic at least once and who received one, two or three doses of IPTp was derived from NMCP reports to WHO. The number of pregnant women receiving IPTp beyond their first trimester was calculated using the population at risk of malaria and the crude birth rate adjusted for still births and spontaneous abortions after the first trimester, published by the United Nations (UN) Development Programme (8):

2013 population at risk (country-specific) × crude birth rate (country-specific) × (1.023 [to account for all still births] × 1.004 [to account for spontaneous abortions after the first trimester])

For countries that reported on at least one of the IPTp data elements for 2013, having no visible bar for a data element denotes missing data. The Central African Republic, Gabon, Namibia, Nigeria and Somalia did not report on any IPTp data elements for 2013.

**Figure 4.2** The proportion of pregnant women in the population receiving IPTp was derived from both NMCP-reported data and household survey data.

- Using NMCP reports and expected number of pregnancies in the population, as described above, the median value of the proportion of pregnant women who were receiving one dose of IPTp was calculated for each year, among reporting countries, from 2000 to 2013.
- For the estimates based on household survey data, the proportion of pregnant women receiving one, two or three or more doses of IPTp was calculated by approximate year of pregnancy, as determined by child-birth date in the household member roster. Most household surveys collected information on pregnancies during the 3–5 years before the survey date. IPTp indicators recommended by WHO and the Roll Back Malaria (RBM) Partnership Monitoring and Evaluation Reference Group (MERG) were reported by household survey year; the indicators include births within

2 years of the survey date, in an attempt to reduce recall bias regarding pregnancies that occurred more than 2 years before the survey. Calculating receipt of IPTp by year of pregnancy for all years covered by the survey increases the amount of information available to assess trends across countries. The observations for all surveys with data for a given year were combined and reweighted, based on type of survey, survey sampling design and country-year population estimates. The country-year point estimates were recalculated using the new weights. The median and interquartile range were then calculated among countries that had point estimates each year from 2000 to 2013.

- Since few surveys with 2013 data were available, the estimates from 2013 household survey data for the first, second and third dose of IPTp shown in Figure 4.2 are projections from 6-year linear trend analyses. The NMCP data-derived estimates for first-dose IPTp (also shown in Figure 4.2) were not a projection; they provide the most recent and comprehensive estimates of IPTp coverage across countries implementing IPTp in Africa.

## Section 5: Malaria diagnostic testing

**Table 5.1** Policies regarding diagnostic testing were reported by NMCPs to WHO.

**Figure 5.1** The proportion of suspected malaria cases receiving a malaria diagnostic test in public facilities was calculated from NMCP reports to WHO. The number of malaria diagnostic tests performed included the number of rapid diagnostic tests (RDTs) and microscopic slide examinations. Few countries reported the number of suspected malaria cases as an independent value. For countries reporting the total number of malaria cases as presumed malaria cases (i.e. cases classified as malaria without undergoing malaria parasitological testing) and confirmed malaria cases, the number of suspected cases was calculated by adding the number of negative diagnostic tests to the number of presumed and confirmed cases. Using this method for countries that reported only confirmed malaria cases for the total number of malaria cases, the number of suspected cases was equal to the number of cases tested. Such data are not informative when determining the proportion of suspected cases tested; therefore, countries were excluded from the regional calculation for those years in which they reported only confirmed cases for total malaria cases.

**Figure 5.2** The proportion of children aged under 5 years with fever who received a finger or heel stick, and where they were brought for care, were calculated from available household survey data for 2000–2014 (the most recent surveys from 29 countries). Places of care that were included in the public sector health management information system were categorized as public facilities, and included public clinics and hospitals. Private facilities included private clinics, pharmacies and shops.

**Figures 5.3, 5.4 and 5.5** Manufacturers reporting the number of RDT sales included 41 manufacturers that participate in RDT product testing by WHO, the Foundation for Innovative New Diagnostics (FIND), the United States Centers for Disease Control and Prevention (CDC) and the Special Programme for Research and Training in Tropical Diseases (TDR). The number of RDTs reported by manufacturers represents total sales to the public and private sector worldwide. The number of RDTs and artemisinin-based

combination therapies (ACTs) distributed within countries by national programmes are reported by NMCPs to WHO, as are the number of microscopic examinations of blood slides performed for malaria parasites and number of RDTs performed.

**Figure 5.6** Results of RDT product testing conducted by WHO, FIND, CDC and TDR were taken from *Malaria rapid diagnostic test performance: Results of WHO product testing of malaria RDTs: Round 5 (11)*. The panel detection score used to quantify RDT performance is an index that measures test positivity as well as inter-test and inter-lot consistency. The score is the frequency with which all RDTs tested on a sample in the evaluation panel are positive (two RDTs from each of two lots positive against 200 parasite/µl sample, and one RDT from each lot positive for 2000–5000 parasite/µl sample). Therefore, for a sample at 200 parasites/µl, four of four tests have to be positive for that sample to be considered detected by RDT; for a sample at 2000–5000 parasites/µl two of two tests have to be positive for that sample to be considered detected by RDT.

## Section 6: Malaria treatment

**Table 6.1** Policies regarding malaria treatment were reported by NMCPs to WHO.

**Figure 6.1** The proportion of children with uncomplicated malaria (defined as fever in the 2 weeks preceding the survey and parasite infection measured by an RDT at the time of the survey) receiving an ACT was estimated for all countries in sub-Saharan Africa in 2003–2012, using a three-step modelling approach:

1. **Fitting a model to predict whether a child with fever has a malaria infection:** For 37 countries with a demographic and health survey (DHS) or malaria indicator survey (MIS), the malaria parasite infection status of a child was assessed from an RDT given at the time of the survey. It was assumed that a positive RDT provides a reasonable measure of a 2-week prevalence of infection (12–14). A logistic regression model was created to predict malaria parasite infection amongst febrile children in surveys in which RDT testing was not performed. Covariates in the model included the child's age and sex, household wealth quintile, ITN ownership, facility type where treatment was sought (public or other), urban or rural status, and malaria transmission intensity, as measured by the *Plasmodium falciparum* parasite rate (PfPR) of children aged 2–10 years (PfPR2–10).
2. **Predicting the infection status of children in surveys in which RDTs were not used:** Coefficients estimated from the logistic regression model in Step 1 were used to obtain predictions of infection status among all children with a fever from DHS and multiple indicator cluster surveys (MICS) in which RDT testing had not been performed (66 surveys). The national survey-weighted proportion of febrile children with a malaria parasite infection (RDT measured or imputed) aged under 5 years who received an ACT was then calculated for all surveys.
3. **Estimating the proportion of children with malaria that received an ACT:** ACT distribution data reported by NMCPs were used to calculate a predicted ACT "availability" per person at risk for *P. falciparum* malaria in each country. A linear model was then created to predict the proportion of children with malaria receiving an ACT, using ACT availability per capita in the current and previous year as a covariate. Additional covariates,

obtained from the World Bank dataset,<sup>8</sup> included national ITN coverage (by year), measles vaccination coverage, GNI and the proportion of births with a skilled birth attendant. The model was run in a Bayesian framework using MCMC methods, and included uncorrelated random effects for each country and correlated (autoregressive) random effects for each year. For non-survey years, the proportion of children who received ACT for each country and year (2003–2012) was imputed based on the relationship between ACT coverage and ACT availability across countries.

Publicly available sources of population-based survey data were considered if they included a module assessing fever treatment for children aged under 5 years, categorized by type of antimalarial received. For the period 2003–2012, 16 MIS, 55 DHS and 20 MICS were included. Estimates of mean *PfPR*<sub>2–10</sub>, as well as the total population at risk of malaria, were ascertained from the MAP for 2010. Population growth rates were derived from the UN Population Prospects database.<sup>9</sup>

**Figure 6.2** The proportion of children aged under 5 years brought for care, and where they were brought for care, were calculated from the most recent household survey undertaken for each country in sub-Saharan Africa (a total of 29 surveys). Public sector places of care included hospitals, health centres and health posts. The formal private sector included private clinics and doctors. The informal private sector included pharmacies, drug stores, shops and traditional healers. Community included care provided by community health workers.

**Figures 6.3 and 6.4** Data on ACT sales were provided by eight manufacturers eligible for procurement by WHO/United Nations Children's Fund (UNICEF). ACT sales were categorized as either to the public sector or to the private sector, and products were grouped according to type of ACT and product presentation (i.e. co-formulated and co-blistered). Data on ACTs distributed within countries through the public sector were taken from NMCP reports to WHO.

**Figure 6.5** The availability of ACTs in public sector health facilities was measured as the ratio of distributed ACTs reported by NMCPs to the estimated number of presumed and confirmed malaria cases attending public sector health facilities. For countries outside Africa and countries in Africa with consistent reporting, the estimated number of presumed and confirmed cases in the public sector was derived from NMCP reports, corrected for reporting completeness. For countries in Africa with inconsistent reporting, the estimated number of presumed and confirmed cases in the public sector was derived from the estimated number of confirmed malaria cases (see Section 8.3); the proportion of suspected cases tested; and the slide positivity rate (SPR), where:

$$\text{estimated presumed case} = 1 - (\% \text{ suspected cases tested} \times \text{estimated confirmed cases} / \text{SPR})$$

The proportion of children aged under 5 years with fever who received ACT among those who received any antimalarial treatment was calculated from available household survey data

8 <http://data.worldbank.org/products/wdi>

9 [http://esa.un.org/unpd/wpp/unpp/panel\\_population.htm](http://esa.un.org/unpd/wpp/unpp/panel_population.htm)

for countries in sub-Saharan Africa for 2005–2013. Definitions of public sector and private places of care were as described in the diagnostic testing section. Places of care that were included in the public sector health management information system were categorized as public facilities, and they included public clinics and hospitals. Private facilities included private clinics, pharmacies and shops. For recent surveys for which the dataset was not available but a written report had been released, the proportion of ACTs among any antimalarial treatment given was imputed based on the relationship between the indicator for all febrile children and for those children in the public and private sector in other household surveys.

**Figure 6.6** The estimated proportion of confirmed malaria cases and non-malaria cases receiving or not receiving ACTs at public health facilities in the WHO African Region for each year were derived from data reported by national programmes. The ratio of distributed ACTs to the estimated number of presumed and confirmed malaria cases was calculated as described for Figure 6.5 and used for the proportion of cases receiving ACTs. The proportion of suspected malaria cases tested was calculated as for Figure 5.1. The malaria test positivity rate was calculated from the number of malaria diagnostic tests performed and the number of tests positive for malaria. The distributed ACTs were apportioned evenly to presumed and confirmed cases. The proportion of confirmed cases among presumed and confirmed cases was derived from the proportion of suspected cases tested and the malaria test positivity rate. Non-malaria cases included suspected malaria cases that were tested negative, and presumed cases that would have been negative had they been tested.

## Section 7: Gaps in intervention coverage

**Figure 7.1** Data on intervention coverage were derived from nationally representative household survey data from MICS, MIS and DHS conducted in 2011–2013. In total, 21 surveys included data about households without nets; 20 surveys included data on pregnant women who did not receive IPTp; and 23 surveys included data on febrile children aged under 5 years who did not seek treatment and did not receive an ACT, 20 of which also included data on febrile children who did not receive a diagnostic test. For each survey, the proportions of households or children aged under 5 years not covered by a given intervention were calculated over the entire population and within various subpopulations, taking into account the sampling design. The median de facto household population size within each survey was calculated for inclusion in the final analysis. The quartile estimates and interquartile ranges were calculated across all of the country-level proportions.

**Figure 7.2** The proportions of the subpopulations not covered by a given intervention within each survey were assembled and used to fit linear regression models for each service, to predict the overall lack of coverage. The choices of subpopulations were based on published literature reviews that identified the factors most likely to influence coverage estimates. For the household-level analysis, the subpopulations included levels of wealth, presence (or lack) of at least one pregnant woman or child aged under 5 years, education level of the

household head, type of residence and relative household size. For the child-level analyses, the subpopulations included levels of household wealth, type of residence, education level of the mother, age of the child, gender of the child and relative household size. Model selection was based on the optimal R<sup>2</sup>, Akaike information criterion and Bayesian information criterion scores for all possible predictor combinations. The decomposition of the R<sup>2</sup> goodness-of-fit estimator for linear models has been suggested as a method to describe the relative contribution of predictors across the entire distribution of a continuous outcome (15). In this analysis, the decompositions of the goodness-of-fit estimators for each linear model, presented as Owen decomposition values, describe the degree to which different factors contributed to the observed lack of coverage across the surveys. This does not necessarily imply a causal relationship, and the contributions of the individual factors do not necessarily reflect their level of statistical significance in any given country.

**Figure 7.3** The country-specific differences in coverage between levels of endemicity were examined by calculating the absolute difference between the intermediate-to-high malaria risk coverage estimates and the no-to-low malaria risk coverage estimates. The malaria endemicity level was determined by extracting the raster values from the data layers of MAP's forthcoming 2000–2013 time series of *PfPR* at all available survey cluster locations, and classifying those within each cluster as having no-to-low risk or intermediate-to-high risk of malaria. The cluster-level extraction data from *PfPR* raster values were provided by the MAP. The household-level analysis used cluster-level classifications based on *PfPR*s for the year 2000 to take into account the impact of ITNs on the parasite rate. In the other analyses, endemicity classifications were based on the *PfPR*s for the survey year.

## Section 8: Trends in infections, cases and deaths

**Figures 8.1 and 8.2** The main source of information on reported numbers of malaria cases and deaths are the disease surveillance systems operated by ministries of health. Data from such systems have three strengths: (i) case reports are recorded continuously over time and can thus reflect changes in the implementation of interventions or other factors; (ii) routine case and death reports are often available for all geographical units of a country; and (iii) the data reflect the burden that malaria places on the health system. Changes in the numbers of cases and deaths reported by countries do not, however, necessarily reflect changes in the incidence of disease in the general population, for several reasons. First, not all health facilities report each month; hence, variations in case numbers may reflect fluctuations in the number of health facilities reporting rather than a change in underlying disease incidence. Second, routine reporting systems often do not include patients attending private clinics or morbidity treated at home, so disease trends in health facilities may not reflect trends in the entire community. Finally, not all malaria cases reported are confirmed by microscopy or RDT; hence, some of the cases reported as malaria may actually be other febrile illnesses (16, 17).

When reviewing data supplied by ministries of health in malaria endemic countries, the following strategy was used to minimize the influence of these sources of error and bias:

- **Focusing on confirmed cases (by microscopy or RDT) to ensure that malaria (not other febrile illnesses) was tracked.** For high-burden countries in the WHO African Region, where there is little confirmation of cases, the numbers of malaria admissions (in-patient cases) and deaths were reviewed, because the predictive value of malaria diagnosis for an admitted patient is considered to be higher than that of an outpatient diagnosis. In such countries, the analysis may be heavily influenced by trends in cases of severe malaria rather than trends in all cases.
- **Monitoring the number of laboratory tests undertaken.** It is useful to measure the annual blood examination rate (ABER), to ensure that potential differences in diagnostic effort or completeness of reporting are taken into account. To discern decreases in malaria incidence, the ABER should ideally remain constant or be increased. In addition, it is useful to monitor the percentage of suspected malaria cases that are examined with a parasite-based test. Some authorities recommend that the ABER should be >10%, to ensure that all febrile cases are examined; however, the observed rate depends partly on how the population at risk is estimated, and trends may still be valid if the rate is <10%. A value of 10% may not be sufficient to detect all febrile cases. In Solomon Islands, a highly endemic country, the ABER exceeds 60%, with an SPR of 25%, achieved solely through passive case detection.
- **Monitoring trends in the SPR or RDT positivity rate.** This rate should be less severely distorted by variations in the ABER than trends in the number of confirmed cases.
- **Monitoring malaria admissions and deaths.** For high-burden African countries, when reviewing the number of malaria admissions or deaths, it is also informative to examine the number of admissions from all causes, which should remain constant or be increased. If the total number of admissions fluctuates, then it may be preferable to examine the percentage of admissions or deaths due to malaria, because this proportion is less sensitive to variation in reporting rates than the number of malaria admissions or deaths.
- **Monitoring the number of cases detected in the surveillance system in relation to the total number of cases estimated to occur in a country.** Trends derived from countries with high case detection rates are more likely to reflect trends in the broader community. When examining trends in the number of deaths, it is useful to compare the total number of deaths occurring in health facilities with the total number of deaths estimated to occur in the country.
- **Examining the consistency of trends.** Unusual variation in the number of cases or deaths that cannot be explained by climate or other factors, or inconsistency between trends in cases and in deaths, can suggest deficiencies in reporting systems.
- **Monitoring changes in the proportion of cases due to *P. falciparum* or the proportion of cases occurring in children aged under 5 years.** Decreases in the incidence of *P. falciparum* malaria may precede decreases in *P. vivax* malaria, and there may be a gradual shift in the proportion of cases occurring in children aged under 5 years; however, unusual fluctuations in these proportions may point to changes in health-facility reporting or to errors in recording.

These procedures help to rule out data-related factors (e.g. incomplete reporting or changes in diagnostic practice) as explanations for a change in the incidence of disease. The aim is to ensure that trends in health-facility data reflect changes in the wider community, which is more likely in situations where changes in disease incidence are large; coverage with public health services is high; and interventions promoting change, such as use of ITNs, are delivered throughout the community rather than being restricted to health facilities.

Where data reported by NMCPs were sufficiently complete and consistent to reliably assess trends between 2000 and 2013, a country was classified as being on track to achieve, by 2015, a decrease in case incidence of >75%, 50–75% or <50%, or to experience an increase in case incidence by 2015, using 2000 as the baseline. A 75% reduction in malaria case incidence is equivalent to a 5% reduction per year between 2000 and 2015. Thus, to achieve a reduction of 75% by 2015, countries need to have reduced the incidence of malaria by

at least 65% between 2000 and 2013. Countries that reduced malaria incidence rates by 43–65% between 2000 and 2013 are projected to achieve reductions in malaria case incidence of 50–75% in 2015.

**Table 8.1** The criteria used to classify countries according to programme phase were updated in 2012 to facilitate tracking of progress over time (18). The updated criteria are based on an evaluation of three main components: the malaria epidemiological situation, case-management practices and the state of the surveillance system (as shown in Table A.1). The evaluation concentrates on the situation in those districts of the country reporting the highest annual parasite index (API). Other components – for example, the stated programme goal, vector control and malaria prevention practices, and health systems and financing – are also important for tracking progress towards elimination; however, they are less specific and are therefore not included as classification criteria.

**Table A.1** Criteria for classifying countries according to malaria programme phase

	Pre-elimination	Elimination	Prevention of reintroduction
Malaria situation in areas with most intense transmission			(1) Recently endemic country with zero local transmission for at least 3 years; or (2) country on the register or supplementary list that has ongoing local transmission <sup>a</sup>
Test positivity rate	<5% among suspected malaria patients (PCD) throughout the year		
API in the district with the highest number of cases/1000 population/ year (ACD and PCD), <sup>b</sup> averaged over the past 2 years	<5 (i.e. fewer than 5 cases/1000 population)	<1 (i.e. fewer than 1 case/1000 population)	
Total number of reported malaria cases nationwide		A manageable number (e.g. <1000 cases, local and imported) nationwide	
Case management			Imported malaria. Maintain capacity to detect malaria infection and manage clinical disease
All cases detected in the private sector are microscopically confirmed	National policy being rolled out	Yes	Yes
All cases detected in the public sector are microscopically confirmed	National policy being rolled out	Yes	Yes
Nationwide microscopy quality assurance system covers public and private sector	Initiated	Yes	Yes
Radical treatment with primaquine for <i>P. vivax</i>	National policy being updated	National policy fully implemented	Yes
Treatment with ACT plus single-dose primaquine for <i>P. falciparum</i>	National policy being updated	National policy fully implemented	Yes
Surveillance			Vigilance by the general health services
Malaria is a notifiable disease nationwide (<24–48 hours)	Laws and systems being put in place	Yes	Yes
Centralized register on cases, foci and vectors	Initiated	Yes	Yes
Malaria elimination database	Initiated	Yes	Certification process (optional)
Active case detection in groups at high risk or with poor access to services (proactive case detection)	Initiated	Yes	In residual and cleared-up foci, among high-risk population groups
Case and foci investigation and classification (including reactive case detection and entomological investigation)	Initiated	Yes	Yes

ABER: annual blood examination rate; ACD: active case detection; API: annual parasite index; PCD: passive case detection.

<sup>a</sup> Ongoing local transmission = 2 consecutive years of local *P. falciparum* malaria transmission, or 3 consecutive years of local *P. vivax* malaria transmission, in the same locality or otherwise epidemiologically linked.

<sup>b</sup> The API has to be evaluated against the diagnostic activity in the risk area (measured as the ABER). Low values of ABER in a district raise the possibility that more cases would be found with improved diagnostic efforts.

### Figures 8.3–8.5

Maps of *P. falciparum* infection prevalence ( $PfPR_{2-10}$ ) and associated national-level estimates of average  $PfPR_{2-10}$  for countries in sub-Saharan Africa were derived from a geostatistical modelling framework developed by the MAP. The model drew on three categories of data:

- Geopositioned community-based survey measurements of  $PfPR$  were identified through periodic literature searches for published data sources, direct communication with malaria specialists for unpublished data sources, and national household surveys. Surveys were primarily conducted in

children aged under 5 years, although those based on any defined age range of individuals were included. Most surveys were conducted using microscopy or RDTs to identify infected individuals. After checks for consistency, completeness and duplication, a final assembly was defined for subsequent modelling consisting of 28 361 spatio-temporally unique observations at time points between 1995 and 2014.

- Input data layers were also assembled, to represent levels of intervention coverage. For ITNs, national-level trends in ITN use were taken from the coverage model described



earlier (see Section 3). This was used in conjunction with a geostatistical model to generate a continuous space-time “cube” predicting the proportion of individuals sleeping under an ITN the previous night for every 5 × 5 km pixel, and expressed as an annual mean. For IRS, annual reports from NMCPs were assembled, detailing the proportion of the population at risk targeted for coverage each year (note: this does not necessarily represent the proportion ultimately receiving and protected by the intervention). For ACTs, national household survey data were assembled from 93 surveys on the proportion of children with fever accessing an ACT; this was used as a proxy for access to effective antimalarial drugs in clinical malaria cases across the population as a whole. To estimate this coverage in country-years for which no survey was available, an empirical model was built that related coverage levels to the number of ACT courses distributed per capita in each country each year. The latter variable was available from NMCP reported data, and was largely complete for the period 2000–2013.

- A suite of 20 environmental and sociodemographic geospatial input layers were also developed and used as covariates in the *PfPR* model. Existing approaches to constructing and selecting covariates for this purpose are crucial, but have often been subjective and ad hoc (e.g. a huge variety of covariates are used in modelling with little quantitative justification). To address this, we undertook an exhaustive covariate construction and selection process. First, a literature review was conducted to establish a comprehensive list of variables that have been used as covariates in malaria mapping. Second, a large library of covariate data was assembled to reflect this list, including the construction of dynamic versions where possible. Third, the resulting set of 33 base covariates was leveraged to create more than 50 million possible covariate terms via factorial combinations of different spatial and temporal aggregations, transformations and pairwise interactions. Fourth, the expanded set of covariates was tested via successive selection criteria to yield an optimum covariate subset that maximized out-of-sample predictive accuracy. The final subset included predominately dynamic covariates; it substantially out-performed earlier sets used in global malaria risk maps from the MAP.

These data sources were then used in a space–time Bayesian geostatistical model that was a more sophisticated version of an earlier approach constructed by the MAP (19). The new model included mechanisms to adjust the *PfPR* survey data by the age range of individuals observed, the season of each survey and the type of diagnostic used. The impact of interventions was modelled by fitting flexible functional forms to capture the separate effects of ITNs, IRS and ACTs on declining *PfPR* as a function of coverage reached, and the starting (pre-intervention) *PfPR* in the year 2000. The model was used to predict a spatio-temporal cube of age-specific *PfPR* at 5 × 5 km resolution across Africa for each year from 2000 to 2013. Detailed maps of year-specific human population density from the WorldPop project<sup>10</sup> were used, in conjunction with the *PfPR* cube, to calculate population-weighted mean  $PfPR_{2-10}$  for each country and each year. The average number of contemporaneous infections in each country and year was calculated by multiplying

the annual mean all-age *PfPR* by the population in each pixel, then summing across all pixels in each country.

**Tables 8.2 and 8.3, and Figures 8.6–8.8** The methods for producing estimates of malaria cases and deaths in 2000–2013 either adjusted the number of reported cases to take into account the proportion of cases that were not captured by a surveillance system or, for countries with insufficient surveillance data, produced estimates using a modelled relationship between malaria transmission, case incidence or mortality, and intervention vector control coverage, as outlined below.

**Cases** The number of malaria cases was estimated by one of two methods:

- For countries outside the WHO African Region and low-transmission countries in Africa: estimates of the number of cases were made by adjusting the number of reported malaria cases for completeness of reporting, the likelihood that cases are parasite-positive and the extent of health-service use. The procedure, which is described in the *World malaria report 2008* (16, 20), combines data reported by NMCPs (reported cases, reporting completeness, likelihood that cases are parasite-positive) with those obtained from nationally representative household surveys on health-service use. If data from more than one household survey were available for a country, estimates of health-service use for intervening years were imputed by linear regression. If only one household survey was available, then health-service use was assumed to remain constant over time; analyses summarized in the *World malaria report 2008* indicated that the percentage of fever cases seeking treatment in public sector facilities varies little over time in countries with multiple surveys. Such a procedure results in an estimate with wide uncertainty intervals around the point estimate.
- For countries in the WHO African Region: for some African countries, the quality of surveillance data did not permit a convincing estimate to be made from the number of reported cases. For these countries, an estimate of the number of malaria cases was derived from an estimate of the number of people living at high, low or no risk of malaria. Malaria incidence rates for these populations were inferred from longitudinal studies of malaria incidence recorded in the published literature. Incidence rates were adjusted downwards for populations living in urban settings, and for the expected impact of ITN and IRS programmes. The procedure was initially developed by the RBM MERG in 2004 (21) and also described in the *World malaria report 2008*.

**Deaths** The number of malaria deaths was estimated by one of two methods:

- For countries outside the WHO African Region and for low-transmission countries in Africa:<sup>11</sup> the number of deaths was estimated by multiplying the estimated number of *P. falciparum* malaria cases by a fixed case fatality rate for each country, as described in the *World malaria report 2008*. This method was used for all countries outside the WHO African Region and for countries within the WHO African Region where estimates of case incidence were derived from routine reporting systems and where malaria causes less than 5% of all deaths in children

10 <http://www.worldpop.org.uk/>

11 Botswana, Cabo Verde, Eritrea, Madagascar, Namibia, South Africa, Swaziland and Zimbabwe

aged under 5 years, as described in the *Global Burden of Disease 2004 update* (22). A case fatality rate of 0.45% was applied to the estimated number of *P. falciparum* cases for countries in the WHO African Region, and a case fatality rate of 0.3% for *P. falciparum* cases in other regions. In situations where the fraction of all deaths due to malaria is small, the use of a case fatality rate in conjunction with estimates of case incidence was considered to provide a better guide to the levels of malaria mortality than attempts to estimate the fraction of deaths due to malaria.

- For countries in the WHO African Region: child malaria deaths were estimated using a verbal autopsy multi-cause model developed by the WHO Child Health Epidemiology Reference Group to estimate causes of death for children aged 1–59 months in countries with less than 80% of vital registration coverage (23–25). A total of 128 data points from 95 verbal autopsy studies and 37 countries that met the inclusion criteria were included. Among them, 47 data points were either new or updated from the previous estimates of malaria deaths published in the *World malaria report 2012*. Mortality estimates were derived for seven causes of post-neonatal death (pneumonia, diarrhoea, malaria, meningitis, injuries, pertussis and other disorders), causes arising in the neonatal period (prematurity, birth asphyxia and trauma, sepsis, and other conditions of the neonate) and other causes (e.g. malnutrition). Deaths due to measles, unknown causes and HIV/AIDS were estimated separately. The resulting cause-specific estimates were adjusted country by country to fit the estimated 1–59 month mortality envelopes (excluding HIV and measles deaths) for corresponding years. Estimates were then further adjusted for intervention coverage; that is, pneumonia and meningitis estimates were adjusted for the use of *Haemophilus influenzae* type b vaccine, and malaria estimates were adjusted for the use of ITNs.

The bootstrap method was employed to estimate uncertainty intervals by re-sampling from the study-level data to in turn estimate the distribution of the predicted percentage of deaths due to each cause. Deaths in those above the age of 5 years were inferred from a relationship between levels of malaria mortality in different age groups and the intensity of malaria transmission (26); thus, the estimated malaria mortality rate in children aged under 5 years was used to infer malaria-specific mortality in older age groups.

Malaria incidence and mortality rates were estimated using “total population at risk for malaria” as a denominator. Projections to 2015 were based on a linear extrapolation of the trend in incidence and mortality rates from 2000 to 2013.

**Table 8.4, Figures 8.9 and 8.10** The number of cases averted and lives saved between 2001 and 2012 was estimated by calculating the number of cases and deaths that would have occurred if incidence and mortality rates had remained at 2000 levels until 2013 (i.e. had there been no progress). The calculated number of cases and deaths was compared with the estimated number of cases and deaths presented above. The lower numbers of cases and deaths in 2013 compared to 2000 may be due in part to factors other than the expansion

of malaria programmes. Some progress is likely to be related to increased urbanization and overall economic development, which lead to improvements in housing and nutrition.

## Regional profiles

**Figure A.** Incidence rates are derived from reports of confirmed malaria cases in 2013 (by microscopy or RDT) from ministries of health to WHO, and from the number of people living at risk for malaria in each geographical unit as reported by NMCPs. Incidence rates are corrected for reporting completeness by dividing by the proportion of health-facility reports received in 2013 by the number expected. If subnational data on population or malaria cases were lacking, an administrative unit was labelled “no data” on the map. In some cases, the subnational data provided by the NMCP did not correspond to a mapping area known to WHO, either because of modifications to administrative boundaries, or the use of names not verifiable by WHO. The maps for countries in sub-Saharan Africa display a combination of: cases per 1000 per year, and parasite prevalence in areas with >10 cases per 1000 population per year. To obtain a measure of combined parasite prevalence for both *P. falciparum* and *P. vivax*, the sum of the two independent parasite rates (19, 27) was calculated at each point (~5 km<sup>2</sup>). Data on environmental suitability for malaria transmission were used to identify areas that would be free of malaria.

**Figure B.** Sources of data for the financial contributions are as described for Figure 3.1.

**Figure C.** Sources of data for international and domestic contributions are as described in the notes for Figure 3.1. Funding per capita at risk was calculated by giving populations at low risk for malaria (i.e. those living in areas with fewer than one case reported per 1000 per year) half the weight of populations at high risk (i.e. those living in areas with one or more cases reported per 1000 per year). This procedure was followed to ensure that countries with populations at low risk for malaria could be included in the analysis, and also to take into account the greater need for malaria programmes and funds in countries with larger proportions of their population at high risk for malaria.

**Figure D.** For the WHO African Region and for Djibouti, Somalia and the Sudan in the WHO Eastern Mediterranean Region, the proportion of the population with access to an ITN is derived from a model that takes into account household survey data, ITNs distributed by NMCPs, and ITNs delivered by manufacturers (see methods for Figures 3.1 and 3.2). For other countries, the proportion of the population protected with ITNs is estimated from the number of ITNs delivered by NMCPs in the past 3 years divided by the population at high risk. It is assumed that each net delivered can cover on average 1.8 people, that conventional nets are re-treated regularly, and that nets have a lifespan of 3 years. The denominator is the population living at high risk for malaria, since it is assumed that, in countries with lower levels of transmission, ITNs will be preferentially targeted to populations at higher risk. IRS coverage is calculated as the total number of people protected with IRS, divided by the population at high risk. There are limited data on the extent to which these interventions overlap, so the two bars

simply represent the percentage of populations protected by the respective interventions individually.

**Figure E.** Few countries have information systems that record treatments given to individual patients. It is therefore necessary to use aggregate information on numbers of treatment courses delivered to public health facilities, and relate this information to the number of malaria cases among patients attending such facilities. For countries in the WHO African Region, the number of treatment courses available is calculated as the total number of ACT courses distributed by a ministry of health, divided by the estimated number of presumed cases recorded as malaria (without a diagnostic test having been performed) plus confirmed *P. falciparum* malaria cases at public health facilities. In other WHO regions, the number of treatment courses available is shown as a percentage of confirmed malaria cases plus presumed malaria cases reported in the public sector, correcting for reporting completeness. The bars for any antimalarial treatment show the number of all treatment courses supplied in relation to all malaria cases of any plasmodium species, including the ACT to treat *P. falciparum*.

**Figure F.** The percentage of confirmed cases in which *P. falciparum* or a mixed infection was detected was calculated as the total number of *P. falciparum* and mixed infections between 2009 and 2013, divided by the number of confirmed cases over that period. For countries in the elimination phase, only locally acquired *P. falciparum* cases and mixed infections were considered.

**Figure G.** Analysis of changes in malaria incidence rates focuses on confirmed cases (by microscopy or RDT) reported by ministries of health, to ensure that malaria (not other febrile illnesses) is tracked. For countries in the WHO African Region, the figure shows percentage reductions in the rate of hospital admissions and deaths (except for Algeria, Botswana, Cabo Verde, Namibia, Sao Tome and Principe, South Africa, Swaziland and Zimbabwe) and in the rate of reported malaria deaths. Although the diagnosis of admitted patients is not always confirmed with a diagnostic test, the predictive value of diagnosis undertaken for an admitted patient is considered to be higher than for outpatient diagnosis. See notes for Figures 8.1 and 8.2 for more details of analysis undertaken.

## Country profiles

### I. Epidemiological profile

**Maps:** The procedures used for the map of confirmed cases per 1000 population divided by parasite prevalence were the same as those used for Figure A of the regional profiles. For the map showing the proportion of cases due to *P. falciparum*, the total number of cases due to *P. falciparum* was divided by the total number of confirmed malaria cases. If no data were available for a subnational geographical area, or there were too few cases to calculate a reliable proportion, the area was highlighted as such. For areas where parasite prevalence was used, the total number of infections due to *P. falciparum* was divided by the total of *P. falciparum* and *P. vivax* infections. Data on environmental suitability for malaria transmission were used to identify areas that would be free of malaria.

**Population:** The total population of each country was taken from the 2012 revision of the *World population prospects*.<sup>12</sup> The country

population was subdivided into three levels of malaria endemicity, as reported by the NMCP: (i) areas of high transmission, where the reported incidence of confirmed malaria due to all species was  $>1$  per 1000 population per year in 2013; (ii) areas of low transmission, where the reported malaria case incidence from all species was  $\leq 1$  per 1000 population per year in 2013, but  $>0$  (transmission in these areas is generally highly seasonal, with or without epidemic peaks); and (iii) malaria free areas, where there is no continuing local mosquito-borne malaria transmission, and all reported malaria cases are imported. An area is designated "malaria free" when no cases have occurred for several years. Areas may be naturally malaria free because of factors that are unfavourable for malaria transmission (e.g. altitude or other environmental factors), or they may become malaria free as a result of effective control efforts. In practice, malaria free areas can be accurately designated by NMCPs only after the local epidemiological situation and the results of entomological and biomarker investigations have been taken into account.

In cases where an NMCP did not provide the number of people living in high- and low-risk areas, the numbers were inferred from subnational case incidence data provided by the programme. The population at risk is the total population living in areas where malaria is endemic (low and high transmission), excluding the population living in malaria free areas. The population at risk is used as the denominator in calculating the coverage of malaria interventions, and is therefore used in assessing current and future needs for malaria control interventions, taking into account the population already covered. For countries in the pre-elimination and elimination stages, "population at risk" is defined by the countries, based on the resident populations in foci where active malaria transmission occurs.

**Parasites and vectors:** The species of mosquito responsible for malaria transmission in a country, and the species of *Plasmodium* involved, are listed according to information provided by WHO regional offices. The proportion of malaria cases due to *P. falciparum* was estimated from the number of *P. falciparum* and mixed infections detected by microscopy, divided by the total number of malaria cases confirmed by microscopy in 2013.

### II. Intervention policies and strategies

**Intervention policy:** The policies and strategies adopted by each country were reported by NMCPs to WHO. They vary according to the epidemiological setting, socioeconomic factors and the capacity of the NMCP or the country's health system. Adoption of policies does not necessarily imply immediate implementation, nor does it indicate full, continuous implementation nationwide.

**Antimalarial treatment policy:** Antimalarial treatment policies were reported by NMCPs to WHO.

**Therapeutic efficacy tests:** Data on therapeutic efficacy were extracted from the WHO global database on antimalarial drug efficacy. The data originated from three main sources: published data, unpublished data and regular monitoring data from surveillance studies conducted according to the WHO standard protocol. The percentage of treatment failures is the total number of failures (early treatment failures + late clinical failures + late parasitological failures), divided by the total number of patients who completed the study follow-up. The number of studies included in the analysis

12 [http://esa.un.org/unpd/wpp/unpp/panel\\_population.htm](http://esa.un.org/unpd/wpp/unpp/panel_population.htm)

and the years during which the studies were conducted are shown for each antimalarial medicine. The minimum, median and maximum describe the range of treatment failures observed in the studies for each antimalarial medicine.

### III. Financing

**Sources of financing:** The data shown are those reported by NMCPs. The government contribution is usually the declared government expenditure for the year. In cases where government expenditure was not reported by the programme, the government budget was used. External contributions are those allocated to the programme by external agencies; however, such contributions may or may not be disbursed. Additional information about contributions from specific donor agencies, as reported by these agencies, is given in Annex 2. All countries were asked to convert their local currencies to US\$ for reporting on sources of financing.

**Expenditure by intervention in 2013:** The pie chart shows the proportion of malaria funding from all sources that was spent on ITNs, insecticides and spraying materials, IRS, diagnosis, antimalarial medicines, monitoring and evaluation, human resources, technical assistance and management. There are differences in the completeness of data between countries, and the activities for which expenditures are reported do not necessarily include all items of expenditure. For example, government expenditures usually only include expenditures specific to malaria control, and do not take into account costs related to health facility staff, infrastructure and so on.

### IV. Coverage

**ITN and IRS coverage:** Indicators are shown according to data availability:

- *With access to an ITN (survey)* – the proportion of all individuals that could be covered by available ITNs in each household, assuming each ITN can be shared by two people. The indicator is calculated from nationally representative household surveys such as DHS, MICS and MIS.
- *All ages who slept under an ITN (survey)* – the proportion of all individuals who spent the previous night in surveyed households who slept under an ITN, as measured in a nationally representative household survey such as DHS, MICS or MIS.
- *With access to an ITN (model)* – For high-transmission countries in the WHO African Region, a model was used to estimate the proportion of the population with access to an ITN within their household for years in which household survey results were not available. The methods used to estimate the indicator were the same as those described for Figures 3.1 and 3.2.
- *At high risk protected by ITNs* – For countries in WHO regions other than the African Region, nationally representative household surveys are not undertaken sufficiently frequently to allow an assessment of levels and trends in ITN coverage. Therefore, the number of ITNs distributed by NMCPs is used. The proportion of the population potentially protected with ITNs is calculated as:

$$1.8 \times (\text{number of LLINs distributed in the past 3 years} + \text{number of conventional ITNs distributed or retreated in the past year}) / \text{the population at high risk for malaria}$$

LLINs are considered to have an average useful lifespan of 3 years and conventional ITNs 1 year; also, each net is assumed to protect two people. The ratio of 1.8 is used in the formula to allow for only one person sleeping under some ITNs in households with an odd number of inhabitants. The population at high risk is used as the denominator since it is assumed that populations at high risk will be preferentially targeted to receive an ITN. For countries in the elimination phase, those residing in foci are considered to be the population at risk.

- *At high risk protected by IRS* – calculated as the number of people living in a household where IRS has been applied during the preceding 12 months, divided by the population at risk (the sum of populations living in low- and high-transmission areas). For areas outside Africa, the population at high risk is used as the denominator. The percentage of people protected by IRS is a measure of the extent to which IRS is implemented and the extent to which the population at risk benefits from IRS nationwide. The data show neither the quality of spraying nor the geographical distribution of IRS coverage in a country.

### Cases tested and cases treated in the public sector

**Suspected cases tested** – the number of suspected cases examined by microscopy or by RDT, divided by the total number of suspected malaria cases. For countries that do not report the number of suspected cases independently, the number of suspected malaria cases is derived from the number of presumed and confirmed cases, the number tested and the number of positive tests. This indicator reflects the extent to which a programme can provide diagnostic services to patients attending public health facilities. It does not consider patients attending privately run health facilities, and therefore does not reflect the experience of all patients seeking treatment. In many situations, health facilities in the private sector are less likely to provide a diagnostic test than those in the public sector. The indicator may also be biased if those health facilities that provide a diagnostic test (e.g. hospitals) are more likely than other facilities to submit monthly reports.

**Under 5 with fever with finger/heel stick (survey)** – the proportion of children aged under 5 years with fever in the past weeks who had a finger or heel stick, as measured in a nationally representative household survey such as DHS, MICS or MIS.

**Antimalarial medicines distributed versus cases** – Few countries have information systems that are able to record the treatments given to individual patients. Instead, data on the numbers of antimalarial medicines distributed by the country's ministry of health are used to calculate proxy indicators of access to treatment. Three indicators are shown:

- *Antimalarials distributed versus all malaria cases* – the number of first-line treatment courses distributed, divided by the

estimated number of malaria cases attending public sector health facilities.

- *ACTs distributed versus P. falciparum malaria cases* – the number of ACT treatment courses distributed, divided by the estimated number of *P. falciparum* malaria cases attending public sector health facilities.
- *Primaquine distributed versus P. vivax malaria cases* – the number of primaquine treatment courses distributed, divided by the estimated number of *P. vivax* malaria cases attending public sector health facilities.

For high-transmission countries in the WHO African Region, the estimated number of malaria cases attending public sector health facilities is used as a denominator. For other countries, the denominator is the number of confirmed cases plus the number of presumed cases, adjusted for reporting completeness. These indicators can provide information on whether the NMCP delivers sufficient antimalarial medicines to treat all malaria patients who seek treatment in the public sector. It is not a direct measure of the proportion of patients with malaria cases that have received treatment.

**ACTs as percentage of all antimalarials received (survey)** – children aged under 5 years with fever in the past 2 weeks who received ACTs as a proportion of children aged under 5 years with fever who received any antimalarial.

#### Cases tracked

**Reporting completeness** – calculated as the total number of health facility reports received by a ministry of health during a year, divided by the total number of facility reports that were expected in that year. The expected number of facility reports is the number of health facilities multiplied by the frequency of reporting; that is, if 100 facilities are expected to report each month, 1200 reports would be expected during a year.

**Percentage fever cases <5 seeking treatment at public health facility (survey)** – the proportion of children aged under 5 years with fever in the past 2 weeks who sought treatment at a public health facility, derived from a nationally representative household survey such as DHS, MICS or MIS (for programmes in the control phase only).

**Cases investigated** – the proportion of reported confirmed malaria cases that are investigated for additional information on the characteristics of the case; most importantly, whether the case was imported or locally acquired (for programmes in the pre-elimination and elimination phase only).

**Foci investigated** – the proportion of foci of malaria transmission that are investigated for additional information on the characteristics of transmission of malaria, including evidence of local malaria transmission and entomological information such as vector breeding sites within the transmission focus (for programmes in the pre-elimination and elimination phase only).

## V. Impact

#### Test positivity

**SPR** – the number of microscopically positive cases divided by the total number of slides examined.

**RDT positivity rate** – the number of positive RDT tests divided by the total number of RDT tests carried out. The RDT positivity rate and SPR are derived from the number of parasitologically positive cases per 100 cases examined by RDT or microscopy. They measure the prevalence of malaria parasites among people who seek care and are examined in health facilities. Trends in these indicators may be less distorted by variations in the ABER than trends in the number of confirmed cases.

**Parasite prevalence (survey)** – the proportion of people tested for malaria parasites in a survey (most often children aged under 5 years) who have malaria parasites (programmes in control phase only).

#### Confirmed malaria cases per 1000 and ABER

**ABER (microscopy and RDT)** – the number of parasitological tests (by microscopy or RDT) undertaken per 100 population at risk per year. The numbers of parasitological tests were derived from reports by NMCPs to WHO. The ABER provides information on the extent of diagnostic testing in a population. It can be useful to take into account when interpreting trends in confirmed cases. To discern changes in malaria incidence, the ABER should ideally remain constant (see notes for Figures 8.1 and 8.2). There is no set threshold or target for ABER; rather, it is the trend in ABER in relation to reported case incidence that is most informative.

**Cases (all species)** – the total number of confirmed malaria cases (by microscopy or RDT) divided by the population at risk. The numbers of confirmed cases were derived from reports by NMCPs to WHO. The indicator is useful in assessing changes in the incidence of malaria over time, provided that there has been consistency in patient attendance at facilities, diagnostic testing and case reporting over time.

**Cases (P. vivax)** – the total number of confirmed *P. vivax* malaria cases (by microscopy or RDT) divided by the population at risk. The numbers of confirmed *P. vivax* cases were derived from reports by NMCPs to WHO (the numbers exclude mixed infections).

For countries in the pre-elimination or elimination phases, the total number of indigenous cases (acquired within the country) and imported cases were also plotted.

#### Malaria admissions and deaths (for countries in the control phase)

Numbers for malaria admissions and deaths for countries in the control phase were derived from reports by NMCPs to WHO.

**Admissions (all species)** – the number of patients admitted for malaria with malaria as the primary discharge diagnosis, divided by the population at risk.

**Admissions (P. vivax)** – the number of patients admitted for malaria with *P. vivax* malaria as the primary discharge diagnosis, divided by the population at risk.

**Deaths (all species)** – the number of patients dying in health facilities with malaria as the primary cause of death, divided by the population at risk.

**Deaths (P. vivax)** – the number of patients dying in health facilities with *P. vivax* malaria as the primary cause of death, divided by the population at risk.

## References

1. *Global financing for malaria: Trends & future status*. The Henry J. Kaiser Family Foundation, 2014.
2. *United Nations General Assembly. International Development Strategy for the Second United Nations Development Decade, paragraph 43. UN, 1970* (<http://www.un-documents.net/a25r2626.htm>, accessed 21 November 2014).
3. United Nations. *Monterrey Consensus on Financing for Development*. Monterrey, Mexico, UN, 2002 (<http://www.un.org/esa/ffd/monterrey/MonterreyConsensus.pdf>, accessed 21 November 2014).
4. Flaxman A.D., Fullman N., Otten M.W., Menon M., Cibulskis R.E., Ng M. et al. Rapid scaling up of insecticide-treated bed net coverage in Africa and its relationship with development assistance for health: A systematic synthesis of supply, distribution, and household survey data. *PLoS Med*, 2010 7(8):e1000328.
5. Networks. *The NetCALC Tool*. 2014 (<http://www.networksmalaria.org/networks/netcalc>, accessed 25 November 2014).
6. Yukich J., Bennett A., Keating J., Yukich R.K., Lynch M., Eisele T.P. et al. Planning long lasting insecticide treated net campaigns: should households' existing nets be taken into account? *Parasit Vectors*, 2013 6:174 (<http://www.ncbi.nlm.nih.gov/pubmed/23763773>, accessed 26 November 2014).
7. Alliance for Malaria Prevention. *Net Mapping Project. AMP, 2014* (<http://allianceformalariaprevention.com/working-groups-view.php?id=19>, accessed 14 May 2014).
8. Dellicour S., Tatem A.J., Guerra C.A., Snow R.W., ter Kuile F.O. Quantifying the number of pregnancies at risk of malaria in 2007: A demographic study. *PLoS Med*, 2010 7(1):e1000221.
9. *World malaria report 2013*. Geneva, World Health Organization, 2013 ([http://www.who.int/malaria/publications/world\\_malaria\\_report\\_2013/en/](http://www.who.int/malaria/publications/world_malaria_report_2013/en/), accessed 30 November 2014).
10. *Seasonal malaria chemoprevention with sulfadoxine-pyrimethamine plus amodiaquine in children: A field guide*. Geneva, World Health Organization, 2013 (<http://www.who.int/malaria/publications/atoz/9789241504737/en/index.html>, accessed 15 October 2013).
11. World Health Organization (WHO). *Malaria rapid diagnostic test performance – Results of who product testing of malaria rdt: Round 5*. WHO, Foundation for Innovative New Diagnostics (FIND), Centers for Disease Control and Prevention (CDC), 2014 ([http://apps.who.int/iris/bitstream/10665/128678/1/9789241507554\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/128678/1/9789241507554_eng.pdf?ua=1&ua=1), accessed 17 November 2014).
12. Willcox M.L., Sanogo F., Graz B., Forster M., Dakouo F., Sidibe O. et al. Rapid diagnostic tests for the home-based management of malaria, in a high-transmission area. *Ann Trop Med Parasitol*, 2009 103(1):3-16 (<http://www.ncbi.nlm.nih.gov/pubmed/19173772>, accessed 26 November 2014).
13. Keating J., Miller J.M., Bennett A., Moonga H.B., Eisele T.P. Plasmodium falciparum parasite infection prevalence from a household survey in Zambia using microscopy and a rapid diagnostic test: implications for monitoring and evaluation. *Acta Tropica*, 2009 112(3):277-282 (<http://www.sciencedirect.com/science/article/pii/S0001706X09002411>, accessed 26 November 2014).
14. Aydin-Schmidt B., Mubi M., Morris U., Petzold M., Ngasala B.E., Premji Z. et al. Usefulness of Plasmodium falciparum-specific rapid diagnostic tests for assessment of parasite clearance and detection of recurrent infections after artemisinin-based combination therapy. *Malaria Journal*, 2013 12(1):349 (<http://www.malariajournal.com/content/pdf/1475-2875-12-349.pdf>, accessed 26 November 2014).
15. O'Donnell O., van Doorslaer E., Wagstaff A. *Analyzing health equity using household survey data: A guide to techniques and their implementation*. Washington, Lindelow, Magnus, 2008.
16. Cibulskis R.E., Aregawi M., Williams R., Otten M., Dye C. Worldwide incidence of malaria in 2009: estimates, time trends, and a critique of methods. *PLoS Med*, 2011 8(12):e1001142 (<http://www.ncbi.nlm.nih.gov/pubmed/22205883>, accessed 25 November 2014).
17. Cibulskis R.E., Bell D., Christophel E.M., Hii J., Delacollette C., Bakyaita N. et al. Estimating trends in the burden of malaria at country level. *Am J Trop Med Hyg*, 2007 77(6 Suppl):133-137 (<http://www.ncbi.nlm.nih.gov/pubmed/18165485>, accessed 25 November 2014).
18. *World malaria report 2012*. Geneva, World Health Organization, 2012 ([http://www.who.int/malaria/publications/world\\_malaria\\_report\\_2012/en/index.html](http://www.who.int/malaria/publications/world_malaria_report_2012/en/index.html), accessed 15 October 2013).
19. Gething P.W., Patil A.P., Smith D.L., Guerra C.A., Elyazar I.R., Johnston G.L. et al. A new world malaria map: Plasmodium falciparum endemicity in 2010. *Malar J*, 2011 10:378.
20. *World malaria report 2008 (WHO/HTM/GMP/2008.1)*. Geneva, World Health Organization, 2008 ([http://www.who.int/malaria/publications/world\\_malaria\\_report\\_2012/en/index.html](http://www.who.int/malaria/publications/world_malaria_report_2012/en/index.html), accessed 15 October 2013).
21. Korenromp E. *Malaria incidence estimates at country level for the year*. Geneva, World Health Organization, 2005 ([www.who.int/malaria/publications/atoz/incidence\\_estimations2.pdf](http://www.who.int/malaria/publications/atoz/incidence_estimations2.pdf), accessed 26 November 2014).
22. *Global burden of disease: 2004 update*. Geneva, World Health Organization, 2008 ([http://www.who.int/healthinfo/global\\_burden\\_disease/2004\\_report\\_update/en/index.html](http://www.who.int/healthinfo/global_burden_disease/2004_report_update/en/index.html), accessed 25 November 2014).
23. Johnson H.L., Liu L., Fischer-Walker C., Black R.E. Estimating the distribution of causes of death among children age 1-59 months in high-mortality countries with incomplete death certification. *Int J Epidemiol*, 2010 39(4):1103-1114 (<http://www.ncbi.nlm.nih.gov/pubmed/20519334>, accessed 26 November 2014).

24. Black R.E., Cousens S., Johnson H.L., Lawn J.E., Rudan I., Bassani D.G. et al. Global, regional, and national causes of child mortality in 2008: A systematic analysis. *Lancet*, 2010 375(9730):1969-1987.
25. Liu L., Oza S., Hogan D., Perin J., Rudan I., Lawn J.E. et al. Global, regional, and national causes of child mortality in 2000-13, with projections to inform post-2015 priorities: an updated systematic analysis. *Lancet*, 2014 (<http://www.ncbi.nlm.nih.gov/pubmed/25280870>, accessed 19 November 2014).
26. Ross A., Maire N., Molineaux L., Smith T. An epidemiologic model of severe morbidity and mortality caused by *Plasmodium falciparum*. *The American Journal of Tropical Medicine and Hygiene*, 2006 75(2):63-73 ([http://www.ajtmh.org/content/75/2\\_suppl/63.full.pdf](http://www.ajtmh.org/content/75/2_suppl/63.full.pdf), accessed 26 November 2014).
27. Gething P.W., Elyazar I.R., Moyes C.L., Smith D.L., Battle K.E., Guerra C.A. et al. A long neglected world malaria map: *Plasmodium vivax* endemicity in 2010. *PLoS Negl Trop Dis*, 2012 6(9):e1814 (<http://www.ncbi.nlm.nih.gov/pubmed/22970336>, accessed 20 November 2013).

# Annex 2A – Recommended policies and strategies for malaria control, 2013

WHO region	Country/area	Programme Phase	Insecticide-treated nets			Indoor residual spraying			Treatment							Malaria in pregnancy			
			ITNs/LLINs are distributed for free	ITNs/LLINs are distributed to all age groups	ITNs/LLINs distributed through mass campaigns to all age groups	IRS is recommended by malaria control program	DDT is used for IRS	ACT policy adopted	Patients of all ages should get diagnostic test	Malaria diagnosis is free of charge in the public sector	RDTs used at community level	Pre-referral treatment with quinine or artemether IM or artesunate suppositories	Single dose of primaquine is used as gametocidal medicine for <i>P. falciparum</i> <sup>1</sup>	Primaquine is used for radical treatment of <i>P. vivax</i> cases	GPPD test is recommended before treatment with primaquine	Directly observed treatment with primaquine is undertaken	IPTp used to prevent malaria during pregnancy	Seasonal malaria chemoprevention (SMC) or IPTc is used	
African	Algeria	Elimination	N	N	-	Y	N	NA	-	Y	-	Y	Y	Y	Y	Y	-	-	
	Angola	Control	Y	N	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Benin	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Botswana	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Burkina Faso	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Burundi	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Cabo Verde	Pre-elimination	N	N	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Cameroon	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Central African Republic	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Chad	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Comoros	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Congo	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Côte d'Ivoire	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Democratic Republic of the Congo	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Equatorial Guinea	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Eritrea	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Ethiopia	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Gabon	Control	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Gambia	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Ghana	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Guinea	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Guinea-Bissau	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Kenya	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Liberia	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Madagascar	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Malawi	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Mali	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Mauritania	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Mauritania	Elimination	Y	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mayotte, France	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Mozambique	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Namibia	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Niger	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Nigeria	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Rwanda	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sao Tome and Principe	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Senegal	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Sierra Leone	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	South Africa	Control	N	N	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	South Sudan <sup>2</sup>	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Swaziland	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Togo	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Uganda	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	United Republic of Tanzania	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	United Republic of Tanzania (Mainland)	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	United Republic of Tanzania (Zanzibar)	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Zambia	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Zimbabwe	Control	Y	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		



WHO region	Country/area	Programme Phase	Insecticide-treated nets			Indoor residual spraying		Treatment							Malaria in pregnancy			
			ITNs/LLINs are distributed for free	ITNs/LLINs are distributed to all age groups	ITNs/LLINs distributed through mass campaigns to all age groups	IRS is recommended by malaria control program	DDT is used for IRS	ACT policy adopted	Patients of all ages should get diagnostic test	Malaria diagnosis is free of charge in the public sector	RDIs used at community level	Pre-referral treatment with quinine or artemether IM or artesunate suppositories	Single dose of primaquine is used as gametocidal medicine for <i>P. falciparum</i> <sup>1</sup>	Primaquine is used for radical treatment of <i>P. vivax</i> cases	GpD tests recommended before treatment with primaquine	Directly observed treatment with primaquine is undertaken	IPT used to prevent malaria during pregnancy	Seasonal malaria chemoprevention (SMC) or IPTc is used
Eastern Mediterranean	Afghanistan	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Djibouti	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
	Iran (Islamic Republic of)	Elimination	Y	Y	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Pakistan	Control	Y	N	N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Saudi Arabia	Elimination	Y	-	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Somalia	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
	Sudan	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
	Yemen	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Azerbaijan	Elimination	Y	N	-	Y	N	NA	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Kyrgyzstan	Prevention of re-introduction	Y	Y	-	Y	N	-	-	Y	Y	Y	Y	Y	Y	Y	NA	NA
Region of the Americas	Tajikistan	Elimination	Y	Y	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Turkey	Elimination	N	N	-	Y	N	NA	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Uzbekistan	Prevention of re-introduction	Y	Y	-	Y	N	-	-	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Argentina	Elimination	N	N	N	Y	N	NA	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Belize	Pre-elimination	Y	Y	Y	Y	N	NA	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Bolivia (Plurinational State of)	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Brazil	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Colombia	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Costa Rica	Elimination	Y	Y	Y	Y	N	NA	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Dominican Republic	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
Ecuador	Pre-elimination	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
El Salvador	Pre-elimination	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
French Guiana, France	Control	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Guatemala	Control	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Guyana	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Haiti	Control	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Honduras	Control	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Mexico	Pre-elimination	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Nicaragua	Control	Y	Y	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Panama	Control	Y	N	Y	Y	N	Y	NA	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Paraguay	Elimination	N	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Peru	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Suriname	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
Venezuela (Bolivarian Republic of)	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA	
South-East Asia	Bangladesh	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Bhutan	Pre-elimination	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Democratic People's Republic of Korea	Pre-elimination	Y	Y	-	Y	N	NA	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	India	Control	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Indonesia	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Myanmar	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Nepal	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Sri Lanka	Elimination	Y	Y	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Thailand	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Timor-Leste	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
Western Pacific	Cambodia	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	China	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Lao People's Democratic Republic	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA
	Malaysia	Pre-elimination	Y	Y	-	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	NA	NA

## Annex 2A – Recommended policies and strategies for malaria control, 2013 (continued)

WHO region	Country/area	Programme Phase	Insecticide-treated nets			Indoor residual spraying		ACT policy adopted	Patients of all ages should get diagnostic test	Malaria diagnosis is free of charge in the public sector	RDTs used at community level	Treatment				Malaria in pregnancy	
			ITNs/LLINs are distributed for free	ITNs/LLINs are distributed to all age groups	ITNs/LLINs distributed through mass campaigns to all age groups	IRS is recommended by malaria control program	DDT is used for IRS					Pre-referral treatment with quinine or artemether IM or artesunate suppositories	Single dose of primaquine gametocidal medicine for <i>P. falciparum</i> <sup>1</sup>	Primaquine is used for radical treatment of <i>P. vivax</i> cases	GPPD test is recommended before treatment with primaquine	Directly observed treatment with primaquine undertaken	IPTp used to prevent malaria during pregnancy
Western Pacific	Papua New Guinea	Control	Y	Y	Y	Y	N	Y	Y	N	Y	Y	N	N	Y	N	
	Philippines	Control	Y	Y	N	Y	N	Y	Y	Y	Y	Y	Y	Y	NA	NA	
	Republic of Korea	Elimination	Y	N	-	-	N	NA	Y	Y	-	Y	N	N	NA	NA	
	Solomon Islands	Control	Y	Y	N	Y	N	Y	Y	Y	N	Y	Y	N	NA	Y	
	Vanuatu	Control	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	NA	NA	
	Viet Nam	Control	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	NA	NA	

(Y) = Actually implemented.

(N) = Not implemented.

(NA) = Not applicable.

(-) = Question not answered or not applicable.

1. Single dose of primaquine (0.75 mg base/kg).

2. In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))



# Annex 2B – Antimalarial drug policy, 2013

WHO region	Country/area	<i>P. falciparum</i>				Prevention during pregnancy	Treatment
		Uncomplicated unconfirmed	Uncomplicated confirmed	Severe	Prevention during pregnancy		
African	Algeria	-	-	-	-	-	CQ
	Angola	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Benin	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Botswana	AL	AL	QN	CO+PG	CO+PG	-
	Burkina Faso	AL; AS+AQ	AL; AS+AQ	AS; QN	SP (IPT)	SP (IPT)	-
	Burundi	AS+AQ	AS+AQ	AS; QN	-	-	-
	Cabo Verde	AL	AL	QN	CQ	CQ	-
	Cameroon	AS+AQ	AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Central African Republic	AL	AL	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Chad	AL; AS+AQ	AL; AS+AQ	AS; QN	SP (IPT)	SP (IPT)	-
	Comoros	AL	AL	QN	SP (IPT)	SP (IPT)	-
	Congo	AS+AQ	AS+AQ	QN	SP (IPT)	SP (IPT)	-
	Côte d'Ivoire	AS+AQ	AS+AQ	QN	SP (IPT)	SP (IPT)	-
	Democratic Republic of the Congo	AS+AQ	AS+AQ	AS; QN	SP (IPT)	SP (IPT)	-
	Equatorial Guinea	AS+AQ	AS+AQ	AS	-	-	-
	Eritrea	AS+AQ	AS+AQ	QN	-	-	AS+AQ+PQ
	Ethiopia	AL	AL	AS; AM; QN	-	-	CQ
	Gabon	AS+AQ	AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Gambia	AL	AL	QN	SP (IPT)	SP (IPT)	-
	Ghana	AS+AQ	AL; AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Guinea	AS+AQ	AS+AQ	AS	SP (IPT)	SP (IPT)	-
	Guinea-Bissau	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Kenya	AL	AL	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Liberia	AS+AQ	AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Madagascar	AS+AQ	AS+AQ	QN	SP (IPT)	SP (IPT)	-
	Malawi	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Mali	AS+AQ	AL; AS+AQ	QN	SP (IPT)	SP (IPT)	-
	Mauritania	AS+AQ	AL; AS+AQ	QN	-	-	CQ+PQ
	Mayotte, France	-	AL	-	-	-	-
	Mozambique	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Namibia	AL	AL	QN	SP (IPT)	SP (IPT)	AL
	Niger	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Nigeria	AL; AS+AQ	AL; AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Rwanda	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	Sao Tome and Principe	AS+AQ	AS+AQ	QN	SP (IPT)	SP (IPT)	-
	Senegal	AS+AQ	AL; AS+AQ	AS; QN	SP (IPT)	SP (IPT)	-
	Sierra Leone	AS+AQ	AL; AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	South Africa	-	AL; QN+CL; QN+D	QN	CO+PG	CO+PG	AL+PQ; CO+PQ
	South Sudan <sup>1</sup>	AS+AQ	AS+AQ	AM; AS; QN	SP (IPT)	SP (IPT)	AS+AQ+PQ
	Swaziland	-	AL	AS	CO+PG	CO+PG	-
	Togo	AL; AS+AQ	AL; AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Uganda	AL	AL	AS; QN	SP (IPT)	SP (IPT)	-
	United Republic of Tanzania	AL; AS+AQ	AL; AS+AQ	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Mainland	AL	AL	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Zanzibar	AS+AQ	AS+AQ	AS; QN	SP (IPT)	SP (IPT)	-
	Zambia	AL	AL	AS; AM; QN	SP (IPT)	SP (IPT)	-
	Zimbabwe	AL	AL	QN	SP (IPT)	SP (IPT)	-
Eastern Mediterranean	Zimbabwe	AL	AL	QN	SP (IPT)	SP (IPT)	-
	Afghanistan	CQ	AS+SP+PQ	AM; AS; QN	-	-	CO+PQ(8w)
	Djibouti	AL	AL+PQ	QN	-	-	CO+PQ (14d)
	Iran (Islamic Republic of)	-	AS+SP; AS+SP+PQ	AS; QN+D	-	-	CO+PQ(14d & 8w)
	Pakistan	CQ	AS+SP+PQ	AS; QN	-	-	CO+PQ(14d)
	Saudi Arabia	-	AS+SP+PQ	AM; AS; QN	-	-	CO+PQ(14d)
	Somalia	AS+SP	AS+SP	AS; QN	-	-	CQ+PQ
Sudan	AS+SP	AS+SP	AM; QN	-	-	AL+PQ(14d)	
Yemen	AS+SP	AS+SP	AM; QN	-	-	CO+PQ(14d)	

WHO region	Country/area	<i>P. falciparum</i>			Prevention during pregnancy	Treatment	
		Uncomplicated unconfirmed	Uncomplicated confirmed	Severe			
<b>European</b>	Azerbaijan	AS+SP	AS+SP	AS; QN	-	CO+PQ(14d)	
	Kyrgyzstan	-	-	-	-	CO+PQ(14d)	
	Tajikistan	-	AL	QN	-	CO+PQ(14d)	
	Turkey	-	-	-	-	CO+PQ(14d)	
	Uzbekistan	-	-	-	-	CO+PQ(14d)	
	<b>Region of the Americas</b>	Argentina	-	AL+PQ	-	-	CO+PQ
		Belize	-	CO+PQ (1d)	QN	-	CO+PQ(14d)
		Bolivia (Plurinational State of)	-	AS+MQ+PQ	QN	-	CO+PQ(7d)
		Brazil	-	AL+PQ(1d); AS+MQ+PQ(1d)	AMH+CL; AS+CL; QN+CL	-	CO+PQ(7d)
		Colombia	-	AL	AS	-	CO+PQ(14d)
		Costa Rica	-	CO+PQ(1d)	QN	-	CO+PQ(7d); CO+PQ(14d)
		Dominican Republic	-	CO+PQ(1d)	CQ; QN	-	CO+PQ(14d)
		Ecuador	-	AL+PQ	QN	-	CO+PQ(14d)
		El Salvador	-	CO+PQ(1d)	QN	-	CO+PQ
French Guiana, France		-	AL; AT+PQ	AS; QN+D	-	CO+PQ(14d)	
Guatemala		-	CO+PQ(3d)	CQ	-	CO+PQ(14d)	
Guyana		-	AL+PQ(1d)	AM	-	CO+PQ(14d)	
Haiti		-	CO+PQ(1d)	QN	-	CO+PQ(14d)	
Honduras		-	CO+PQ(1d)	QN	-	CO+PQ(14d)	
<b>South-East Asia</b>	Mexico	-	CQ+PQ	-	-	CO+PQ	
	Nicaragua	-	CO+PQ(1d)	QN	-	CO+PQ(7d)	
	Panama	-	AL+PQ(1d)	QN	-	CO+PQ(7d); CO+PQ(14d)	
	Paraguay	-	AL+PQ	AS	-	CO+PQ	
	Peru	-	AS+MQ	AS+MQ	-	CO+PQ	
	Suriname	-	AL+PQ	AS	-	CO+PQ(14d)	
	Venezuela (Bolivarian Republic of)	-	AS+MQ+PQ	AM; QN	-	CO+PQ(14d)	
	Bangladesh	-	AL	AM; QN	-	CO+PQ(14d)	
	Bhutan	-	AL	AM; QN	-	CO+PQ(14d)	
	Democratic People's Republic of Korea	-	-	-	-	CO+PQ(14d)	
	India	CO	AS+SP+PQ	AM; AS; QN	-	CO+PQ(14d)	
	Indonesia	-	AS+AQ; DHA-PP+PQ	AM; AS; QN	-	AS+AQ; DHA-PP+PQ(14d)	
	Myanmar	-	AL; AM; AS+MQ; DHA-PPQ; PQ	AM; AS; QN	-	CO+PQ(14d)	
	Nepal	CO	AL+PQ	AS; QN	-	CO+PQ(14d)	
Sri Lanka	-	AL+PQ	QN	-	CO+PQ(14d)		
Thailand	-	AS+MQ	QN+D	-	CO+PQ(14d)		
<b>Western Pacific</b>	Timor-Leste	-	AL	AM; AS; QN	-	CO+PQ(14d)	
	Cambodia	-	AS+MQ; DHA-PPQ+PQ	AM; QN	-	DHA-PPQ	
	China	-	ART+NQ; ART-PPQ; AS+AQ; DHA-PPQ	AM; AS; PYR	-	CO+PQ(8d)	
	Lao People's Democratic Republic	-	AL	AS+AL	SP(IPT)	AL	
	Malaysia	-	AS+MQ	QN+T	-	CO+PQ(14d)	
	Papua New Guinea	-	AL	AM; AS	SP(IPT)	AL+PQ	
	Philippines	AL	AL+PQ	QN+T; QN+CL; QN+D	SP(IPT)	CO+PQ(14d)	
	Republic of Korea	CO	-	-	-	CO+PQ(14d)	
	Solomon Islands	AL	AL	AL; AS	CQ	AL+PQ(14d)	
	Vanuatu	-	AL	QN	CO(weekly)	AL+PQ(14d)	
	Viet Nam	-	DHA-PPQ	AS; QN	CO(weekly)	CO+PQ(14d)	
	AL=Artemether-lumefantrine AM=Artemether AQ=Amodiaquine ART=Artemisinin	AS= Artesunate					
		AT= Atovaquone					
		CL= Clindamycin					
CQ= Chloroquine							
D=Doxycycline							
DHA=Dihydroartemisinin							
MQ=Mefloquine							
NQ=Naphthoquine							
PG=Proguanil							
PPQ=Piperazine							
PQ=Primaquine							
PYR=Pyronaridine							
QN=Quinine							
SP=Sulphadoxine-pyrimethamine							
T=Tetracycline							

1 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.2, [http://apps.who.int/gip/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gip/ebwha/pdf_files/WHA66/A66_R21-en.pdf))

# Annex 3 – Funding for malaria control, 2011–2013

WHO region	Country/area	Year	Contributions reported by donors				Contributions reported by countries							
			Global Fund <sup>1</sup>	PMU/US\$ <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMU/US\$	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>
African	Algeria	2011	-	-	-	-	31 477 010	0	-	-	0	17 000	-	0
		2012	-	-	-	-	98 151 555	0	-	-	0	33 000	-	0
		2013	-	-	-	-	0 <sup>4</sup>	-	-	-	-	-	-	0
	Angola	2011	0	30 648 000	70 700	0	66 637 986 <sup>4</sup>	-	-	30 614 000	-	-	-	-
		2012	7 070 000	30 199 300	0	0	57 415 819 <sup>4</sup>	2 135 717	-	30 750 000	1 000 000	-	-	1 000 000
		2013	25 220 000	28 550 000	-	-	64 047 348 <sup>4</sup>	19 286 339	-	27 200 000	-	-	3 555 239	-
	Benin	2011	5 470 000	18 477 300	2 019 107	0	200 000 <sup>4</sup>	18 060 813	0	21 000 000	0	660 000	248 540	0
		2012	5 533 925	17 900 000	-	-	1 500 000 <sup>4</sup>	9 011 888	-	16 100 000	-	660 000	1 23 571	-
		2013	27 650 000	16 650 000	33 000	-	-	-	-	-	-	-	-	-
	Botswana	2011	-	-	-	-	2 250 933	-	-	-	1 171 250	-	-	1 171 250
		2012	-	-	-	-	1 921 908	-	-	-	250 000	-	-	250 000
		2013	-	-	0	-	1 947 775	0	-	0	0	-	0	0
	Burkina Faso	2011	10 500 000	-	-	-	6 482 938	2 546 429	0	2 072 216	34 903	99 027	140 253	0
		2012	38 000 000	-	-	-	11 380 472	4 834 000	0	2 698 000	16 600	29 500	14 000	0
		2013	9 400 000	-	1 980 000	-	58 920 267	40 645 351	0	8 552 723	0	37 800	521 760	942 955
	Burundi	2011	6 149 217	-	-	-	147 422 <sup>4</sup>	8 661 526	-	5 988 000	94 000	266 540	708 425	94 000
		2012	1 018 766	-	-	-	22 000 <sup>4</sup>	4 382 754	-	8 000 000	1 031 803	94 294	1 540 000	2 602 730
		2013	22 750 000	-	-	-	22 000 <sup>4</sup>	4 419 879	-	9 260 000	-	65 000	373 532	-
	Cabo Verde	2011	-	-	-	-	604 871 <sup>4</sup>	-	-	-	-	-	-	-
		2012	364 436	-	-	-	481 264 <sup>4</sup>	-	-	-	-	-	-	-
		2013	893 000	-	-	-	397 920	555 169	-	-	-	130 448	-	-
Cameroon	2011	66 200 000	-	-	-	5 150 943 <sup>4</sup>	55 336 850	0	0	0	313 300	-	0	
	2012	1 551 732	-	-	-	3 178 626 <sup>4</sup>	11 655 745	0	0	0	449 000	1 196 800	0	
	2013	10 880 000	-	-	-	5 246 883 <sup>4</sup>	15 293 706	-	-	5 415 537	904 218	118 341	5 415 537	
Central African Republic	2011	723 324	-	-	-	34 000 <sup>4</sup>	481 345	-	0	0	100 000	-	0	
	2012	3 578 002	-	-	-	371 463 <sup>4</sup>	-	-	0	74 535	-	219 747	0	
	2013	12 280 000	-	-	-	160 000	5 342 710	0	0	0	-	2 000 000	-	
Chad	2011	4 208 387	-	-	-	600 000 000 <sup>4</sup>	-	-	-	-	-	-	-	
	2012	-	-	-	-	-	-	-	-	-	-	-	-	
	2013	34 670 000	-	0	-	-	-	-	-	-	-	-	-	
Comoros	2011	1 106 246	-	-	-	114 215 <sup>4</sup>	773 425	-	0	0	137 000	-	0	
	2012	127 142	-	-	-	225 621 <sup>4</sup>	-	-	0	0	20 000	-	-	
	2013	3 540 000	-	-	-	137 147	499 000	-	0	0	40 000	5576	0	
Congo	2011	1 262 613	-	-	-	-	3 982 625	-	-	-	-	-	-	
	2012	1 035 856	-	-	-	6 956 815 <sup>4</sup>	4 740 367	-	-	-	-	-	-	
	2013	736 000	-	-	-	0	0	-	0	0	45 000	10 000	0	
Côte d'Ivoire	2011	14 300 000	-	-	-	34 964 064 <sup>4</sup>	27 941 028	-	-	244 000	2 605 303	69 012	307 749	
	2012	17 900 000	-	-	-	-	-	-	-	336 278	-	-	-	
	2013	45 350 000	-	-	-	4 663 194 <sup>4</sup>	74 853 096	-	-	2 44 000	36 338	49 780	244 000	
Democratic Republic of the Congo	2011	2 106 190	35 700 000	-	25 900 000	7 812 690	33 775 293	58 805 836	18 000 000	36 765 988	-	2 389 964	36 765 988	
	2012	105 000 000	37 000 000	-	-	303 835	64 140 129	73 719 913	34 930 000	45 000	520 000	5 584 965	12 575 325	
	2013	58 210 000	34 000 000	8 460 000	4 750 000	7 812 690	86 281 277	2 952 042	37 001 000	0	0	1 790 452	35 020 370	
Equatorial Guinea	2011	2 599 520	-	-	-	5 251 694 <sup>4</sup>	3 425 062	-	-	3 135 452	-	-	3 135 452	
	2012	-310 000	-	-	-	2 659 791 <sup>4</sup>	-	-	-	5 319 581	-	-	5 319 581	
	2013	0	-	-	-	2 582 747 <sup>4</sup>	0	-	-	4 490 030	-	-	4 490 030	
Eritrea	2011	4 908 106	-	-	-	-	10 722 859	0	0	0	0	0	0	
	2012	8 229 050	-	-	-	-	11 157 713	0	0	0	0	0	0	
	2013	14 460 000	-	-	-	-	15 871 769	-	-	-	-	-	-	
Ethiopia	2011	51 900 000	41 400 000	-	-	-	32 231 572	-	-	-	171 357	27 243	-	
	2012	23 800 000	41 500 000	-	-	-	42 424 919	-	-	-	0	-	-	
	2013	113 140 000	43 770 000	-	-	19 705 028	85 723 876	-	29 370 000	-	111 677	-	15 000 000	
Gabon	2011	-	-	-	-	-	-	-	-	-	-	-	-	
	2012	-270 000	-	-	-	-	-	-	-	-	-	-	-	
		2013	0	-	-	226 596	0	0	0	0	11 276	0	-	

WHO region	Country/area	Year	Contributions reported by donors				Contributions reported by countries							
			Global Fund <sup>1</sup>	PMI/USAID <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMI/USAID	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>
African	Gambia	2011	7 119 980	-	-	-	613 412	8 835 940	0	0	89 000	40 000	4800	0
		2012	5 393 233	-	-	-	597 812	4 107 095	-	-	119 149	134 306	-	119 149
		2013	9 290 000	-	-	-	726 578	4 919 685	0	0	16 000	16 000	26 229	100 000
	Ghana	2011	-	30 400 000	-	8 566 783	6 663 582	53 169 328	400 000	34 000 000	250 000	300 000	2 000 000	16 000 000
		2012	24 600 000	30 800 000	-	-	7 700 154	34 668 998	0	27 010 000	581	200 000	79 490	7 911 545
		2013	67 800 000	28 550 000	3 480 000	2 010 000	8 736 726	67 804 357	0	27 000 000	38 817	47 050	0	-
	Guinea	2011	-	9 985 000	-	-	-	-	-	-	-	49 500	-	-
		2012	20 100 000	10 000 000	-	-	50 880	1 705 505	-	10 000 000	6 773 166	41 060	15 736	6 773 166
		2013	4 600 000	12 370 000	-	-	3 015 335	-	-	10 000 000	-	-	-	-
	Guinea-Bissau	2011	2 922 931	-	-	-	79 269 000 <sup>4</sup>	1 070 641	0	0	99 750	68 000	7 238	0
		2012	255 313	-	-	-	-	18 177	0	0	0	124 135	436 945	0
		2013	7 320 000	-	-	-	0	701 363	0	0	0	73 734	218 811	-
	Kenya	2011	12 200 000	36 400 000	-	17 400 000	2 635 294	38 141 176	6 423 529	35 964 706	20 338 983	-	-	20 338 983
		2012	10 900 000	35 900 000	-	-	2 635 294	9 353 875	8 790 698	35 604 651	232 558	-	337 209	13 111 111
		2013	33 310 000	34 260 000	-	17 520 000	1 372 093	29 089 771	1 127 907	32 400 000	23 457 627	-	0	23 457 627
	Liberia	2011	5 198 534	13 000 000	-	-	-	16 400 946	0	12 000 000	-	19 675	304 750	-
		2012	12 200 000	12 000 000	-	-	-	14 243 081	0	12 000 000	500 000	73 333	0	500 000
		2013	5 880 000	12 000 000	-	-	284 306 <sup>4</sup>	14 026 642	0	12 000 000	-	44 890	340 647	-
	Madagascar	2011	18 400 000	28 700 000	-	-	90 900	19 557 627	0	33 900 000	47 250	153 000	422 624	0
		2012	25 500 000	26 700 000	-	-	95 000	31 371 350	0	28 742 000	51 000	111 315	875 717	0
2013		22 650 000	26 030 000	-	-	15 286	29 994 536	0	27 000 000	369 500	299 000	737 588	0	
Malawi	2011	45 000 000	26 500 000	-	-	720 000	9 720 000	-	21 600 000	3 240 000	-	-	720 000	
	2012	2 473 270	24 200 000	-	-	-	-	-	-	-	-	-	-	
	2013	9 080 000	24 080 000	-	-	-	-	-	-	-	-	-	-	
Mali	2011	-	33 000 000	-	-	2 737 186 <sup>4</sup>	2 858 296	0	4 737 692	3 19 404	92 000	0	319 404	
	2012	-	26 500 000	-	-	1 259 872	0	5 298 930	-	-	52 584	-	-	
	2013	13 850 000	25 010 000	-	-	1 871 915	18 180 392	0	25 500 000	0	92 000	3 092 000	0	
Mauritania	2011	-	-	-	-	11 000 000	0	0	0	0	0	0	0	
	2012	-530 000	-	-	-	170 000	0	0	0	0	0	0	0	
	2013	0	-	-	-	1 130 593	-	-	-	-	11 767	42 583	-	
Mayotte, France	2011	-	-	-	-	-	-	-	-	-	-	-	-	
	2012	-	-	-	-	-	-	-	-	-	-	-	-	
	2013	-	-	-	-	-	-	-	-	-	-	-	-	
Mozambique	2011	7 683 006	33 000 000	-	2 526 054	2 006 991	-	-	-	-	-	-	-	
	2012	29 700 000	29 800 000	-	-	65 800 000	-	-	-	-	-	-	-	
	2013	12 630 000	29 020 000	1 880 000	-	65 800 000	2 497 243	-	29 000 000	-	100 000	2 668 555	-	
Namibia	2011	1 298 393	-	-	-	4 466 719	589 694	0	0	0	0	0	0	
	2012	1 243 974	-	-	-	4 500 000	926 804	0	0	0	0	0	0	
	2013	3 610 000	-	-	-	14 811 934	882 630	0	0	0	100 000	-	0	
Niger	2011	3 300 846	-	-	-	500 000 <sup>4</sup>	529 956	0	0	0	4 500	586 204	0	
	2012	441 165	-	-	-	2 115 926 <sup>4</sup>	225 901	60 000	38 000	0	16 000	816 535	0	
	2013	9 310 000	-	-	15 400 000	7 849 962	19 000 000	0	0	43 000	27 000	4 000 000	-	
Nigeria	2011	29 900 000	51 100 000	-	-	1 740 000	83 083 666	5 492 349	43 600 000	18 908 794	-	35 000	18 908 794	
	2012	123 000 000	55 900 000	-	-	5 541 401	48 592 984	7 040 569	73 271 000	101 837	-	1 000 000	-	
	2013	45 370 000	73 270 000	25 330 000	12 750 000	-	-	-	-	-	-	-	-	
Rwanda	2011	17 000 000	18 700 000	-	-	-	-	-	-	-	-	-	-	
	2012	26 000 000	18 100 000	-	-	-	-	-	-	-	-	-	-	
	2013	22 880 000	18 000 000	-	-	-	-	-	-	-	-	-	-	
Sao Tome and Principe	2011	1 571 589	-	-	-	52 941	1 521 822	0	0	0	54 428	3 000	0	
	2012	-	-	-	-	128 502	926 494	459 294	0	2 000	47 962	3 000	1 022 740	
	2013	3 700 000	-	0	-	1 072 338	1 002 778	0	1 050 830	32 512	0	0	2 000	
Senegal	2011	1 118 536	24 500 000	-	-	118 000	9 620 506	-	21 758 440	-	372 518	617 113	-	
	2012	20 700 000	23 800 000	-	-	213 985 <sup>4</sup>	4 675 836	-	24 500 000	-	12 490	443 356	-	
	2013	3 660 000	24 120 000	62 000	-	404 235 <sup>4</sup>	-	-	-	10 478	43 261	286 406	10 478	
Sierra Leone	2011	13 800 000	-	-	-	1 231 395 <sup>4</sup>	11 763 088	-	-	-	430 000	2812	-	
	2012	2 991 631	-	-	-	26 898	13 216 219	1 952 807	-	112 855	64 000	7 874 921	112 855	
	2013	6 210 000	-	-	-	-	-	-	-	-	-	-	-	

# Annex 3 – Funding for malaria control, 2011–2013 (continued)

WHO region	Country/area	Year	Contributions reported by donors					Contributions reported by countries									
			Global Fund <sup>1</sup>	PMU/US\$ <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMU/US\$ <sup>2</sup>	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>			
African	South Africa	2011	-	-	-	-	13 162 365	-	-	-	-	-	-	8 571 428	-	8 571 428	
		2012	-	-	-	-	24 291 216	-	-	-	-	-	-	254 869	-	254 869	
		2013	-	-	0	-	125 660 300	-	-	-	-	-	-	-	-	-	
	South Sudan <sup>6</sup>	2011	21 800 000	69 200	-	-	530 000 <sup>4</sup>	15 361 962	-	3 000 000	750 000	-	-	6 162 036	-	1 300 000	
		2012	27 000 000	-	-	-	0 <sup>4</sup>	38 496 269	-	6 900 000	2 934 000	842 791	842 791	192 057 566	1 000 000	1 300 000	
		2013	8 720 000	-	-	-	-	46 437 577	-	-	2 934 000	1 000 000	1 000 000	0	4 108 159	4 108 159	
	Swaziland	2011	-	-	-	-	1 002 947	1 924 448	0	0	0	0	0	0	0	0	0
		2012	1 116 084	-	-	-	685 739	1 376 584	-	-	-	-	-	-	-	-	-
		2013	1 340 000	-	-	-	556 245	640 867	0	0	132 445	0	0	132 445	0	0	
	Togo	2011	21 000 000	-	-	-	223 897	-	-	-	14 090	23 832	8674	14 090	8674	14 090	
		2012	239 270	-	-	-	225 535	884 398	-	-	0	0	0	0	0	8747	
		2013	20 510 000	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Uganda	2011	9 465 369	35 300 000	-	914 725	-	56 141 986	-	34 366 813	317 816	2 545 396	2 545 396	40 000	-	40 000	
		2012	83 100 000	34 600 000	-	-	-	83 701 649	-	33 000 000	-	-	-	-	-	-	
		2013	19 510 000	33 000 000	-	27 080 000	-	20 146 401	-	33 781 000	-	-	-	-	-	-	
	United Republic of Tanzania <sup>7</sup>	2011	-	49 900 000	-	59 400	260 823	18 509 587	0	79 898	122 388	4898	4898	43 953	-	52 388	
		2012	-	48 000 000	-	-	554 417	18 031 872	2 281 500	4 288 680	490 000	138 140	138 140	138 140	-	138 140	
		2013	56 330 000	46 060 000	-	-	952 652	142 485 233	0	40 602 700	0	41 153	41 153	0	0	2 528 703	
	Mainland	2011	42 500 000	-	-	-	260 823	17 701 499	0	75 000	70 000	0	0	0	0	0	
		2012	15 200 000	-	-	-	553 167	18 031 872	0	165 480	360 000	0	0	0	0	0	
		2013	52 220 000	46 060 000	-	8 160 000	937 500	140 356 602	0	37 117 700	0	0	0	0	0	2 487 550	
	Zanzibar	2011	1 363 902	-	-	-	0	808 088	0	4898	52 388	4898	4898	43 953	-	52 388	
		2012	-	-	-	-	1 250	0	2 281 500	4 123 200	130 000	138 140	138 140	138 140	-	138 140	
2013		4 110 000	-	-	-	15 152	2 128 631	0	3 485 000	-	41 153	41 153	-	-	41 153		
Zambia	2011	-	-	-	-	279 788	5 282 152	29 401 235	24 000 000	130 000	75 000	75 000	7 215 019	-	7 215 019		
	2012	-	-	-	-	402 975	12 105 399	3 612 027	24 000 000	130 000	50 000	50 000	1 850 000	-	1 850 000		
	2013	29 340 000	24 030 000	10 450 000	4 830 000	185 325	19 361 732	0	24 000 000	204 466	27 318	27 318	3 500 000	0	3 500 000		
Zimbabwe	2011	-	-	-	-	1 200 000	10 063 628	-	12 000 000	0	18 250	18 250	0	0	0		
	2012	-	-	-	-	906 000	19 069 239	-	12 000 000	0	42 000	42 000	2 000	0	2 000		
	2013	9 990 000	15 030 000	-	-	706 200	7 460 006	-	13 000 000	90 060	-	-	-	-	-		
Region of the Americas	Argentina	2011	-	-	-	-	1 082 700 <sup>4</sup>	0	-	-	-	-	-	-	-	-	
		2012	-	-	-	-	1 082 700 <sup>4</sup>	0	-	-	-	-	-	-	-	-	
		2013	-	-	0	-	1 082 700 <sup>4</sup>	0	-	-	0	0	0	0	0	0	
	Belize	2011	-	-	-	-	215 224 <sup>4</sup>	0	-	-	0	0	0	0	0	0	
		2012	-	-	-	-	250 000 <sup>4</sup>	0	-	-	0	0	0	0	0	0	
		2013	-	-	0	-	261 500 <sup>4</sup>	0	-	-	14 223	-	-	-	-	-	
	Bolivia (Plurinational State of)	2011	1 525 890	-	-	-	1 110 000 <sup>4</sup>	1 400 635	0	177 000	0	0	0	0	0	0	
		2012	3 423 745	-	-	-	1 110 097 <sup>4</sup>	1 909 295	0	72 000	0	0	0	0	0	0	
		2013	7 641 225	-	-	-	1 110 097 <sup>4</sup>	365 193	0	0	0	0	0	0	0	0	
Brazil	2011	-	-	-	-	78 565 078 <sup>4</sup>	17 851 837	0	151 079	0	0	0	0	0	0		
	2012	-230 000	-	-	-	61 378 194 <sup>4</sup>	0	0	56 126	0	0	0	0	0	0		
	2013	4 615 661	-	-	-	73 291 509 <sup>4</sup>	0	0	18 700	0	0	0	0	0	0		
Colombia	2011	3 133 235	-	-	-	22 898 987 <sup>4</sup>	5 347 470	0	176 651	52 000	0	0	0	0	0		
	2012	6 740 000	-	-	-	23 100 498 <sup>4</sup>	5 959 287	0	121 177	45 000	0	0	0	0	0		
	2013	-	-	-	-	5 270 000 <sup>4</sup>	4 832 745	0	142 406	0	0	0	0	0	0		
Costa Rica	2011	-	-	-	-	5 350 000 <sup>4</sup>	0	0	0	0	0	0	0	0	0		
	2012	-	-	-	-	4 830 000 <sup>4</sup>	-	-	-	-	-	-	-	-	-		
	2013	-	-	0	-	-	-	-	-	-	-	-	-	-	-		
Dominican Republic	2011	1 423 587	-	-	-	2 153 141 <sup>4</sup>	1 823 682	0	46 155	0	0	0	0	0	0		
	2012	1 475 716	-	-	-	2 068 141 <sup>4</sup>	2 323 120	0	0	0	0	0	0	0	20 776		
	2013	-	-	-	-	1 966 812 <sup>4</sup>	1 158 508	0	0	0	0	0	0	0	0		
Ecuador	2011	1 939 571	-	-	-	3 314 143 <sup>4</sup>	327 863	0	71 590	0	0	0	0	0	0		
	2012	1 690 157	-	-	-	2 003 620 <sup>4</sup>	150 820	0	3595	0	0	0	0	0	0		
	2013	1 110 000	-	-	-	1 852 740 <sup>4</sup>	735 047	-	19 719	50 000	-	-	-	-	-		



WHO region	Country/area	Year	Contributions reported by donors				Contributions reported by countries							
			Global Fund <sup>1</sup>	PMI/ USAID <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMI/ USAID	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>
Region of the Americas	El Salvador	2011	-	-	-	-	3 513 000 <sup>4</sup>	0	0	0	-	0	0	0
		2012	-	-	-	-	3 688 650 <sup>4</sup>	0	-	0	-	0	0	0
		2013	-	-	0	-	2 854 844 <sup>4</sup>	0	-	-	56 948	-	-	-
	French Guiana, France	2011	-	-	-	-	-	0	0	0	-	-	-	-
		2012	-	-	-	-	-	0	0	0	-	-	-	-
		2013	-	-	-	-	-	0	0	0	-	-	-	-
	Guatemala	2011	8 917 396	-	-	-	10 600 000 <sup>4</sup>	3 596 431	0	27 617	0	0	0	0
		2012	2 821 516	-	-	-	5 637 645 <sup>4</sup>	2 780 074	0	11 933	0	5 260	0	0
		2013	-2 089 000	-	-	-	1 385 919 <sup>4</sup>	3 498 024	0	30 622	0	0	0	0
	Guyana	2011	612 352	-	-	-	1 107 340 <sup>4</sup>	-	0	120 000	0	14 000	0	4 000
		2012	425 717	-	-	-	1 075 952 <sup>4</sup>	799 527	0	150 000	0	20 000	0	0
		2013	379 000	-	-	-	904 858 <sup>4</sup>	809 474	0	297 569	0	15 899	0	-
	Haiti	2011	18 400 000	-	-	-	-	1 160 658	-	-	-	25 000	-	-
		2012	4 516 089	-	-	-	-	1 327 642	-	64 222	-	205 000	-	-
		2013	-	-	-	-	2 433 241	1 248 119	-	-	-	169 000	-	-
	Honduras	2011	572 711	-	-	-	990 876 <sup>4</sup>	842 438	0	80 278	0	11 856	0	0
		2012	1 288 990	-	-	-	592 631 <sup>4</sup>	970 940	0	58 936	0	14 546	0	0
		2013	955 000	-	-	-	971 742 <sup>4</sup>	1 106 404	0	99 330	0	0	0	0
	Mexico	2011	-	-	-	-	23 741 789 <sup>4</sup>	0	0	0	0	0	0	0
		2012	-	-	-	-	24 285 354 <sup>4</sup>	0	0	0	0	0	0	0
2013		-	-	0	-	25 256 768 <sup>4</sup>	0	-	-	-	0	-	-	
Nicaragua	2011	2 331 302	-	-	-	320 053 <sup>4</sup>	2 032 089	0	43 163	0	5 433	0	0	
	2012	803 339	-	-	-	439 258 <sup>4</sup>	1 747 908	0	43 163	0	6 001	0	0	
	2013	2 430 000	-	-	-	980 326 <sup>4</sup>	2 075 252	0	37 630	0	0	0	-	
Panama	2011	-	-	-	-	3 798 322 <sup>4</sup>	0	0	110 000	0	0	0	0	
	2012	-	-	-	-	7 919 505 <sup>4</sup>	0	0	23 951	0	15 209	0	0	
	2013	-	-	0	-	7 220 410 <sup>4</sup>	0	0	32 136	0	-	0	-	
Paraguay	2011	-	-	-	-	1 813 409 <sup>4</sup>	0	0	0	0	0	0	0	
	2012	-	-	-	-	2 115 436 <sup>4</sup>	0	0	0	0	5 635	0	0	
	2013	-	-	0	-	5 145 662 <sup>4</sup>	0	-	-	-	0	-	-	
Peru	2011	-	-	-	-	76 268 653 <sup>4</sup>	0	0	0	0	0	0	0	
	2012	-	-	-	-	125 155 514 <sup>4</sup>	0	0	77 438	0	-	0	0	
	2013	-	-	0	-	429 285 <sup>4</sup>	0	0	56 703	0	0	0	0	
Suriname	2011	710 949	-	-	-	-	500 000	0	19 989	0	0	0	0	
	2012	355 313	-	-	-	1 500 000 <sup>4</sup>	355 000	0	19 625	0	100 000	0	-	
	2013	549 000	-	-	-	1 938 592 <sup>4</sup>	550 000	-	140 000	-	-	-	-	
Venezuela (Bolivarian Republic of)	2011	-	-	-	-	790 292 <sup>4</sup>	0	0	0	0	-	-	-	
	2012	-	-	-	-	800 000 <sup>4</sup>	0	0	0	0	-	-	-	
	2013	-	-	0	-	-	0	0	0	0	-	-	-	
Eastern Mediterranean	Afghanistan	2011	1 161 128	-	-	-	7 535 557	-	802 371	-	30 000	-	65 236	
		2012	11 800 000	-	-	-	10 613 985	-	-	-	116 291	-	-	
		2013	17 630 000	-	1 730 000	-	16 651 753	-	-	-	109 068	-	-	
Djibouti	2011	112 748	-	-24 500	-	84 745	206 939	420 117	-	-	-	-	-	
	2012	44 923	-	-	-	1 050 000	48 527	8413	-	-	55 782	142 000	-	
	2013	0	-	-	-	-	-	-	-	-	121 616	200 563	9 200	
Iran (Islamic Republic of)	2011	2 350 551	-	-	-	12 500 000	1 474 935	-	-	-	12 000	-	-	
	2012	8 256 054	-	-	-	9 222 400	5 238 195	-	-	-	12 500	-	-	
	2013	-	-	-	-	5 000 000	-	-	-	-	6 000	-	-	
Pakistan	2011	1 185 971	-	-	-	4 496 398	15 231 843	-	-	-	500 000	-	481 000	
	2012	19 000 000	-	-	-	2 500 000	8 057 177	-	-	-	-	-	-	
	2013	5 850 000	-	-	-	-	-	-	-	-	-	-	-	
Saudi Arabia	2011	-	-	-	-	26 360 000	-	-	-	-	-	-	-	
	2012	-	-	-	-	29 440 000	-	-	-	-	-	-	-	
	2013	-	-	0	-	29 440 000	-	-	-	-	-	-	-	
Somalia	2011	2 594 870	-	-	-	63 250	5 685 340	-	-	-	86 000	-	-	
	2012	22 100 000	-	-	-	-	11 904 217	-	-	200 000	103 400	-	-	
	2013	2 270 000	-	-	-	64 515	15 062 018	-	-	-	138 400	-	-	

# Annex 3 – Funding for malaria control, 2011–2013 (continued)

WHO region	Country/area	Year	Contributions reported by donors				Contributions reported by countries								
			Global Fund <sup>1</sup>	PMU/USID <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMU/USID	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>	
Eastern Mediterranean	Sudan	2011	14 900 000	-	-	-	40 876 334	19 418 808	-	-	1 041 351	114 575	553 635	363 495	
		2012	51 800 000	-	-	-	40 783 892	38 398 132	-	-	-	641 921	494 000	1 680 907	
		2013	35 680 000	-	-	-	34 289 075	34 938 594	-	-	-	475 893	140 000	-	
	Yemen	2011	-	-	-	-	2 293 646	880 150	-	-	80 000	240 000	-	9 084 589	
		2012	-	-	-	-	2 293 646	8 908 540	-	-	-	-	-	5 807 093	
		2013	5 970 000	-	-	-	2 293 553	6 256 730	-	-	200 000	-	-	1 986 444	
	European	Azerbaijan	2011	280 163	-	-	-	3 738 835	610 905	-	-	0	35 000	-	0
			2012	548 346	-	-	-	5 000 968	462 920	-	-	0	35 000	-	0
			2013	554 000	-	-	-	4 827 461	432 570	-	-	-	35 000	-	0
		Kyrgyzstan	2011	1 016 966	-	-	-	70 000	1 114 124	-	-	0	0	-	0
			2012	496 411	-	-	-	70 000	850 061	-	-	0	0	-	0
			2013	580 000	-	-	-	65 000	434 351	-	-	-	25 000	-	0
		Tajikistan	2011	3 305 782	-	-	-	412 825 <sup>4</sup>	3 403 673	-	-	0	15 000	-	0
2012			2 114 927	-	-	-	416 753 <sup>4</sup>	2 068 376	-	-	0	20 000	-	0	
2013			1 310 000	-	-	-	633 740	1 714 393	-	-	-	35 000	-	-	
Turkey		2011	-	-	-	-	21 821 901	0	-	-	0	0	-	0	
		2012	-	-	-	-	22 927 000	0	-	-	0	0	-	0	
		2013	0	-	-	-	-	0	-	-	-	0	-	0	
Uzbekistan		2011	-	-	-	-	1 529 810	583 446	-	-	-	0	-	0	
	2012	-	-	-	-	1 208 161	448 627	-	-	0	0	-	0		
	2013	545 000	-	-	-	1 480 992	288 060	-	-	-	0	-	0		
South-East Asia	Bangladesh	2011	8 873 006	-	-	-	8 686 483 <sup>4</sup>	8 890 744	-	-	-	118 000	-	-	
		2012	3 304 342	-	-	-	4 761 717	7 505 444	439 490	-	-	98 000	-	-	
		2013	16 400 000	-	-	-	4 134 615	8 033 087	-	-	-	399 189	-	-	
	Bhutan	2011	260 267	-	-	-	222 222	-	-	-	22 600	22 600	-	22 600	
		2012	440 259	-	-	-	213 595	292 324	-	-	146 759	27 898	-	146 759	
		2013	405 000	-	-	-	-	-	-	-	-	-	-	-	
	Democratic People's Republic of Korea	2011	4 756 310	-	-	-	1 875 000	2 500 899	-	-	-	23 000	-	-	
		2012	3 163 494	-	-	-	1 882 000	6 568 434	-	-	-	5 000	-	-	
		2013	2 710 000	-	-	-	1 895 000	2 706 329	-	-	-	25 000	-	-	
	India	2011	3 260 689	-	-	-	99 525 920	6 496 121	30 898 403	-	-	-	-	-	
		2012	11 500 000	-	-	-	47 240 020	7 863 868	16 696 978	-	-	-	-	-	
		2013	7 170 000	-	15 800 000	-	51 336 600	4 811 540	4 299 233	-	-	-	-	-	
	Indonesia	2011	18 800 000	-	-	-	-	40 573 846	0	-	0	222 222	3 111 111	0	
2012		18 800 000	-	-	-	-	11 072 851	0	-	0	51 141	471 362	0		
2013		31 050 000	-	-	-	-	34 580 791	0	-	0	400 000	3 525 000	0		
Myanmar	2011	-	-	-	1 814 419	1 259 002	5 900 000	-	-	-	-	-	-		
	2012	19 800 000	-	-	-	1 000 000	10 513 382	-	5 500 000	1 757 475	142 500	948 890	870 441		
	2013	15 030 000	-	-	2 340 000	1 028 807	14 863 117	5 400 000	-	142 500	1 000 000	-	-		
Nepal	2011	-	-	-	-	192 361	1 907 500	0	-	0	46 500	0	3 559 305		
	2012	6 182 591	-	-	-	726 465	2 960 440	-	-	-	46 500	-	-		
	2013	4 920 000	-	-	-	1 910 485	3 110 685	-	-	-	46 500	-	-		
Sri Lanka	2011	4 384 546	-	-	-	1 800 000	5 316 488	-	-	-	18 000	-	-		
	2012	2 618 112	-	-	-	572 945	1 442 758	-	-	-	7 400	-	-		
	2013	3 880 000	-	-	-	601 528	1 382 732	-	-	-	10 000	-	-		
Thailand	2011	13 800 000	-	-	-	15 252 969	3 002 074	-	77 541	566 115	61 408	-	566 115		
	2012	7 152 655	-	-	-	7 098 780	16 246 556	-	-	79 772	104 979	-	79 772		
	2013	11 330 000	-	-	-	5 893 255	9 937 671	-	2 783 111	-	139 166	-	70 833		
Timor-Leste	2011	774 076	-	-	-	2 278 680	3 902 662	0	0	0	41 920	0	0		
	2012	5 040 394	-	-	-	2 687 572	5 375 143	0	0	80 000	25 000	0	0		
	2013	2 600 000	-	-	-	2 981 432	4 372 545	-	-	-	65 012	-	120 000		
Western Pacific	Cambodia	2011	15 300 000	-	-	-	3 127 120	39 422 203	0	0	0	380 347	0	60 000	
		2012	1 441 288	-	-	-	3 427 795	22 685 407	0	456 796	6 407 41	201 718	0	0	
		2013	12 110 000	-	-	-	3 484 029	13 240 888	0	3 996 624	0	431 792	0	-	

WHO region	Country/area	Year	Contributions reported by donors				Contributions reported by countries								
			Global Fund <sup>1</sup>	PMI/ USAID <sup>2</sup>	The World Bank <sup>3</sup>	DFID <sup>4</sup>	Government	Global Fund	The World Bank	PMI/ USAID	Other bilaterals	WHO	UNICEF	Other contributions <sup>5</sup>	
Western Pacific	China	2011	4 782 175	-	-	-	-	24 430 525	-	-	-	-	-	-	-
		2012	12 800 000	-	-	-	-	33 697 258	-	-	-	-	-	-	-
		2013	1 860 000	-	-	-	16 812 725	0	0	0	0	0	0	0	0
	Lao People's Democratic Republic	2011	7 010 161	-	-	-	470 764	4 326 267	0	0	0	46 000	0	0	0
		2012	6 394 182	-	-	-	1 361 672	3 745 346	0	271 773	20 000	0	0	2500	0
		2013	3 260 000	406 000	-	-	1 122 915	4 038 937	0	1 201 132	20 000	0	0	0	0
	Malaysia	2011	-	-	-	-	37 844 710	0	-	-	0	0	0	0	0
		2012	-	-	-	-	44 424 578	-	-	-	-	-	-	-	-
		2013	-	-	0	-	39 845 997	-	-	-	0	0	0	0	8 968 127
	Papua New Guinea	2011	10 600 000	-	-	-	190 200	23 842 245	0	0	0	200 000	0	0	0
		2012	22 970 000	-	-	-	584 290 <sup>4</sup>	-	-	-	-	-	-	-	-
		2013	22 970 000	-	-	-	388 000	25 311 547	0	0	0	0	0	0	0
	Philippines	2011	1 665 107	-	-	-	3 969 519 <sup>4</sup>	12 322 318	0	0	0	75 000	0	0	2 501 000
		2012	4 271 657	-	-	-	3 939 519 <sup>4</sup>	7 224 199	0	0	0	0	0	0	0
		2013	4 810 000	-	-	-	5 235 686	8 612 874	0	0	0	315 326	0	0	22 220
	Republic of Korea	2011	-	-	-	-	712 000	0	-	-	0	0	0	0	0
		2012	-	-	-	-	681 674	0	-	-	0	0	0	0	0
		2013	-	-	0	-	519 102	0	-	-	0	0	0	0	0
	Solomon Islands	2011	-	-	-	-	840 284	1 537 685	0	0	0	697 890	0	0	6 229 231
		2012	-	-	-	-	269 486	1 696 290	0	0	0	706 000	0	0	5 432 362
2013		-	-	0	-	270 180	1 305 840	0	1 987 523	852 472	0	0	0	6 74 896	
Vanuatu	2011	-	-	-	-	943 619	2 052 359	0	0	0	287 615	0	0	2 050 753	
	2012	-	-	-	-	812 377 <sup>4</sup>	2 446 418	0	0	0	287 615	0	0	1 178 215	
	2013	-	-	0	-	812 377 <sup>4</sup>	1 162 890	0	1 692 091	287 615	0	0	0	0	
Viet Nam	2011	-	-	-	-	5 229 083	5 648 842	0	0	0	108 500	0	0	0	
	2012	-	-	-	-	4 615 385	3 961 323	0	0	0	156 804	0	0	0	
	2013	4 250 000	-	1 000 000	-	4 523 810	5 254 143	0	0	0	410 000	0	0	-	

DFID, United Kingdom Department for International Development; PMI, United States President's Malaria Initiative; UNICEF, United Nations Children's Fund; USAID, United States Agency for International Development

1. Source: The Global Fund website (malaria-specific grants)

2. Source: USAID internal database, The President's Malaria Initiative, Sixth Annual Report to Congress, April 2013

3. Source: OECD Database

4. Budget not expenditure

5. Other contributions as reported by countries; NGOs; foundations, etc.

6. In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))

7. Where national totals for the United Republic of Tanzania are unavailable, refer to the sum of Mainland and Zanzibar

\* Negative disbursements reflect recovery of funds on behalf of the financing organization DFID, Department for International Development; PMI, President's Malaria Initiative; UNICEF, United Nations Children's Fund; USAID, United States Agency for International Development

# Annex 4 – Intervention coverage estimated from routinely collected data, 2011–2013

WHO region	Country/area	Year	No. of ITN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of ITN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by IRS	% IRS coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported P.f. cases
African	Algeria	2011	0	0	0	-	-	0	0	191	0	65	0
		2012	0	0	0	-	13 000	0	0	887	0	65	0
		2013	0	0	0	-	17 407	1	0	603	0	13	0
	Angola	2011	1 720 738	1 720 738	0	39	21	689 638	3	3 898 070	3 898 070	100	100
		2012	477 044	477 044	0	34	26	676 090	3	3 747 190	3 747 190	99	99
		2013	1 182 519	1 182 519	0	28	28	419 353	2	2 814 900	2 814 900	74	74
	Benin	2011	5 135 942	5 135 942	0	100	67	426 232	4	1 911 338	1 911 338	64	64
		2012	708 643	708 643	0	100	44	694 729	7	-	-	-	-
		2013	584 285	584 285	0	100	20	694 729	7	-	-	-	-
	Botswana	2011	12 000	12 000	0	18	-	207 991	16	10 149	10 149	100	100
		2012	52 500	52 500	0	21	-	163 647	13	4606	4606	100	100
		2013	0	0	0	9	-	176 887	13	3953	3953	100	100
	Burkina Faso	2011	774 344	774 344	0	99	74	116 708	1	5 918 783	5 703 335	100	100
		2012	264 432	264 432	0	87	60	115 638	1	5 720 987	5 720 987	100	100
		2013	9 959 820	9 959 820	0	100	67	0	0	5 797 938	5 797 938	100	100
	Burundi	2011	2 869 433	2 869 433	0	100	59	224 496	3	2 343 078	1 791 325	100	100
		2012	703 699	703 699	0	100	63	59 300	1	2 183 228	2 183 228	100	100
		2013	731 981	731 981	0	98	58	0	0	3 836 437	3 836 437	100	100
	Cabo Verde	2011	0	0	0	-	-	282 265	100	0	0	-	-
		2012	0	0	0	-	-	282 265	100	0	0	3960	100
		2013	0	0	0	-	-	298 475	100	0	4824	3144	100
	Cameroon	2011	8 115 879	8 115 879	0	71	22	0	0	1 234 405	1 234 405	29	29
		2012	217 600	217 600	0	71	62	0	0	762 338	760 375	21	21
		2013	0	0	0	67	49	0	0	1 048 811	497 022	29	14
	Central African Republic	2011	0	0	0	38	45	0	0	0	0	-	-
		2012	30 000	30 000	0	39	32	0	0	0	0	420 000	27
		2013	150 000	150 000	0	7	38	0	0	0	0	0	0
	Chad	2011	3 495 086	3 495 086	0	58	36	0	0	0	122 879	122 879	4
		2012	0	0	0	56	54	0	0	0	0	0	0
2013		1 234 177	1 234 177	0	67	56	0	0	0	814 449	814 449	25	
Comoros	2011	9896	9896	0	69	71	31 922	5	117 620	117 620	74	74	
	2012	666	666	0	68	48	0	0	0	0	0	0	
	2013	377 252	377 252	0	95	54	31 150	4	60 868	60 868	38	38	
Congo	2011	507 763	507 763	0	22	21	0	0	0	113 705	113 705	8	
	2012	1 203 982	1 203 982	0	71	56	0	0	0	202 402	202 402	14	
	2013	14 005	14 005	0	70	81	0	0	0	0	0	0	
Côte d'Ivoire	2011	8 135 784	8 135 784	0	86	48	0	0	0	2 349 795	2 349 795	56	
	2012	0	0	0	75	36	0	0	0	0	0	0	
	2013	1 821 267	1 821 267	0	88	15	0	0	0	2 358 567	2 358 567	57	
Democratic Republic of the Congo	2011	12 033 092	12 033 092	0	62	31	111 972	0	15 240 702	15 240 702	89	89	
	2012	18 644 449	18 644 449	0	90	48	103 497	0	11 693 982	11 693 982	68	68	
	2013	7 947 747	7 947 747	0	100	50	36 126	0	14 941 450	7 112 841	87	42	
Equatorial Guinea	2011	2798	2798	0	1	29	27 319	0	40 199	40 199	13	13	
	2012	4431	4431	0	2	38	148 092	20	40 199	40 199	22	22	
	2013	8397	8397	0	4	19	129 000	17	40 911	40 911	22	22	
Eritrea	2011	992 779	992 779	0	45	45	274 143	5	197 403	197 403	100	100	
	2012	83 943	83 943	0	35	48	298 734	5	219 793	219 793	100	100	
	2013	86 597	86 597	0	33	38	275 857	4	182 911	182 911	100	100	
Ethiopia	2011	4 279 165	4 279 165	0	60	52	20 865 542	35	5 058 582	5 058 582	100	100	
	2012	6 260 000	6 260 000	0	71	49	5 721 331	9	9 000 000	9 000 000	100	100	
	2013	11 709 780	11 709 780	0	64	52	23 150 388	37	12 800 000	9 164 641	100	100	
Gabon	2011	0	0	0	-	-	0	0	0	0	0	-	
	2013	21 666	21 666	0	2	24	0	0	0	850 000	850 000	-	

WHO region	Country/area	Year	No. of ITN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of ITN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by IRS	% IRS coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported P.f. cases <sup>1</sup>	
African	Gambia	2011	734 063	734 063	0	93	60	747 485	43	549 830	549 830	100	100	
		2012	275 042	275 042	0	100	81	484 086	27	484 901	484 901	93	93	
		2013	138 149	138 149	0	100	80	800 290	43	468 767	468 767	90	90	
	Ghana	2011	4 151 906	4 151 906	0	39	35	926 699	4	14 493 253	14 493 253	100	100	
		2012	7 874 094	7 874 094	0	93	60	2 117 240	8	4 170 828	4 170 828	60	60	
		2013	1 926 300	1 926 300	0	97	78	2 936 037	11	8 330 784	8 330 784	100	100	
	Guinea	2011	48 942	48 942	0	2	41	924 025	2	924 025	924 025	21	21	
		2012	90 188	90 188	0	3	28	902 516	28	902 516	902 516	21	18	
		2013	5 268 245	5 268 245	0	83	42	370 771	42	1 402 400	1 402 400	8	32	
	Guinea-Bissau	2011	170 442	170 442	0	26	38	60	60	-	-	-	-	
		2012	73 819	73 819	0	34	60	71	60	-	-	-	-	
		2013	116 268	116 268	0	38	71	1 832 090	6	-	-	-	-	
	Kenya	2011	9 058 461	9 058 461	0	73	80	2 435 836	7	12 000 000	12 000 000	100	100	
		2012	4 226 261	4 226 261	0	79	80	0	0	0	8 300 000	7 000 000	100	100
		2013	1 641 982	1 641 982	0	80	76	834 671	38	6 059 525	4 581 525	100	100	
	Liberia	2011	830 000	830 000	0	74	43	960 000	23	6 507 544	5 064 014	100	100	
		2012	0	0	0	35	38	367 930	9	1 332 055	443 900	100	38	
		2013	510 275	510 275	0	62	63	10 012 822	46	256 452	256 452	30	30	
	Madagascar	2011	3 939 740	3 939 740	0	76	53	1 597 374	7	2 026 100	2 026 100	100	100	
		2012	6 947 498	6 947 498	0	89	62	1 579 521	7	266 000	266 000	20	20	
		2013	1 037 395	1 037 395	0	41	38	321 919	2	7 199 047	7 202 530	100	100	
	Malawi	2011	6 742 108	6 742 108	0	100	49	1 873 056	12	6 956 821	6 956 821	100	100	
		2012	636 318	636 318	0	93	76	697 512	5	1 719 974	1 719 974	49	49	
		2013	4 173 156	4 173 156	0	65	58	758 021	5	3 842 790	3 842 790	100	100	
	Mali	2011	1 935 348	1 935 348	0	86	63	826 386	5	3 080 130	3 080 130	100	100	
		2012	636 465	636 465	0	79	51	826 386	5	64 078	64 078	10	10	
		2013	1 396 990	1 396 990	0	55	35	28	23 559	56 015	56 015	8	8	
	Mauritania	2011	13 000	13 000	0	54	19	0	0	0	0	0	0	
		2012	105 000	105 000	0	13	19	0	0	0	0	0	0	
		2013	2543	2543	0	18	18	23 559	51	56 015	56 015	8	8	
	Mayotte, France	2011	40 988	40 988	0	100	-	4339	9	0	0	0	0	
		2012	39 400	39 400	0	100	-	381	1	0	0	0	0	
		2013	3 244 164	3 244 164	0	44	41	8 532 525	35	9 391 810	9 391 810	100	100	
Mozambique	2011	2 669 244	2 669 244	0	53	49	1 789 110	7	5 106 570	5 106 570	73	73		
	2012	3 315 727	3 315 727	0	64	57	9 647 202	37	13 477 650	13 477 650	100	100		
	2013	87 900	87 900	0	30	-	599 939	38	110 031	110 031	100	100		
Namibia	2011	93 900	93 900	0	30	-	559 305	34	22 313	22 313	100	100		
	2012	104 249	104 249	0	31	-	598 901	36	90 377	87 520	91	88		
	2013	516 550	516 550	0	14	41	186 603	1	3 199 290	3 199 290	73	73		
Niger	2011	541 550	541 550	0	19	35	192 761	1	3 500 243	3 500 243	74	74		
	2012	409 400	409 400	0	15	28	177 235	0	6 556 070	6 556 070	100	100		
	2013	18 141 631	18 141 631	0	62	32	2 415 540	0	7 648 896	7 648 896	16	16		
Nigeria	2011	14 448 634	14 448 634	0	55	36	0	1	12 877 360	12 877 360	27	27		
	2012	6 215 476	6 215 476	0	40	38	0	0	32 568 349	32 568 349	67	67		
	2013	816 915	816 915	0	90	64	1 571 625	14	288 508	288 508	48	48		
Rwanda	2011	1 675 233	1 675 233	0	100	53	1 080 889	9	6 119 786	6 119 786	95	93		
	2012	5 249 761	5 249 761	0	100	57	115 610	63	11 546	11 546	100	100		
	2013	4985	4985	0	85	-	146 773	78	10 703	10 703	85	85		
Sao Tome and Principe	2011	105 312	105 312	0	100	-	153 514	80	8752	8752	55	0		
	2012	14 596	14 596	0	100	-	887 315	7	675 707	675 707	19	19		
	2013	2 465 770	2 465 770	0	72	38	1 095 093	8	713 344	713 344	19	19		
Senegal	2011	267 482	267 482	0	44	47	690 090	5	976 840	976 840	25	25		
	2012	3 902 145	3 902 145	0	85	53	851 000	15	1 873 610	1 873 610	100	100		
	2013	45 833	45 833	0	100	27	986 898	17	2 004 308	2 004 308	100	100		
Sierra Leone	2011	139 391	139 391	0	100	27	986 898	17	2 004 308	2 004 308	100	100		
	2013	441 859	441 859	0	19	35	0	0	2 201 370	2 201 370	100	100		

# Annex 4 – Intervention coverage estimated from routinely collected data, 2011–2013 (continued)

WHO region	Country/area	Year	No. of ITN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of ITN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by IBS	% IBS coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported P.f. cases	
African	South Africa	2011		0	0	-	-	5 000 000	96	7620	7620	77	0	
		2012		0	0	-	-	5 000 000	95	3897	3897	57	0	
		2013		0	0	-	-	2 318 129	44	8272	5444	81	54	
	South Sudan <sup>2</sup>	2011	386 563	386 563	0	100	73	61	170 440	2	4 333 150	4 333 150	100	100
		2012	1 036 109	1 036 109	0	60	71	332 968	3	3 125 448	3 125 448	87	93	
	Swaziland	2011	47 857	47 857	0	63	-	-	1750	1750	1750	100	100	
		2012	40 612	40 612	0	83	-	-	350	350	350	47	47	
		2013	0	0	0	46	-	-	1352	1352	1352	100	100	
	Togo	2011	2 547 606	2 547 606	0	78	53	0	0	0	659 800	39	-	
		2012	329 999	329 999	0	85	74	0	0	0	812 911	914 218	52	58
		2013	468 575	468 575	0	88	61	0	0	0	964 927	802 904	62	51
	Uganda	2011	709 000	709 000	0	46	47	2 543 983	7	19 579 200	19 579 200	100	100	
		2012	1 000 747	1 000 747	0	45	39	2 543 983	7	23 864 320	23 864 320	100	100	
		2013	13 219 306	13 219 306	0	72	49	2 581 839	7	24 375 450	24 375 450	100	100	
	United Republic of Tanzania	2011	14 481 950	14 481 950	0	-	-	-	7 189 920	-	16 775 381	16 775 381	-	-
		2012	2 208 293	2 208 293	0	-	-	6 774 050	-	-	10 175 160	10 175 160	-	-
		2013	2 547 391	2 547 391	0	-	-	3 761 997	-	-	20 382 485	20 382 485	-	-
	Mali	2011	14 452 674	14 452 674	0	100	61	6 095 891	14	16 727 880	16 727 880	100	100	
		2012	1 535 867	1 535 867	0	95	65	6 518 120	14	10 128 060	10 128 060	100	100	
		2013	2 489 536	2 489 536	0	69	44	3 537 097	7	20 377 410	20 377 410	100	100	
	Zanzibar	2011	29 276	29 276	0	48	-	1 094 029	83	47 501	47 501	100	100	
		2012	672 426	672 426	0	97	-	255 930	19	47 100	47 100	100	100	
		2013	57 855	57 855	0	98	-	224 900	16	5075	5075	100	100	
	Zambia	2011	3 532 137	3 532 137	0	81	54	7 542 497	56	6 957 420	6 957 420	100	100	
		2012	2 688 575	2 688 575	0	94	77	4 250 000	31	4 289 743	4 289 743	100	100	
		2013	3 362 588	3 362 588	0	100	80	1 063 460	7	15 926 301	15 926 301	100	100	
Zimbabwe	2011	0	0	0	52	58	3 299 058	52	2 079 657	2 079 657	100	100		
	2012	457 000	457 000	0	46	39	3 106 659	48	1 236 958	1 236 958	100	100		
	2013	2 010 000	2 010 000	0	67	60	3 106 659	47	815 260	815 260	100	100		
Region of the Americas	Argentina	2011		0	0	-	-	23 088	11	100	100	100	100	
		2012		0	0	-	-	26 712	13	50	50	100	100	
		2013		0	0	-	-	24 636	12	50	50	100	100	
	Belize	2011	0	0	0	2	-	31 363	14	79	1	100	100	
		2012	3000	3000	0	2	-	20 052	9	37	1	100	100	
		2013	2324	2324	0	4	-	21 413	9	26	0	100	100	
	Bolivia (Plurinational State of)	2011	42 800	42 800	0	4	-	45 214	1	7200	923	100	100	
		2012	24 526	24 526	0	5	-	28 000	1	7400	350	100	100	
		2013	20 965	20 965	0	4	-	30 280	1	7342	959	100	100	
	Brazil	2011	13 739	13 739	0	1	-	714 128	2	445 531	114 081	100	100	
		2012	361 241	361 241	0	2	-	369 103	1	905 010	141 410	100	100	
		2013	147 736	147 736	0	2	-	324 477	1	452 990	122 290	100	100	
	Colombia	2011	274 682	262 732	11 950	7	-	1 032 000	10	92 518	27 698	100	100	
		2012	313 398	313 398	0	11	-	359 100	3	171 342	50 398	100	100	
		2013	146 196	146 196	0	12	-	154 000	1	68 879	48 285	100	100	
	Costa Rica	2011	4000	4000	0	1	-	48 000	3	170	0	100	100	
2012		3000	3000	0	1	-	22 000	1	50	0	100	100		
2013		7000	7000	0	1	-	13 560	1	20	0	100	100		
Dominican Republic	2011	70 437	70 437	0	3	-	78 236	1	1608	8	100	-		
	2012	62 095	62 095	0	4	-	61 557	1	947	5	100	-		
	2013	54 139	54 139	0	4	-	49 510	1	579	4	100	-		
Ecuador	2011	30 022	30 022	0	4	-	105 234	1	13 979	8999	100	100		
	2012	13 502	13 502	0	2	-	83 357	1	4720	548	100	100		
		2013	20 337	20 337	0	1	94 321	1	378	161	100	98		

WHO region	Country/area	Year	No. of TTN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of TTN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by IRS	% IRS coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported P.f. cases <sup>1</sup>	
Region of the Americas	El Salvador	2011	0	0	0	-	-	26 167	2	109 635	0	100	-	
		2012	0	0	0	-	-	16 905	1	124 753	0	100	-	
		2013	10 000	10 000	0	1	-	15 076	1	10 865	0	100	-	
	French Guiana, France	2011	0	0	0	10	-	18 895	8	-	-	-	-	
		2012	13 969	13 969	0	10	-	16 625	7	-	-	-	-	
		2013	2880	2880	0	12	-	16 932	7	-	-	-	-	
	Guatemala	2011	0	0	0	0	-	42 555	1	6822	0	100	-	
		2012	618 803	618 803	0	16	-	65 390	1	7966	0	100	-	
		2013	282 788	282 788	0	23	-	37 450	1	-	-	-	-	
	Guyana	2011	14 550	14 550	0	7	-	19 320	3	29 471	20 299	100	100	
		2012	16 800	16 800	0	10	-	20 700	3	31 601	20 291	100	100	
		2013	27 921	27 921	0	14	-	41 000	6	31 479	13 655	100	100	
	Haiti	2011	0	0	0	0	-	0	0	0	0	0	100	-
		2012	2 987 653	2 987 653	0	53	-	0	0	0	117 293	0	100	-
		2013	0	0	0	52	-	-	-	109 625	0	100	-	
	Honduras	2011	8798	8798	0	1	-	126 858	2	65 019	1	100	-	
		2012	30 630	30 630	0	1	-	104 495	2	45 926	1	100	-	
		2013	66 920	66 920	0	3	-	121 121	2	37 248	2	100	-	
	Mexico	2011	0	0	0	15	-	69 331	2	6747	3	-	-	
		2012	52 766	52 766	0	17	-	42 985	1	5002	2	-	-	
		2013	4500	4500	0	2	-	49 401	1	2974	4	100	-	
	Nicaragua	2011	14 300	14 300	0	4	-	200 448	7	206 511	1	100	-	
		2012	18 350	18 350	0	3	-	87 446	3	218 419	1	100	-	
2013		17 100	17 100	0	3	-	126 403	4	49 256	0	100	-		
Panama	2011	0	0	0	0	-	23 766	1	420	0	100	-		
	2012	0	0	0	0	-	21 071	1	920	0	100	-		
	2013	0	0	0	0	-	17 055	1	705	0	100	-		
Paraguay	2011	0	0	0	10	-	34 736	15	10	0	100	-		
	2012	0	0	0	0	-	40 126	17	15	0	100	-		
	2013	0	0	0	0	-	19 425	8	11	2	100	-		
Peru	2011	0	0	0	0	-	55 595	1	-	-	-	-		
	2012	9900	9900	0	0	-	51 630	1	-	-	-	-		
	2013	4600	4600	0	1	-	162 600	3	42 670	6504	99	94		
Suriname	2011	712	712	0	33	-	-	-	-	-	-	-		
	2012	0	0	0	32	-	-	-	-	-	-	-		
	2013	4892	4892	0	12	-	-	-	-	300	100	0		
Venezuela (Bolivarian Republic of)	2011	1665	1665	0	1	-	3 589 089	65	800	300	100	0		
	2012	515	515	0	0	-	3 637 795	65	-	-	-	-		
	2013	467	467	0	0	-	4 369 755	76	27 659	27 659	35	100		
Eastern Mediterranean	Afghanistan	2011	3 352 326	3 352 326	0	38	-	0	0	0	-	-	-	
		2012	37 551	37 551	0	34	-	0	0	0	-	-	-	
		2013	359 622	359 622	0	29	-	0	0	11 135	11 135	3	61	
Djibouti	2011	100	100	0	37	26	26	0	0	-	-	-		
	2012	26 400	26 400	0	23	29	29	0	0	-	-	-		
	2013	25 700	25 700	0	22	26	26	0	0	8920	8920	41		
Iran (Islamic Republic of)	2011	60 000	60 000	0	61	-	84 484	11	5976	3417	100	100		
	2012	243 728	243 728	0	98	-	204 224	26	204 224	3100	5670	100		
	2013	169 084	169 084	0	100	-	281 203	36	6230	3400	100	100		
Pakistan	2011	0	0	0	0	-	-	-	-	-	-	-		
	2012	439 181	439 181	0	0	-	4 584 426	3	2 280 000	596 600	65	91		
	2013	2 238 300	2 238 300	0	3	-	1 161 825	1	2 150 000	590 840	62	90		
Saudi Arabia	2011	100 000	100 000	0	35	-	2 600 000	100	2724	2724	98	98		
	2012	767 000	767 000	0	75	-	2 210 000	98	1283	1283	38	38		
	2013	750 000	750 000	0	100	-	1 736 400	75	974	974	39	39		
Somalia	2011	210 231	210 231	0	15	12	429 514	4	4	-	-	-		
	2012	455 000	455 000	0	14	12	240 558	2	18 868	9268	3	1		
	2013	525 000	525 000	0	20	20	90 060	1	292 000	292 000	42	42		

# Annex 4 – Intervention coverage estimated from routinely collected data, 2011–2013 (continued)

WHO region	Country/area	Year	No. of ITN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of ITN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by IRS	% IRS coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported P.f. cases	
Eastern Mediterranean	Sudan	2011	882 901	882 901	0	27	39	2 947 155	8	2 546 884	2 512 852	51	53	
		2012	782 901	782 901	0	14	34	3 967 730	11	2 478 038	2 462 470	49	51	
		2013	5 803 319	5 803 319	0	35	40	3 352 581	9	2 630 400	2 077 204	69	58	
	Yemen	2011	2 183 1	2 183 1	0	7	-	1 480 416	9	273 180	273 180	100	100	
		2012	1 209 215	1 209 215	0	19	-	1 886 500	12	179 000	166 500	66	0	
		2013	1 350 309	1 350 309	0	28	-	2 204 429	13	303 847	303 847	100	0	
	European	Azerbaijan	2011	10 000	10 000	0	34	-	309 162	100	10	2	100	100
			2012	10 000	10 000	0	25	-	211 500	99	4	1	100	100
			2013	0	0	0	17	-	209 004	97	4	4	100	100
		Kyrgyzstan	2011	48 600	48 600	0	100	-	223 000	100	5	0	100	100
			2012	35 000	35 000	0	100	-	146 466	100	3	0	100	100
			2013	35 000	35 000	0	100	-	100 633	100	4	0	100	100
		Tajikistan	2011	117 041	117 041	0	14	-	644 136	25	78	5	100	100
2012			100 000	100 000	0	17	-	503 156	19	31	2	94	100	
2013			100 000	100 000	0	21	-	437 436	16	1	1	7	100	
Turkey		2011	0	0	0	0	-	221 225	100	205	105	100	82	
		2012	0	0	0	0	-	50	0	600	235	100	100	
		2013	0	0	0	100	-	21 200	12	400	350	100	100	
Uzbekistan		2011	50 000	50 000	0	100	-	300 543	100	1	0	100	100	
	2012	20 000	20 000	0	100	-	375 605	100	1	1	100	100		
	2013	0	0	0	100	-	328 020	100	3	3	100	100		
South-East Asia	Bangladesh	2011	2 890 013	1 391 953	1 498 060	55	-	0	0	0	68 540	48 540	100	0
		2012	85 976	20 052	65 924	23	-	0	0	94 810	71 040	100	0	
		2013	717 000	612 000	105 000	25	-	0	0	42 390	42 390	100	0	
	Bhutan	2011	8942	8942	0	43	-	148 318	27	125	125	53	100	
		2012	10 000	10 000	0	39	-	141 322	26	82	35	95	95	
		2013	93 726	93 726	0	36	-	32 824	6	518	518	100	100	
	Democratic People's Republic of Korea	2011	79 960	79 960	0	6	-	2 013 084	17	18 104	0	100	100	
		2012	332 000	332 000	0	11	-	1 646 580	14	23 537	0	100	100	
		2013	0	0	0	6	-	2 651 611	22	80 353	0	100	100	
	India	2011	6 580 000	6 580 000	0	2	-	53 348 697	5	330 000 000	2 920 000	100	100	
		2012	0	0	0	1	-	49 942 758	5	30 523 925	3 147 400	100	100	
		2013	0	0	0	1	-	45 854 424	4	147 000	147 000	17	32	
	Indonesia	2011	2 829 748	2 829 748	0	8	-	527 555	0	479 850	479 850	16	29	
2012		845 712	845 712	0	7	-	110 000	0	341 697	341 697	13	24		
2013		911 443	911 443	0	5	-	-	-	-	-	-	-		
Myanmar	2011	1 613 830	551 107	1 062 723	12	-	1036	0	594 756	569 607	96	100		
	2012	2 964 812	1 042 244	1 922 568	22	-	56 414	0	546 060	546 060	74	0		
	2013	2 812 517	1 508 557	1 303 960	25	-	-	-	371 663	371 663	63	0		
Nepal	2011	934 476	934 476	0	24	-	256 070	2	71 140	612	91	6		
	2012	499 166	499 166	0	26	-	443 229	3	669 152	53 252	100	0		
	2013	1 395 865	1 395 865	0	38	-	345 000	3	38 113	325	93	0		
Sri Lanka	2011	0	0	0	35	-	80 499	2	17	17	98	100		
	2012	637 250	637 250	0	30	-	75 354	2	70	48	61	100		
	2013	0	0	0	23	-	50 666	1	95	43	80	100		
Thailand	2011	232 150	100 343	131 807	5	-	423 638	1	5642	5642	15	38		
	2012	264 806	139 000	125 806	4	-	451 730	1	3298	3298	10	28		
	2013	783 896	670 000	113 896	6	-	106 374	0	16 503	16 503	50	100		
Timor-Leste	2011	24 613	24 613	0	31	-	102 858	9	19 739	15 981	54	54		
	2012	25 148	25 148	0	35	-	159 743	14	5211	2923	85	85		
		2013	253 037	253 037	0	48	-	0	0	23 667	3131	100	100	



WHO region	Country/area	Year	No. of ITN + LLIN sold or delivered	No. of LLIN sold or delivered	No. of ITN sold or delivered	% of population potentially protected by ITNs delivered	Modelled % of population with access to an ITN	No. of people protected by ITN	% ITN coverage	Any 1st-line treatment courses delivered (including ACT)	ACT treatment courses delivered	% antimalarials distributed vs reported cases	% ACTs distributed vs reported cases <sup>1</sup>	
Western Pacific	Cambodia	2011	1 212 490	1 203 321	9169	57	-	0	0	206 529	120 529	75	70	
		2012	2 177 808	2 177 808	0	84	-	0	0	0	422 024	422 024	100	0
		2013	5418	5418	0	77	-	0	0	0	117 547	117 547	100	0
	China	2011	656 674	149 394	507 280	0	-	1 043 963	0	0	-	-	-	-
		2012	257 935	0	257 935	0	-	1 096 877	0	0	-	-	-	-
		2013	58 874	0	58 874	0	-	447 639	0	0	4127	3919	87	100
	Lao People's Democratic Republic	2011	241 935	241 935	0	26	-	0	0	0	56 340	56 340	100	100
		2012	54 056	54 056	0	52	-	1856	0	0	104 400	104 400	100	0
		2013	439 677	439 677	0	33	-	13 113	0	0	58 470	58 470	100	0
	Malaysia	2011	260 487	260 487	0	100	-	307 769	27	27	5306	2218	100	100
		2012	220 703	220 703	0	100	-	489 988	42	42	4725	2088	100	100
		2013	317 943	317 943	0	100	-	682 288	57	57	3850	2873	100	100
	Papua New Guinea	2011	1 140 571	1 140 571	0	61	-	-	-	-	1 259 038	1 259 038	100	100
		2012	1 062 508	1 062 508	0	77	-	-	-	-	886 560	886 560	87	96
		2013	1 625 831	1 625 831	0	94	-	0	0	0	915 330	915 330	90	99
	Philippines	2011	3 037 404	3 037 404	0	14	-	1 052 050	1	1	34 080	34 080	100	100
		2012	783 463	783 463	0	12	-	1 541 860	2	2	13 469	13 469	100	100
		2013	715 125	715 125	0	10	-	1 108 220	1	1	24 771	24 771	100	0
	Republic of Korea	2011	10 000	10 000	0	1	-	-	-	-	838	838	65	-
		2012	0	0	0	1	-	-	-	-	555	555	65	-
		2013	0	0	0	1	-	-	-	-	600	600	88	100
	Solomon Islands	2011	46 574	46 574	0	100	-	175 265	33	33	236 665	236 665	100	100
		2012	31 781	31 781	0	100	-	131 752	24	24	190 255	190 255	100	0
		2013	371 124	371 124	0	100	-	98 971	18	18	146 439	146 439	100	0
	Vanuatu	2011	92 385	92 385	0	100	-	18 490	8	8	-	-	-	-
		2012	35 863	35 863	0	100	-	9705	4	4	52 010	52 010	100	1
2013		94 232	94 232	0	100	-	3033	1	1	24 000	24 000	100	1	
Viet Nam	2011	766 606	100 000	666 606	7	-	1 555 892	5	5	274 852	110 576	100	100	
	2012	968 413	0	968 413	8	-	1 364 815	4	4	266 351	141 570	100	-	
	2013	0	0	0	18	-	1 310 820	4	4	218 389	141 570	100	100	

1 Based on probable and confirmed cases adjusting for reporting completeness and any first-line treatment courses distributed as proxy indicator for treated cases

2 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WH/A66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WH/A66/A66_R21-en.pdf))

# Annex 5 – Household surveys, 2011–2013

WHO region	Country/area	Source	% of HH that have at least one ITN	% of HH with enough ITNs for individuals who slept in the house the previous night	% of population with access to an ITN in their household	% of existing ITNs in HH used the previous night	% of the population who slept under an ITN the previous night	% of the children <5 years who slept under an ITN the previous night	% of pregnant women who slept under an ITN the previous night	% of HH sprayed by IRS within last 12 months	% of HH with = 1 ITN for 2 pers. and/or sprayed by IRS within last 12 months	% of children age 6-59 months with a hemoglobin measure <8g/dL	% of children age 6-59 months with a positive microscopy blood smear	% of children <5 years with fever in last 2 weeks for whom advice or treatment was sought	% of children <5 years with fever in last 2 weeks who received any antimalarial	% of children <5 years in the last 2 weeks who had a finger or heel stick	% of women who received at least 3 doses of IPT during ANC visits during their last pregnancy
African	Angola	MIS 2011	35	6	19	84	19	26	26	-	-	3	10	59	76	-	9
	Benin	DHS 2012	-	43	64	89	62	-	74	7	-	7	-	59	31	17	-
	Burundi	MIS 2012	63	23	46	83	47	53	55	6	27	-	17	59	71	48	0
	Cameroon	DHS 2011	18	4	11	62	7	11	10	3	11	6	-	59	26	26	13
	Comoros	DHS 2012	-	23	41	93	37	44	6	6	-	-	-	55	14	29	-
	Congo	DHS 2012	33	9	23	90	25	31	26	2	-	-	4	67	39	29	18
	Côte d'Ivoire	DHS 2012	67	30	49	62	32	37	40	2	31	12	17	67	18	11	8
	Democratic Republic of the Congo	DHS 2013	-	24	47	85	49	-	59	-	-	-	8	59	19	19	-
	Ethiopia	DHS 2011	-	-	-	-	-	-	-	-	-	-	5	27	35	-	-
	Gabon	DHS 2012	36	14	27	87	26	39	-	6	20	-	5	71	36	15	2
	Guinea	DHS 2012	-	9	25	68	19	28	2	28	-	-	17	54	5	9	-
	Liberia	MIS 2011	50	16	31	83	31	36	39	12	26	8	28	77	69	33	26
		DHS 2013	-	20	37	71	31	31	36	13	-	-	-	80	42	42	-
	Madagascar	MIS 2011	81	31	57	88	66	75	70	41	62	1	7	44	19	6	4
		DHS 2013	-	28	48	85	54	-	61	30	-	4	-	55	41	13	-
	Malawi	MIS 2012	55	18	37	91	40	56	51	9	25	9	28	59	89	36	13
	Mali	DHS 2013	-	38	65	90	58	-	73	6	-	21	-	49	17	12	-
	Mozambique	DHS 2011	51	22	37	70	29	35	34	19	37	10	35	63	60	30	11
		DHS 2012	-	-	-	-	-	-	-	-	-	-	9	64	78	14	-
	Nigeria	DHS 2013	-	22	36	35	13	-	16	2	-	-	-	78	18	11	-
	Rwanda	DHS 2013	-	41	66	75	60	-	74	12	-	-	-	72	93	30	-
	Senegal	DHS 2011	63	15	38	69	28	34	36	11	24	14	3	54	41	10	14
		DHS 2013	-	27	57	66	39	-	43	13	-	-	10	54	18	-	-
	Sierra Leone	DHS 2013	-	14	38	93	41	-	52	5	-	17	-	75	77	40	-
	Uganda	DHS 2011	60	26	45	75	34	42	46	8	32	5	-	85	68	26	11
	United Republic of Tanzania	DHS 2012	91	52	74	77	65	70	74	15	15	61	6	4	79	61	25
Zimbabwe	DHS 2011	29	12	20	39	8	10	10	19	26	7	4	-	44	29	7	6
Haiti	DHS 2012	19	5	11	-	7	12	-	-	7	-	-	-	49	-	12	-
Honduras	DHS 2012	-	-	-	-	-	-	-	-	-	-	-	-	64	-	-	-
Sudan	DHS 2012	51	-	31	-	14	16	-	-	-	-	-	-	-	-	-	-

DHS, Demographic and Health Survey; HH, households; IPTp, intermittent preventive treatment in pregnancy; IRS, indoor residual spraying; ITN, insecticide-treated mosquito net; MICS, Multiple Indicator Cluster Survey; MIS, Malaria Indicator Survey



# Annex 6A – Reported malaria cases and deaths, 2013

WHO region	Country/area	Population					Reported malaria cases (health facility)										Cases at community level			Inpatient malaria cases and deaths	
		UN Population	At risk (low + high)	At risk (high)	Number of people living in active foci	Suspected malaria cases	Presumed and confirmed malaria cases	Malaria case definition	Mic. slides/RDIs performed	Mic. slides/RDIs positive	Mic. slides/RDIs <i>P. falciparum</i>	Mic. slides/RDIs <i>P. vivax</i>	Imported cases/ (introduced cases)	Presumed and confirmed cases	RDT positive cases	Inpatient malaria cases	Malaria attributed deaths				
																		603	12 762	3 144 100	1 999 868
African	Algeria	39 208 194		0	N/A	12 762	603	P+C	12 762	603	14	2	587 /6)	-	-	3	3				
	Angola	21 471 618	21 471 618	1 471 618	N/A	5 273 305	3 144 100	P+C	4 129 073	1 999 868	-	-	-	-	225 223	7 300					
	Benin	10 323 474	10 323 474	1 032 474	N/A	2 041 444	1 670 273	P+C	1 450 005	1 078 634	-	-	-	46 842	11 768	99 368	2 288				
	Botswana	2 021 144	1 313 744	363 806	N/A	506	506	P+C	4 480 321	3 769 051	456	-	-	469 683	-	414 234	6 294				
	Burkina Faso	16 934 839	16 934 839	1 693 483	N/A	7 857 296	7 146 026	P+C	7 056 881	4 141 387	-	-	-	98 421	36 951	142 522	3 411				
	Burundi	10 162 532	7 926 775	2 439 008	N/A	7 384 501	4 469 007	P+C	10 621	46	22	24	-	-	-	46	0				
	Cabo Verde	498 897	298 745	N/A	298 745	10 621	46	P+C	1 827 976	26 651	-	-	-	460 779	42 581	468 269	4 349				
	Cameroun	22 253 959	15 800 311	1 580 311	N/A	3 625 958	1 824 633	P+C	200 243	116 300	-	-	-	47 401	47 401	12 124	10 26				
	Central African Republic	4 616 417	4 616 417	4 616 417	N/A	491 074	407 131	P+C	621 469	754 565	-	-	-	-	-	44 810	18 81				
	Chad	12 825 314	12 697 061	10 260 251	N/A	1 272 841	1 272 841	P+C	176 370	53 156	45 669	72	-	0	0	17 485	15				
	Comoros	734 917	734 917	690 822	N/A	185 779	62 565	P+C	69 375	43 232	43 232	-	-	17 373	17 373	142 763	3 261				
	Congo	4 447 632	4 447 632	4 447 632	N/A	209 169	183 026	P+C	3 780 679	2 506 953	-	-	-	4 664	4 664	955 311	30 918				
	Côte d'Ivoire	20 316 086	20 316 086	20 316 086	N/A	5 982 151	4 708 425	P+C	10 223 122	6 715 223	4 103 745	-	-	-	3 276	6914	66				
	Democratic Republic of the Congo	67 513 677	67 513 677	65 488 267	N/A	14 871 716	11 363 817	P+C	32 528	13 129	-	-	-	15 409	-	3719	6				
	Equatorial Guinea	757 014	757 014	757 014	N/A	44 561	25 162	P+C	120 822	21 317	12 482	7361	-	-	-	27 114	358				
	Eritrea	6 333 135	6 333 135	4 496 526	N/A	134 183	34 678	P+C	8 573 335	2 645 454	1 687 163	958 291	-	-	-	23 053	273				
	Ethiopia	94 100 756	63 047 507	941 008	N/A	9 243 894	3 316 013	P+C	100 317	28 982	26 432	-	-	1721	1721	10 281	262				
	Gabon	1 671 711	1 671 711	1 671 711	N/A	256 531	185 196	P+C	850 457	240 792	175 126	-	-	54 904	0	462 557	2506				
	Gambia	1 849 285	1 849 285	1 849 285	N/A	889 494	279 829	P+C	2 883 071	1 639 451	1 629 198	-	-	0	0	12 585	108				
	Ghana	25 904 598	25 904 598	13 771 485	N/A	8 444 417	7 200 797	P+C	160 988	54 584	-	-	-	60 648	53 243	15 280	418				
	Guinea-Bissau	1 704 255	1 704 255	1 704 255	N/A	238 580	132 176	P+C	7 262 170	2 335 286	2 335 286	-	-	305 199	-	12 904	360				
	Kenya	44 353 691	33 708 805	15 967 329	N/A	14 677 837	9 750 933	P+C	1 962 757	1 244 220	1 244 220	-	-	87 046	47 852	10 752	1 191				
	Liberia	4 294 077	4 294 077	4 294 077	N/A	2 202 213	1 483 676	P+C	1 071 310	387 045	-	-	-	15 408	-	-	641				
	Madagascar	22 924 851	22 924 851	6 877 455	N/A	2 142 620	387 045	P+C	3 161 495	1 280 892	-	-	-	183 149	139 722	50 333	1 680				
	Malawi	16 362 567	16 362 567	16 362 567	N/A	5 787 441	3 906 838	P+C	9086	1 587	9	71	-	-	-	7324	25				
	Mali	15 301 650	15 301 650	13 771 485	N/A	2 849 453	2 327 385	P+C	1 889 286	1 367 218	-	-	-	336 697	283 298	83 812	2 941				
	Mauritania	3 889 880	3 500 892	2 295 029	N/A	135 985	128 486	P+C	7 274 891	2 998 874	2 998 874	-	-	45 480	20 169	322 497	2 209				
	Mayotte, France	222 152		N/A	0	82	82	C	94 002	4 911	136	-	-	0	0	628	21				
	Mozambique	25 833 752	25 833 752	25 833 752	N/A	8 200 849	3 924 832	P+C	2 191 740	1 431 798	1 426 696	-	-	82 904	82 904	33 875	1 361				
	Namibia	2 303 315	1 658 387	1 543 221	N/A	188 004	49 111	P+C	8 828 920	962 618	962 618	-	-	78 178	77 939	9508	409				
	Niger	17 831 270	17 831 270	12 303 576	N/A	5 151 131	4 391 189	P+C	3 064 585	962 618	962 618	-	-	0	0	0	11				
	Nigeria	173 615 345	173 615 345	173 615 345	N/A	21 659 831	12 830 911	P+C	108 634	9243	9243	1	-	94 932	41 599	20 801	815				
	Rwanda	11 776 522	11 776 522	11 776 522	N/A	6 129 170	962 618	P+C	2 562 657	1 701 958	1 701 958	-	-	486 936	-	38 568	4326				
Sao Tome and Principe	192 993	192 993	192 993	N/A	108 652	92 611	P+C	603 932	8851	8645	-	-	-	-	5366	105					
Senegal	14 133 280	14 133 280	13 567 949	N/A	1 119 100	772 222	P+C	603 726	8645	8645	-	-	-	0	13 111	4					
Sierra Leone	6 092 075	6 092 075	6 092 075	N/A	2 576 550	1 715 851	P+C	1 442 571	882 430	272 847	233	-	82 904	82 904	33 875	1 361					
South Africa	52 776 130	5 277 613	2 111 045	N/A	603 932	8851	P+C	11 064 414	1 502 362	1 502 362	-	-	-	-	371 553	8528					
South Sudan <sup>1</sup>	11 296 173	11 296 173	11 296 173	N/A	1 855 501	1 855 501	P+C	669	669	-	-	-	-	-	371 380	8526					
Swaziland	1 249 514	349 864	0	N/A	669	669	P+C	1 115 005	422 633	422 633	-	-	-	-	163 144	3548					
Togo	6 816 982	6 816 982	6 816 982	N/A	2 885 142	882 430	P+C	1 442 571	882 430	272 847	-	-	82 904	82 904	33 875	1 361					
Uganda	37 578 876	37 578 876	33 820 988	N/A	24 068 702	14 464 650	P+C	11 106 414	1 502 362	1 502 362	-	-	-	-	371 553	8528					
United Republic of Tanzania	49 253 126	49 253 126	36 331 049	N/A	14 650 226	8 585 484	P+C	7 089 585	1 550 250	2 194	-	-	-	-	173	2					
Mainland	47 859 545	47 859 545	34 937 468	N/A	14 122 269	8 582 934	P+C	527 603	2 194	2 194	-	-	-	-	163 144	3548					
Zanzibar	1 393 581	1 393 581	1 393 581	N/A	527 957	2548	P+C	-	-	-	-	-	-	-	21 969	352					
Zambia	14 314 515	14 314 515	14 314 515	N/A	5 465 122	5 465 122	P+C	1 115 005	422 633	422 633	-	-	-	-	163 144	3548					
Zimbabwe	13 327 925	6 663 963	6 663 963	N/A	1 115 005	422 633	P+C	1 115 005	422 633	422 633	-	-	-	-	21 969	352					
Region of the Americas	Argentina	41 446 246	N/A	N/A	0	4913	C	4913	4	4	4	-	0	0	0	0					
	Belize	331 900	N/A	N/A	4539	25 351	C	25 351	26	26	26	-	0	0	0	0					
	Bolivia (Plurinational State of)	10 671 200	3 766 934	512 218	N/A	144 139	7342	C	144 139	7342	959	6346	-	1070	0	0					

WHO region	Country/area	Population				Reported malaria cases (health facility)										Cases at community level			Inpatient malaria cases and deaths	
		UN Population	At risk (low + high)	At risk (high)	Number of people living in active foci	Suspected malaria cases	Presumed and confirmed malaria cases	Malaria case definition	Mic. slides/ RDTs performed	Mic. slides/ RDTs positive	Mic. slides/ RDTs <i>P. falciparum</i>	Mic. slides/ RDTs <i>P. vivax</i>	Imported cases/ (introduced cases)	Presumed and confirmed cases	RDT positive cases	Inpatient malaria cases	Malaria attributed deaths			
Region of the Americas	Brazil	200 361 925	40 673 471	4 608 324	N/A	1 893 018	178 546	C	1 893 018	177 767	29 201	143 050	-	0	0	2355	41			
	Colombia	48 321 405	10 872 316	7 151 568	N/A	327 064	51 722	C	284 332	51 696	17 650	33 345	-	0	-	313	10			
	Costa Rica	4 872 166	N/A	N/A	2500	16 774	6	C	16 774	6	-	-	4	0	-	0	0			
	Dominican Republic	10 403 761	8 905 619	447 362	N/A	502 683	378	C	397 628	378	161	217	10	0	-	15	5			
	Ecuador	15 737 878	N/A	N/A	265 371	397 628	7	C	397 628	378	161	217	10	0	-	1	0			
	El Salvador	6 340 454	N/A	N/A	54 877	103 748	7	C	103 748	7	-	-	1	0	-	0	0			
	French Guiana, France	249 227	249 227	213 089	N/A	22 327	875	C	22 327	875	304	220	-	0	-	103	3			
	Guatemala	15 468 203	7 038 032	2 320 230	N/A	171 405	6214	C	171 405	6214	101	6062	-	0	-	-	-			
	Guyana	799 613	743 640	279 865	N/A	205 903	31 479	C	205 903	31 479	13 655	13 953	-	0	-	-	3			
	Haiti	10 317 461	10 317 461	5 468 254	N/A	172 624	20 957	C	172 624	20 957	20 957	20 957	-	0	0	0	364	10		
	Honduras	8 097 688	5 895 117	1 133 676	N/A	145 294	5428	C	145 294	5428	1113	4269	-	0	-	-	1			
	Mexico	122 332 399	N/A	N/A	4 064 020	1 017 508	499	C	1 017 508	499	4	495	4	0	-	0	0			
	Nicaragua	6 080 478	3 052 400	79 046	N/A	536 170	1194	C	536 170	1194	220	974	-	0	0	220	0			
	Panama	3 864 170	2 921 313	170 023	N/A	93 624	705	C	93 624	705	6	699	-	0	0	33	0			
	Paraguay	6 802 295	N/A	N/A	1 064 590	24 806	11	C	24 806	11	7	3	11	0	-	1	0			
	Peru	30 375 603	4 860 096	1 366 902	N/A	864 648	43 468	C	864 648	43 468	6630	36 285	-	0	-	25	4			
	Suriname	539 276	84 666	84 666	N/A	19 736	729	C	19 736	729	322	322	-	0	-	5	1			
	Venezuela (Bolivarian Republic of)	30 405 207	5 716 179	790 535	N/A	476 764	78 643	C	476 764	78 643	22 777	50 938	-	0	-	-	6			
	Eastern Mediterranean	Afghanistan	30 551 674	23 089 547	8 222 177	N/A	787 624	319 742	P+C	507 145	39 763	1877	37 386	-	118 971	6851	3688	24		
Djibouti		872 932	436 466	0	N/A	7934	1684	P+C	7189	1684	939	-	0	0	197	17				
Iran (Islamic Republic of)		77 447 168	N/A	N/A	746 100	385 172	1373	C	385 172	1373	72	426	854 (26)	-	-	91	2			
Iraq		33 765 232	N/A	N/A	-	1 796 587	8	C	1 796 587	8	-	-	8	-	-	0	0			
Pakistan		182 142 594	179 065 987	52 670 037	N/A	7 752 797	3 472 727	P+C	4 561 825	281 755	46 067	223 660	-	0	-	46 013	244			
Saudi Arabia		28 828 870	N/A	N/A	40 434	1 309 783	2513	C	1 309 783	2513	34	-	2479	-	-	8	0			
Somalia		10 495 583	10 495 583	7 310 851	N/A	119 752	60 199	P+C	102 870	43 317	-	-	-	-	-	2230	-			
Sudan		37 964 306	37 964 306	32 990 981	N/A	2 197 563	989 946	P+C	1 800 000	592 383	-	-	-	-	-	122 620	685			
Yemen		24 407 381	16 733 857	10 447 499	N/A	927 821	149 451	P+C	881 148	102 778	102 369	408	-	0	0	1201	55			
European		Azerbaijan	9 413 420	N/A	N/A	12 613	432 810	4	C	432 810	4	-	-	4	-	-	4	0		
	Georgia	4 340 895	N/A	N/A	0	192	7	C	192	7	-	-	7	-	-	7	0			
	Kyrgyzstan	5 547 548	N/A	N/A	0	54 249	4	C	54 249	4	-	-	4	-	-	4	0			
	Tajikistan	8 207 834	N/A	N/A	1 954 522	213 916	14	C	213 916	14	-	-	7 (11)	-	-	13	0			
	Turkey	74 932 641	N/A	N/A	0	255 125	285	C	255 125	285	-	34	251	-	-	0	3			
	Uzbekistan	28 934 102	N/A	N/A	0	908 301	3	C	908 301	3	-	-	3	-	-	3	0			
	Bangladesh	156 594 962	16 223 238	4 165 426	N/A	93 926	3864	P+C	93 926	3864	3597	262	-	23 027	17 590	1155	15			
	Bhutan	753 947	N/A	N/A	234 669	31 632	45	P+C	31 632	45	14	9	23 (30)	-	-	45	0			
	Democratic Peoples Republic of Korea	24 895 480	N/A	N/A	13 111 053	71 453	14 407	P+C	71 453	14 407	-	-	-	-	-	0	0			
	India	1 252 139 596	1 114 404 240	275 470 711	N/A	127 891 198	881 730	C	127 891 198	881 730	462 079	417 884	-	-	-	-	440			
South-East Asia	Indonesia	249 865 631	152 418 035	42 477 157	N/A	3 197 890	1 833 256	P+C	1 708 161	343 527	170 848	150 985	-	0	0	-	45			
	Myanmar	53 259 018	31 955 411	19 705 837	N/A	2 601 112	333 871	P+C	1 300 556	333 871	222 770	98 860	-	55 051	55 051	18 362	236			
	Nepal	27 797 457	13 328 881	1 009 048	N/A	169 464	38 113	P+C	133 325	19 744	273	1659	-	777	777	58	0			
	Sri Lanka	21 273 228	N/A	N/A	0	1 236 580	95	C	1 236 580	95	-	-	95	-	-	78	0			
	Thailand	67 010 502	33 505 251	5 360 840	N/A	1 830 090	33 302	C	1 830 090	33 302	14 449	15 573	-	-	8300	3014	37			
	Timor-Leste	1 132 879	1 132 879	872 317	N/A	178 200	1042	P+C	178 200	1025	373	512	-	198	198	18	3			
	Cambodia	15 135 169	8 021 640	6 659 474	N/A	152 137	24 130	P+C	149 316	21 309	7092	11 267	-	20 613	20 613	3708	12			
	China	1 385 566 537	579 466 850	197 320	N/A	5 555 001	4 127	P+C	5 554 960	4086	2907	930	-	-	-	-	23			
	Lao Peoples Democratic Republic	6 769 727	3 994 139	2 437 102	N/A	339 013	41 385	P+C	335 759	38 131	24 538	12 537	-	7563	7493	584	28			
	Western Pacific	Malaysia	29 716 965	N/A	N/A	1 050 143	1 576 012	3850	C	1 576 012	3850	422	385	865 (26)	-	-	3468	14		
Papua New Guinea		7 321 262	7 321 262	6 881 986	N/A	1 454 166	1 125 808	S	608 352	279 994	119 469	7579	-	51 066	36 131	12 911	307			
Philippines		98 393 574	78 501 709	7 058 669	N/A	318 883	6514	C	318 883	6514	4968	1357	-	1206	1206	729	12			
Republic of Korea		49 262 698	N/A	N/A	5 625 106	443	443	C	443	443	-	383	50	-	-	260	2			
Solomon Islands		561 231	555 619	555 619	N/A	245 014	53 270	P+C	217 353	25 609	13 194	-	-	0	0	1245	18			
Vanuatu		252 763	250 235	250 235	N/A	28 943	2381	P+C	28 943	2381	1039	1342	-	502	502	37	0			
Viet Nam		91 679 733	34 373 702	16 095 160	N/A	3 115 804	35 406	P+C	3 097 526	17 128	9532	6901	-	24 058	-	8384	6			

## Annex 6A – Reported malaria cases and deaths, 2013 (continued)

WHO region	Country/area	Population				Reported malaria cases (health facility)										Cases at community level			Inpatient malaria cases and deaths	
		UN Population	At risk (low + high)	At risk (high)	Number of people living in active foci	Suspected malaria cases	Presumed and confirmed malaria cases	Mic. slides/ RDIs performed	Mic. slides/ RDIs positive	Mic. slides/ RDIs <i>P. falciparum</i>	Mic. slides/ RDIs <i>P. vivax</i>	Imported cases/ (introduced cases)	Presumed and confirmed cases	RDT positive cases	Inpatient malaria cases	Malaria attributed deaths				
	<b>Regional Summary</b>																			
	African	923 135 304	782 340 469	638 070 206	298 745	192 819 341	122 483 789	108 819 619	44 764 581	21 033 630	965 727	915	2 993 774	912 461	4 948 924	116 336				
	Region of the Americas	573 818 555	105 096 471	24 625 760	5 455 897	7 166 127	428 812	7 123 395	428 007	114 643	297 219	38	0	1070	3435	84				
	Eastern Mediterranean	426 475 740	267 785 746	111 641 545	786 534	15 285 033	4 997 643	11 351 719	1 065 074	151 358	261 880	3340	118 971	6851	176 048	1027				
	European	131 376 440	N/A	N/A	1 967 135	1 864 593	317	1 864 593	317	0	41	276	0	0	31	3				
	South-East Asia	1 854 722 700	1 362 967 935	349 061 336	13 345 722	137 301 545	3 139 725	134 475 104	1 613 840	874 403	700 151	118	78 276	81 916	22 730	776				
	Western Pacific	1 684 659 659	712 485 156	40 135 566	6 675 249	12 785 416	1 297 314	11 887 104	399 445	183 161	54 309	915	105 008	65 945	31 326	422				
	Total	5 594 188 398	3 230 675 778	1 163 534 413	28 529 282	367 222 055	132 347 600	275 521 534	48 271 264	22 357 195	2 279 327	5602	3 296 029	1 068 243	5 182 494	118 648				

Notes: C, confirmed; P, probable; S, suspected

N/A, not applicable; RDT, rapid diagnostic test

1 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))







WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
African	Comoros	Presumed and confirmed	-	-	-	43 918	29 554	54 830	53 511	46 426	57 084	103 670	76 661	65 139	62 565	
		Microscopy examined	-	-	-	-	-	-	-	-	-	13 387	87 595	63 217	125 030	154 824
		Confirmed with microscopy	-	-	-	12 874	6086	20 559	-	-	-	5982	35 199	22 278	45 507	46 130
	Congo	RDT Examined	-	-	-	-	-	-	-	-	-	-	5249	20 226	27 714	21 546
		Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	1339	2578	4333	7026
		Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Côte d'Ivoire	Presumed and confirmed	-	-	-	-	-	-	157 757	149 552	157 125	150 583	446 656	277 263	117 640	183 026
		Microscopy examined	-	-	-	-	-	-	-	163 924	203 869	203 160	-	-	-	69 375
		Confirmed with microscopy	-	-	-	-	-	-	-	103 213	117 291	92 855	-	37 744	120 319	43 232
	Democratic Republic of the Congo	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	0
		Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	0
		Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Equatorial Guinea	Presumed and confirmed	-	1 193 288	1 109 751	1 136 810	1 275 138	1 280 914	1 253 408	1 277 670	1 343 654	1 847 366	1 721 461	2 588 004	2 795 919	4 708 425
		Microscopy examined	-	-	-	-	-	-	-	-	19 661	34 755	-	49 828	195 546	395 914
		Confirmed with microscopy	-	-	-	-	-	-	-	-	352	7388	62 726	29 976	107 563	215 104
Ethiopia	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	3 384 765	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	1 033 064	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	2 291 849	
Ethiopia	Presumed and confirmed	-	2 199 247	2 640 168	4 386 638	4 133 514	6 334 608	5 008 959	3 720 570	4 933 845	7 839 435	9 252 959	9 442 144	9 128 398	11 363 817	
	Microscopy examined	964 623	3244	3704	4820	5320	5531	4779	1 181 323	2 613 038	2 956 592	3 678 849	4 226 533	4 329 318	4 126 129	
	Confirmed with microscopy	897	1531	1735	2438	2684	2971	2050	740 615	1 618 091	1 873 816	2 374 930	2 700 818	2 656 864	2 611 478	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	2275	428	12 436	54 728	2 912 088	3 327 071	6 096 993	
	Confirmed with RDT	-	-	-	-	-	-	-	243	127	4889	42 850	1 861 163	2 134 734	4 103 745	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethiopia	Presumed and confirmed	-	125 746	74 861	65 517	27 783	24 192	10 148	19 568	67 196	84 532	78 095	37 267	20 890	25 162	
	Microscopy examined	-	22 637	52 228	52 428	41 361	48 937	46 096	68 905	11 815	15 960	42 585	23 004	33 245	27 039	
	Confirmed with microscopy	-	9716	6078	10 346	4119	9073	6541	9528	7883	11 603	39 636	20 601	13 196	11 235	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	655	2572	3773	16 772	2899	6826	5489	
	Confirmed with RDT	-	-	-	-	-	-	-	445	1620	2581	14 177	1865	1973	1894	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethiopia	Presumed and confirmed	-	2 555 314	2 929 684	3 582 097	5 170 614	3 901 957	3 038 565	2 557 152	2 532 645	3 043 203	4 068 764	3 549 559	3 876 745	3 316 013	
	Microscopy examined	-	851 942	1 115 167	1 010 925	1 312 422	1 364 194	785 209	739 627	986 323	2 065 237	2 509 543	3 418 719	3 778 479	8 573 335	
	Confirmed with microscopy	-	392 377	427 795	463 797	578 904	538 942	447 780	451 816	458 561	927 992	1 158 197	1 480 306	1 692 578	2 645 454	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	-	-	262 877	-	-	-	-	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	108 324	-	-	-	-	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethiopia	Presumed and confirmed	127 024	132 918	157 440	166 321	200 214	235 479	111 527	190 749	187 714	113 803	185 105	178 822	188 089	185 196	
	Microscopy examined	-	-	-	-	100 107	129 513	136 916	142 406	151 137	1623	54 714	-	66 018	90 185	
	Confirmed with microscopy	50 810	53 167	62 976	58 212	70 075	70 644	33 458	45 186	40 701	660	12 816	-	18 694	26 432	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	10 132	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	4129	
	Imported cases	-	-	-	-	-	-	-	-	-	-	1120	-	1059	2550	
Ethiopia	Presumed and confirmed	-	481 590	620 767	540 165	395 043	329 426	427 598	439 798	508 846	479 409	194 009	261 967	271 038	279 829	
	Microscopy examined	-	-	-	-	-	-	-	-	-	-	290 842	172 241	156 580	236 329	
	Confirmed with microscopy	-	-	-	-	-	-	-	-	39 164	50 378	52 245	71 588	29 325	65 666	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	705 862	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	614 128	
	Imported cases	-	-	-	-	-	-	-	-	-	-	64 108	190 379	271 038	175 126	
Ethiopia	Presumed and confirmed	3 349 528	3 044 844	3 140 893	3 552 896	3 416 033	3 452 969	3 511 452	3 123 147	3 200 147	3 694 671	3 849 536	4 154 261	10 676 731	7 200 797	
	Microscopy examined	-	-	-	-	-	-	-	-	1 100 238	2 431 048	2 031 674	1 172 838	4 219 097	1 394 249	
	Confirmed with microscopy	-	-	-	-	475 441	655 093	472 255	476 484	956 359	962 599	1 029 384	624 756	2 971 699	721 898	
Ethiopia	RDT Examined	-	-	-	-	-	-	-	-	143 879	468 449	247 278	781 892	1 438 284	1 488 822	
	Confirmed with RDT	-	-	-	-	-	0	0	-	138 124	141 771	42 253	416 504	783 467	917 553	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

# Annex 6B – Reported malaria cases by method of confirmation, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
African	Guinea	Presumed and confirmed	816 539	851 877	850 147	731 911	876 837	850 309	834 835	888 643	657 003	812 471	1 092 554	1 189 016	1 220 574	775 341
		Microscopy examined	-	-	-	-	-	-	-	-	-	-	-	43 549	-	-
		Confirmed with microscopy	4800	6238	16 561	107 925	103 069	50 452	41 228	16 554	28 646	33 405	20 932	20 936	5450	191 421
	Guinea-Bissau	RDT Examined	-	-	-	-	-	-	12 999	15 872	-	-	-	139 066	-	-
		Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	90 124	125 779	147 904
		Imported cases	246 316	202 379	194 976	162 344	187 910	185 493	148 720	140 205	148 542	156 633	140 143	174 986	129 684	132 176
	Kenya	Microscopy examined	-	-	-	-	-	33 721	34 862	34 384	31 083	25 379	48 799	57 698	61 048	58 909
		Confirmed with microscopy	-	-	-	-	-	14 659	15 120	14 284	11 299	11 757	20 239	21 320	23 547	17 733
		RDT Examined	-	-	-	-	-	-	-	-	-	-	56 455	139 531	97 047	102 079
	Liberia	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	20 152	50 662	26 834	36 851
		Imported cases	4 216 531	3 262 931	3 319 399	5 338 008	7 545 541	9 181 224	8 926 058	9 610 691	8 339 903	8 123 689	6 071 583	11 120 812	9 335 951	9 750 953
		Microscopy examined	-	-	43 643	96 893	59 995	-	-	-	-	-	-	2 384 402	3 009 051	4 836 617
	Madagascar	Confirmed with microscopy	-	-	20 049	39 383	28 328	-	-	-	-	-	-	898 531	1 002 805	2 060 608
		RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	164 424	655 285
		Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	26 752	274 678
Mali	Imported cases	-	-	-	-	-	44 875	1 171 175	694 428	726 905	1 035 940	2 675 816	2 480 748	1 800 372	1 483 676	
	Presumed and confirmed	1 392 483	1 386 291	1 598 919	2 198 297	1 458 408	1 229 385	1 087 563	736 194	352 870	299 094	293 910	255 814	395 149	382 495	
	Microscopy examined	31 575	33 354	27 752	37 333	39 174	37 943	29 318	30 921	30 566	23 963	24 393	34 813	38 453	41 316	
Mali	Confirmed with microscopy	6946	8538	5272	6909	7638	6753	5689	4823	4096	2720	2173	3447	3667	4550	
	RDT Examined	-	-	-	-	-	-	-	175 595	299 000	610 035	604 114	739 572	906 080	1 029 994	
	Confirmed with RDT	-	-	-	-	-	-	-	43 674	89 138	212 390	200 277	221 051	355 753	382 495	
Mali	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed	3 646 212	3 823 796	2 784 001	3 358 960	2 871 098	3 688 389	4 498 949	4 786 045	5 185 082	6 183 816	6 851 108	5 338 701	4 922 596	3 906 838	
	Microscopy examined	-	-	-	-	-	-	-	-	-	-	-	119 996	406 907	132 475	
Mali	Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	50 526	283 138	44 501	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	580 708	2 763 986	3 029 020	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	253 973	1 281 846	1 236 391	
Mali	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed	546 634	612 896	723 077	809 428	1 969 214	962 706	1 022 592	1 291 853	1 045 424	1 633 423	2 171 542	1 961 070	2 171 739	2 327 385	
	Microscopy examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mali	Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	1 380 178	974 558	1 889 286	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	307 035	788 487	1 176 881	
Mali	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed	-	243 942	224 614	318 120	224 840	223 472	188 025	222 476	201 044	174 820	244 319	154 003	169 104	128 486	
	Microscopy examined	-	-	-	-	-	-	31 013	-	835	3717	5449	3752	1865	5510	
Mali	Confirmed with microscopy	-	-	-	-	-	-	1061	-	268	603	909	1130	255	957	
	RDT Examined	-	-	-	-	-	-	-	-	720	4338	2299	7991	3293	3576	
	Confirmed with RDT	-	-	-	-	-	-	-	-	34	337	1085	1796	1633	630	
Mali	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed	-	-	-	792	743	500	392	421	346	352	396	92	72	82	
	Microscopy examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mali	Confirmed with microscopy	-	-	-	792	743	500	392	421	346	352	2023	1214	1463	82	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mali	Imported cases	-	-	-	-	-	-	74	129	148	250	236	51	47	71	
	Presumed and confirmed	-	-	-	-	-	-	-	6 155 082	4 831 491	4 310 086	3 381 371	3 344 413	3 203 338	3 924 832	
	Microscopy examined	-	-	-	-	-	-	-	-	-	-	1 950 933	2 504 720	2 546 213	2 058 998	
Mali	Confirmed with microscopy	-	-	-	-	-	-	-	141 663	120 259	93 874	644 568	1 093 742	886 143	774 891	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	2 287 536	2 966 853	2 234 994	5 215 893	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	878 009	663 132	927 841	2 223 983	
Mali	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



# Annex 6B – Reported malaria cases by method of confirmation, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
African	Togo	Presumed and confirmed	45 643	5 993 506	7 950 109	21 076 063	22 647 469	21 333 887	20 750 997	20 550 475	19 255 361	24 926 648	26 101 704	22 338 325	768 287	881 611	
		Microscopy examined	53 533	53 804	1 223 726	5 916 961	7 439 690	10 144 630	6 405 218	7 010 355	6 240 987	60 691	7 342 943	6 042 835	579 507	579 507	560 096
		Confirmed with microscopy	17 734	-	599 627	2 778 398	3 381 414	3 868 359	2 795 694	2 891 295	2 891 295	67	2 858 184	1 947 905	260 535	260 535	272 855
	RDT Examined	-	-	-	-	-	-	-	188 225	-	-	121 248	136 123	1 822 911	660 627	882 475	
	Confirmed with RDT	-	-	-	-	-	-	-	103 390	-	3031	1974	434 729	436 839	609 575	609 575	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Presumed and confirmed	3 552 859	5 624 032	7 536 748	9 657 332	10 717 076	9 867 174	10 168 389	11 978 636	11 602 700	12 086 399	13 208 169	12 173 358	13 591 932	14 464 650	14 464 650	
	Microscopy examined	-	-	1 100 374	1 566 474	1 859 780	2 107 011	2 238 155	2 348 373	2 397 037	3 612 418	3 705 284	385 928	3 466 571	3 718 588	3 718 588	
	Confirmed with microscopy	-	-	557 159	801 784	879 032	1 104 310	867 398	1 045 378	979 298	1 301 337	1 581 160	134 726	1 413 149	1 502 362	1 502 362	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	194 819	2 449 526	7 387 826	7 387 826	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	97 147	1 249 109	-	-	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed	45 643	369 474	413 361	11 418 731	11 930 393	11 466 713	10 582 608	8 571 839	7 739 151	12 840 249	12 893 535	10 164 967	8 477 435	8 585 482	8 585 482	
	Microscopy examined	53 533	53 804	123 352	4 350 487	5 579 910	8 037 619	4 167 063	4 661 982	3 843 950	60 691	6 691	3 637 659	5 656 907	6 931 025	6 804 085	
	Confirmed with microscopy	17 734	38 537	42 468	1 976 614	2 502 382	2 764 049	1 928 296	1 845 917	67	211	211	1 277 024	1 813 179	1 772 062	1 481 275	
RDT Examined	-	-	-	-	-	-	-	-	-	-	121 248	136 123	1 628 092	1 091 615	813 103		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	3031	1974	337 582	214 893	71 169	71 169		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	-	324 584	369 394	11 379 411	11 898 627	11 441 681	10 566 201	8 562 200	7 643 050	12 752 090	12 819 192	10 160 478	8 474 278	8 582 934	8 582 934		
Microscopy examined	-	-	71 384	4 296 588	5 528 934	7 993 977	4 136 387	4 638 471	3 830 767	-	3 573 710	5 513 619	6 784 639	6 720 141	6 720 141		
Confirmed with microscopy	-	20 152	25 485	1 960 909	2 490 446	2 756 421	1 926 711	1 845 624	-	-	1 276 660	1 812 704	1 771 388	1 480 791	1 480 791		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	1 315 662	701 477	369 444		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	3031	1974	333 568	212 636	69 459		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	45 643	44 890	43 967	39 320	31 766	25 032	16 407	9 639	96 101	88 159	88 159	74 343	44 889	3157	2548		
Microscopy examined	53 533	53 804	51 968	53 899	50 976	43 642	30 676	23 511	56 579	60 691	60 691	63 949	143 288	146 386	83 944		
Confirmed with microscopy	17 734	18 385	16 983	15 705	11 936	7628	1585	293	77	211	211	364	475	674	484		
RDT Examined	-	-	-	-	-	-	-	-	-	173 311	121 248	136 123	312 430	390 138	443 659		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	4508	3031	1974	4014	2257	1710		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	3 337 796	3 838 402	3 760 335	4 346 172	4 078 234	4 121 356	4 731 338	4 248 295	3 080 301	2 976 395	4 229 839	4 607 908	4 695 400	5 465 122	5 465 122		
Microscopy examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	-	-	-	-	1 815 470	1 494 518	1 313 458	1 154 519	1 003 846	736 897	648 965	319 935	276 963	422 633	422 633		
Microscopy examined	-	-	-	-	-	-	-	-	59 132	122 133	122 133	10 004	-	-	-		
Confirmed with microscopy	-	-	-	-	-	-	-	-	16 394	57 014	57 014	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	59 132	122 133	122 133	513 032	470 007	727 174	1 115 005		
Confirmed with RDT	-	-	-	-	-	-	-	-	16 394	57 014	57 014	249 379	319 935	276 963	422 633		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	440	215	125	122	115	252	212	387	130	86	86	72	18	4	4		
Microscopy examined	7949	6685	5043	3977	3018	3018	6353	6353	5157	5157	-	2547	7872	12 694	4913		
Confirmed with microscopy	440	215	125	122	115	252	212	387	130	86	86	72	18	4	4		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Presumed and confirmed	2	4	1	3	2	1	49	6	14	0	0	46	18	4	4		
Microscopy examined	22	18 385	16 983	34	17	9	546	35	35	35	27 272	31 013	31 013	0	0		
Confirmed with microscopy	2	4	1	3	2	1	49	6	14	0	0	1	6	0	0		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Region of the Americas	Presumed and confirmed Microscopy examined	1486	1162	1134	1084	1066	1549	844	845	540	256	150	79	37	26	
	Confirmed with microscopy	18 559	18 173	15 480	15 480	17 358	25 119	25 755	22 134	25 550	26 051	27 366	22 996	20 789	25 351	
	RDT Examined	1486	1162	1134	1084	1066	1549	844	845	540	256	150	79	37	26	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed Microscopy examined	31 469	15 765	14 276	20 343	14 910	20 142	18 995	14 610	9748	9748	9743	13 769	7143	7415	7342
	Confirmed with microscopy	143 990	122 933	137 509	158 299	163 307	202 021	208 616	180 316	159 826	159 826	132 633	133 463	143 272	121 944	133 260
	RDT Examined	31 469	15 765	14 276	20 343	14 910	20 142	18 995	14 610	9748	9748	9234	12 252	6108	6293	6272
	Confirmed with RDT	-	-	-	-	5000	6000	6000	1500	5000	5000	981	7394	7390	10 960	10 879
	Imported cases	-	-	-	-	-	1300	730	-	-	-	509	1517	1035	1122	1070
	Presumed and confirmed Microscopy examined	613 241	388 303	348 259	408 886	465 004	606 067	549 469	458 652	458 652	315 746	309 316	334 667	267 146	242 758	178 546
	Confirmed with microscopy	2 562 576	2 274 610	2 118 491	2 009 414	2 194 780	2 660 539	2 959 489	2 986 381	2 986 381	2 726 433	2 620 787	2 711 432	2 476 335	2 325 775	1 873 518
RDT Examined	613 241	388 303	348 259	408 886	465 004	606 067	549 469	458 652	458 652	315 746	309 316	334 667	266 713	237 978	174 048	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	90 275	-	1486	23 566	19 500	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	433	4780	3719	
Presumed and confirmed Microscopy examined	144 432	231 233	204 916	180 956	142 241	121 629	120 096	125 262	125 262	79 230	79 347	117 650	64 309	60 179	51 722	
Confirmed with microscopy	478 820	747 079	686 635	640 453	562 681	493 562	451 240	564 755	564 755	470 381	428 004	521 342	396 861	346 599	284 332	
RDT Examined	144 432	231 233	204 916	180 956	142 241	121 629	120 096	125 262	125 262	79 230	79 252	117 637	60 121	50 938	44 293	
Confirmed with RDT	-	-	-	-	-	-	-	25 000	25 000	22 754	8362	-	21 171	70 168	42 732	
Imported cases	-	-	-	-	-	-	-	3200	3200	1329	95	13	4188	9241	7403	
Presumed and confirmed Microscopy examined	1879	1363	1021	718	1289	3541	2903	1223	1223	966	262	114	17	8	6	
Confirmed with microscopy	61 261	43 053	17 738	9622	9204	12 767	24 498	22 641	22 641	17 304	4829	15 599	10 690	7485	16 774	
RDT Examined	1879	1363	1021	718	1289	3541	2903	1223	1223	966	262	114	17	8	6	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	4	6	1	4	
Presumed and confirmed Microscopy examined	1233	1038	1296	1529	2355	3837	3525	2711	2711	1840	1643	2482	1616	932	579	
Confirmed with microscopy	427 297	411 431	391 216	349 717	322 948	397 108	446 839	435 649	435 649	381 010	353 336	469 052	421 405	415 808	431 683	
RDT Examined	1233	1038	1296	1529	2355	3837	3525	2711	2711	1840	1643	2482	1616	932	579	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	26 585	56 150	90 775	71 000	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	932	-	-	-	
Presumed and confirmed Microscopy examined	104 528	108 903	86 757	52 065	28 730	17 050	9863	8464	8464	4891	4120	1888	1233	558	378	
Confirmed with microscopy	544 646	538 757	403 225	433 244	357 633	358 361	318 132	352 426	352 426	384 800	446 740	481 030	460 785	459 157	397 628	
RDT Examined	104 528	108 903	86 757	52 065	28 730	17 050	9863	8464	8464	4891	4120	1888	1233	558	378	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	2758	4992	7800	-	-	-	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Presumed and confirmed Microscopy examined	753	362	117	85	112	67	49	40	40	33	20	24	14	14	10	
Confirmed with microscopy	279 072	111 830	115 378	102 053	94 819	102 479	113 754	95 857	95 857	97 872	83 031	115 256	100 883	124 885	103 748	
RDT Examined	753	362	117	85	112	67	49	40	40	33	20	24	15	19	7	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
Presumed and confirmed Microscopy examined	3708	3823	3661	3839	3038	3414	4074	4828	4828	3265	3462	1608	1209	900	875	
Confirmed with microscopy	48 162	44 718	44 718	32 402	32 402	32 402	32 402	32 402	32 402	11 994	20 065	14 373	14 429	13 638	22 327	
RDT Examined	3708	3823	3661	3839	3038	3414	4074	4828	4828	3265	3462	1608	1209	900	875	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	-	-	-	-	2031	1979	2029	944	704	499	551	
Presumed and confirmed Microscopy examined	53 311	35 824	35 540	31 127	28 955	39 571	31 093	15 382	15 382	7198	7080	7198	6817	5346	6214	
Confirmed with microscopy	246 642	198 114	197 113	156 227	148 729	178 726	168 958	129 410	129 410	173 678	154 651	235 075	195 080	186 645	171 405	
RDT Examined	53 311	35 824	35 540	31 127	28 955	39 571	31 093	15 382	15 382	7198	7080	7384	6817	5346	6214	
Confirmed with RDT	-	-	-	-	-	-	-	-	3000	2000	2000	2000	-	0	0	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	

# Annex 6B – Reported malaria cases by method of confirmation, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
Region of the Americas	Guyana	Presumed and confirmed	24 018	27 122	21 895	27 627	28 866	38 984	21 064	11 656	11 815	13 673	22 935	29 471	31 601	31 479	
		Microscopy examined	209 197	211 221	175 966	185 877	151 938	210 429	202 688	202 688	178 005	137 247	169 309	212 863	201 693	196 622	205 903
	Haiti	Confirmed with microscopy	24 018	27 122	21 895	27 627	28 866	38 984	21 064	11 656	11 815	13 673	22 935	29 471	31 601	31 479	
		RDT Examined	-	-	-	-	-	-	-	-	-	-	-	35	-	0	
	Panama	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	35	55	-	
		Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Presumed and confirmed	16 897	9 837	-	-	10 802	21 778	32 739	32 739	29 825	36 774	49 535	84 153	34 350	25 928	20 957
		Microscopy examined	21 190	51 067	-	-	30 440	3 541 506	87 951	142 518	168 950	168 950	270 438	184 934	184 934	167 726	172 624
		Confirmed with microscopy	16 897	9 837	-	-	10 802	21 778	32 739	32 739	29 825	36 774	49 535	84 153	34 350	27 866	20 957
		RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55 86
Confirmed with RDT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases		35 125	24 149	17 223	14 063	17 134	15 943	11 947	10 512	10 512	8 368	9 313	9 685	7 618	64 39	54 28	
Presumed and confirmed		175 595	174 430	178 616	137 891	145 082	153 474	125 162	130 255	130 255	119 484	108 529	152 961	152 451	151 165	144 436	
Microscopy examined		35 125	24 149	17 223	14 123	17 293	16 007	11 923	10 513	10 513	8 368	9 321	9 685	7 618	64 39	53 64	
Confirmed with microscopy	-	-	-	-	-	2 500	2 500	-	-	-	4 000	4 000	4 000	4 000	4 000	858	
RDT Examined	-	-	-	-	-	-	-	-	-	-	0	-	45	10	64		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	7	6	7	9	141	88	194	194	199	22	22	12	9	5	-		
Presumed and confirmed	874	596	725	394	3 879	2 470	6 821	6 821	30 732	34 149	34 149	10 763	5 042	3 687	123		
Microscopy examined	7	6	7	9	141	88	194	194	199	22	22	12	9	5	-		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	7 390	4 996	4 624	3 819	3 406	2 967	2 514	2 514	2 361	2 357	2 703	1 226	1 124	833	499		
Presumed and confirmed	2 003 569	1 857 233	1 852 553	1 565 155	1 454 575	1 559 076	1 345 915	1 345 915	1 430 717	1 246 780	1 240 087	1 192 081	1 035 424	1 025 659	1 017 508		
Microscopy examined	7 390	4 996	4 624	3 819	3 406	2 967	2 514	2 514	2 361	2 357	2 703	1 226	1 130	842	499		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	23 878	10 482	7 695	6 717	6 897	6 642	3 114	3 114	1 356	762	610	692	925	1 235	1 194		
Presumed and confirmed	509 443	482 919	491 689	448 913	492 319	516 313	464 581	521 464	521 464	533 173	544 717	535 914	521 904	536 278	517 141		
Microscopy examined	23 878	10 482	7 695	6 717	6 897	6 642	3 114	3 114	1 356	762	610	692	925	1 235	1 194		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	11 563	11 563	16 173	10 000	9 000	18 500	14 021	16 444	19 029		
Confirmed with RDT	-	-	-	-	-	-	-	-	0	0	0	0	-	0	-		
Imported cases	1036	928	2 244	4 500	5 095	3 667	1 663	1 663	1 281	744	778	418	354	844	705		
Presumed and confirmed	149 702	156 589	165 796	166 807	171 179	208 582	212 254	212 254	204 193	200 574	158 481	141 038	116 588	107 711	93 624		
Microscopy examined	1036	928	2 244	4 500	5 095	3 667	1 663	1 663	1 281	744	778	418	354	844	705		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	6853	2 710	2 778	1 392	694	376	823	823	1 341	341	91	27	10	15	11		
Presumed and confirmed	97 026	71 708	99 338	126 582	97 246	85 942	111 361	111 361	92 339	94 316	64 660	62 178	48 611	24 806	24 806		
Microscopy examined	6853	2 710	2 778	1 392	694	376	823	823	1 341	341	91	27	10	15	11		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	68 321	78 544	99 237	88 408	93 581	87 699	64 925	64 925	50 797	44 522	42 645	31 545	25 005	31 436	43 139		
Presumed and confirmed	1 483 816	1 417 423	1 582 385	1 485 012	1 438 925	1 438 925	1 438 925	1 438 925	1 438 925	796 337	892 990	744 627	702 894	758 723	863 790		
Microscopy examined	68 321	78 544	99 237	88 408	93 581	87 699	64 925	64 925	50 797	44 522	42 645	31 545	25 005	31 436	43 139		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	-	0	37 022	31 545	25 005	31 436	43 139		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	23	58	562	858		
Imported cases	11 361	16 003	12 837	10 982	8 378	9 131	3 289	3 289	1 104	2 086	2 499	1 771	795	569	729		
Presumed and confirmed	63 377	67 369	68 070	43 241	56 975	59 855	45 722	45 722	31 768	28 137	33 279	16 533	15 135	17 464	13 693		
Microscopy examined	11 361	16 003	12 837	10 982	8 378	9 131	3 289	3 289	1 104	2 086	2 499	1 771	795	569	729		
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
RDT Examined	-	-	-	-	-	-	-	-	224	1 774	1 438	541	1 025	4 008	6 043		
Confirmed with RDT	-	-	-	-	-	-	-	-	637	623	538	138	20	248	199		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Region of the Americas	Presumed and confirmed	29 736	20 006	29 491	31 719	46 655	45 049	37 062	41 749	32 037	35 828	45 155	45 824	52 803	78 643
	Microscopy examined	261 866	198 000	278 205	344 236	420 165	420 165	479 708	392 197	414 137	370 258	400 495	382 303	410 663	476 764
	Confirmed with microscopy	29 736	20 006	29 491	31 719	46 655	45 049	37 062	41 749	32 037	35 828	45 155	45 824	52 803	78 643
	RDT Examined	-	-	-	-	-	-	-	4141	-	-	-	-	-	-
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastern Mediterranean	Presumed and confirmed	203 911	364 243	626 839	585 602	273 377	326 694	414 407	456 490	467 123	390 729	392 463	482 748	391 365	319 742
	Microscopy examined	257 429	-	-	-	248 946	338 253	460 908	504 856	549 494	521 817	524 523	531 053	511 408	507 145
	Confirmed with microscopy	94 475	-	415 356	360 940	242 022	116 444	86 129	92 202	81 574	64 880	69 397	77 549	54 840	39 263
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	0	0	0
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	0	0	0
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Presumed and confirmed	4667	4312	5021	5036	2142	2469	6457	4694	3528	2686	1010	232	25	1684
	Microscopy examined	-	-	-	-	1913	1913	-	3461	2896	-	-	124	1410	7189
	Confirmed with microscopy	-	-	-	5036	122	413	1796	210	119	2686	1010	-	22	939
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	3	-
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Presumed and confirmed	17	11	10	45	43	23	29	29	30	80	94	85	116	206
Microscopy examined	1 155 904	1 357 223	1 041 767	-	-	-	-	23 402	34 880	41 344	664 294	-	818 600	-	
Confirmed with microscopy	17	11	10	45	43	23	29	29	30	80	94	85	116	206	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	17	11	10	45	43	23	29	29	30	80	94	85	116	206	
Presumed and confirmed	19 716	19 303	15 558	23 562	13 821	18 966	15 909	15 712	11 460	6 122	3031	3239	1629	1373	
Microscopy examined	1 732 778	1 867 500	1 416 693	1 358 262	1 326 108	1 674 895	1 131 261	1 074 196	966 150	744 586	614 817	530 470	479 655	385 172	
Confirmed with microscopy	19 716	19 303	15 558	23 562	13 821	18 966	15 909	15 712	11 460	6 122	3031	3239	1629	1373	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	7422	10 379	6436	6502	6219	4570	2782	2434	2434	3111	1645	1184	1529	842	
Presumed and confirmed	1860	1265	952	347	155	47	24	24	3	6	1	7	11	8	
Microscopy examined	-	997 812	1 072 587	681 070	913 400	944 163	970 000	844 859	844 859	1 105 054	1 493 143	1 849 930	2 097 732	1 963 638	
Confirmed with microscopy	1860	1265	952	347	155	47	24	24	3	6	1	7	11	8	
RDT Examined	-	-	-	-	-	-	10 824	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	5	3	1	1	1	4	1	7	11	8	
Presumed and confirmed	59	59	107	73	56	100	83	83	75	142	145	218	312	364	
Microscopy examined	277 671	335 723	345 173	405 800	405 601	-	-	367 705	292 826	292 826	290 566	232 598	171 400	285 039	
Confirmed with microscopy	59	59	107	73	56	100	83	83	75	142	145	218	312	364	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	56	59	88	69	55	100	83	83	75	142	145	215	312	364	
Presumed and confirmed	694	635	590	740	615	544	443	443	705	965	898	1193	1531	2051	
Microscopy examined	494 884	521 552	495 826	409 532	326 127	258 981	242 635	244 346	244 346	245 113	234 803	226 009	267 353	269 990	
Confirmed with microscopy	694	635	590	740	615	544	443	443	705	965	898	1193	1531	2051	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	688	633	584	734	615	544	443	443	701	957	898	1169	1518	2029	
Presumed and confirmed	3 337 054	3 572 845	4 238 778	4 210 611	1 958 350	4 022 823	4 314 637	4 553 732	4 658 701	4 658 701	4 242 032	4 281 356	4 065 802	4 285 449	
Microscopy examined	-	3 572 425	3 399 524	4 577 037	4 243 108	4 776 274	4 490 577	4 905 561	3 775 793	3 775 793	3 655 272	4 281 346	4 168 648	4 497 330	
Confirmed with microscopy	82 526	125 292	107 666	125 152	126 719	127 826	124 910	128 570	104 454	104 454	132 688	220 870	287 592	250 526	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	279 724	518 709	410 949	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	34 891	46 997	40 255	
Imported cases	6608	3074	2612	1724	1232	1059	1278	1149	190	120	2333	1941	2788	3406	
Presumed and confirmed	-	821 860	825 443	819 869	780 392	715 878	804 087	1 015 781	1 114 841	1 114 841	1 078 745	944 723	1 062 827	1 186 179	
Microscopy examined	6608	3074	2612	1724	1232	1059	1278	1149	190	120	2333	1941	2788	3406	
Confirmed with microscopy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	1872	1471	1402	1024	924	855	1008	2397	1430	1430	2275	1912	2719	3324	

# Annex 6B – Reported malaria cases by method of confirmation, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Eastern Mediterranean	Presumed and confirmed Microscopy examined	10 364	10 364	96 922	23 349	36 732	28 404	49 092	50 444	82 980	72 362	24 553	41 167	59 709	60 199	
	Microscopy examined	-	-	21 350	12 578	30 127	47 882	-	-	73 985	59 181	20 593	26 351	-	33 186	
	Confirmed with microscopy	-	-	15 732	7 571	11 436	12 516	16 430	16 675	36 905	25 202	5629	1627	18 842	28 895	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	200 105	35 236	-	69 684	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	18 924	1724	-	14 422	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Presumed and confirmed Microscopy examined	4 332 827	3 985 702	3 054 400	3 084 320	2 083 711	2 515 693	2 117 514	3 040 181	3 073 996	2 361 188	1 465 496	1 246 833	1 001 571	989 946	
	Microscopy examined	-	-	-	-	-	-	-	-	2 243 981	2 050 354	2 791 156	-	-	-	
	Confirmed with microscopy	368 557	203 491	280 550	933 267	537 899	628 417	721 233	686 908	711 462	-	625 365	506 806	526 931	592 383	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	1 653 300	2 222 380	2 000 700	1 800 000	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	95 192	-	-	-	
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Presumed and confirmed Microscopy examined	42	79	27	24	13	28	34	34	37	51	39	23	48	42	
	Microscopy examined	-	-	-	-	-	-	-	-	68 000	-	25 751	19 151	25 109	19 136	
	Confirmed with microscopy	42	79	27	24	13	28	34	34	37	51	39	23	48	42	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
	Imported cases	36	16	12	22	12	28	34	34	37	51	39	23	48	42	
	Presumed and confirmed Microscopy examined	1 394 495	-	187 159	265 032	158 561	200 560	217 270	217 270	223 299	158 608	138 579	198 963	142 147	165 678	
Microscopy examined	-	-	556 143	398 472	501 747	472 970	799 747	799 747	585 015	781 318	797 621	645 463	645 093	685 406		
Confirmed with microscopy	1 394 495	-	75 508	50 811	48 756	44 150	55 000	55 000	67 607	43 545	53 445	78 269	60 207	68 849		
RDT Examined	-	-	-	-	-	-	-	-	303	5015	18 566	97 289	108 110	150 218		
Confirmed with RDT	-	-	-	-	-	-	-	-	70	661	2001	28 428	30 203	41 059		
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
European	Presumed and confirmed Microscopy examined	141	79	52	29	47	7	230	1	1	0	1	-	-	-	
	Microscopy examined	356	174	165	126	220	209	230	658	30 761	31 467	31 026	-	-	-	
	Confirmed with microscopy	141	79	52	29	47	7	0	1	1	0	1	-	-	-	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Confirmed with RDT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Imported cases	-	-	-	-	-	-	-	-	1	1	0	1	0	-	
	Presumed and confirmed Microscopy examined	1526	1058	506	482	386	242	143	110	110	73	80	52	8	4	
	Microscopy examined	527 688	536 260	507 252	536 822	545 145	515 144	498 697	465 033	408 780	451 436	456 652	449 168	497 040	432 810	
	Confirmed with microscopy	1526	1058	506	482	386	242	143	110	110	73	80	52	8	4	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Imported cases	-	-	-	-	-	-	0	0	1	1	2	4	1	4	
	Presumed and confirmed Microscopy examined	173	438	472	315	256	155	60	60	25	8	7	0	6	5	
	Microscopy examined	-	3574	6145	5457	3365	5169	4400	4398	3400	4398	4120	2368	2032	1046	
	Confirmed with microscopy	245	438	474	316	257	155	60	60	25	8	7	0	6	5	
	RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Confirmed with RDT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Imported cases	-	-	-	-	-	-	1	1	0	2	6	0	5	4	
	Presumed and confirmed Microscopy examined	12	28	2743	468	93	226	318	318	96	18	4	6	5	3	
Microscopy examined	70 500	72 020	69 807	144 070	79 895	114 316	74 729	62 444	62 444	40 833	33 983	30 190	27 850	18 268		
Confirmed with microscopy	12	28	2743	468	93	226	318	318	96	18	4	6	5	3		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Imported cases	-	-	-	-	-	-	1	1	0	2	6	0	5	4		
Presumed and confirmed Microscopy examined	795	898	642	533	382	205	143	143	122	96	107	102	85	3		
Microscopy examined	-	-	-	-	-	-	-	-	35 784	28 340	27 382	33 024	28 311	-		
Confirmed with microscopy	795	898	642	533	382	205	143	143	122	96	107	102	85	3		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Imported cases	-	-	-	-	-	-	1	1	0	0	0	3	5	3		
Presumed and confirmed Microscopy examined	19 064	11 387	6160	5428	3588	2309	1344	1344	635	318	165	112	78	33		
Microscopy examined	233 785	248 565	244 632	296 123	272 743	216 197	175 894	159 232	159 232	158 068	165 266	173 523	173 367	209 239		
Confirmed with microscopy	19 064	11 387	6160	5428	3588	2309	1344	1344	635	318	165	112	78	33		
RDT Examined	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Imported cases	-	-	-	-	-	-	28	28	7	0	1	1	13	15		



WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
European	Presumed and confirmed Microscopy examined	11 432	10 812	10 224	9 222	5 302	2 084	796	358	215	84	78	128	376	285
	Confirmed with microscopy	1 597 290	1 550 521	1 320 010	1 187 814	1 158 673	1 042 509	934 839	775 502	616 570	606 875	507 841	421 295	337 830	255 125
	RDT Examined	11 432	10 812	10 224	9 222	5 302	2 084	796	358	215	84	78	128	376	285
	Confirmed with RDT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Imported cases	-	-	-	-	-	-	29	29	49	46	69	127	157	251
	Presumed and confirmed Microscopy examined	24	8	18	7	3	1	1	0	0	0	0	0	0	0
	Confirmed with microscopy	50 105	50 075	59 834	72 643	71 377	56 982	58 673	65 666	75 524	94 237	81 784	-	-	-
	RDT Examined	24	8	18	7	3	1	1	0	0	0	0	0	0	0
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Presumed and confirmed Microscopy examined	126	77	74	74	66	102	76	76	89	27	0	0	0	0	
Confirmed with microscopy	735 164	691 500	735 164	812 543	893 187	917 843	924 534	858 968	883 807	916 839	921 364	886 243	805 761	908 301	
RDT Examined	126	77	74	74	66	102	76	76	89	27	0	0	0	0	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	-	-	3	3	2	20	4	2	1	1	
Presumed and confirmed Microscopy examined	437 838	320 010	313 859	489 377	386 555	290 418	164 159	59 866	59 866	168 885	79 853	91 227	51 773	29 518	
Confirmed with microscopy	360 300	250 258	275 987	245 258	185 215	220 025	209 991	266 938	266 938	336 505	397 148	308 326	270 253	253 887	
RDT Examined	55 599	54 216	62 269	54 654	58 894	48 121	32 857	58 659	31 999	50 004	25 203	20 519	20 232	40 16	
Confirmed with RDT	-	-	-	-	-	-	-	1207	34 686	38 670	35 354	31 541	5885	19171	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Presumed and confirmed Microscopy examined	5935	5982	6511	3806	2670	1825	1868	793	793	450	1421	487	207	82	
Confirmed with microscopy	76 445	65 974	74 696	61 246	54 892	60 152	66 079	51 446	47 268	62 341	54 709	44 481	42 512	31 632	
RDT Examined	5935	5982	6511	3806	2670	1825	1868	793	793	329	972	436	194	82	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Presumed and confirmed Microscopy examined	204 428	300 000	241 192	60 559	33 803	11 507	9353	4795	4795	16 989	14 845	13 520	16 760	21 850	
Confirmed with microscopy	-	143 674	129 889	32 083	-	-	-	7985	7985	24 299	34 818	25 147	26 513	39 238	
RDT Examined	90 582	143 674	16 578	16 538	27 090	11 315	12 983	4795	4795	16 989	14 845	13 520	16 760	21 850	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Presumed and confirmed Microscopy examined	2 031 790	2 085 484	1 841 227	1 869 403	1 915 363	1 816 569	1 785 109	1 508 927	1 508 927	1 532 497	1 563 574	1 599 986	1 310 656	1 067 824	
Confirmed with microscopy	86 790 375	90 389 019	91 617 725	99 136 143	97 111 526	104 120 792	106 606 703	86 355 000	86 355 000	86 734 579	103 396 076	108 679 429	108 969 660	109 033 790	
RDT Examined	2 031 790	2 085 484	1 841 227	1 869 403	1 915 363	1 816 569	1 785 109	1 508 927	1 508 927	1 532 497	1 563 574	1 599 986	1 310 656	1 067 824	
Confirmed with RDT	-	-	-	-	-	-	-	8 500 000	8 500 000	9 000 000	9 100 000	10 600 000	10 500 384	13 125 480	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Presumed and confirmed Microscopy examined	1 432 178	2 776 477	2 416 039	2 554 223	3 016 262	1 445 831	1 320 581	1 140 423	746 119	746 119	544 470	1 963 807	2 384 260	2 051 425	
Confirmed with microscopy	1 752 763	1 604 573	1 440 320	1 224 232	1 109 801	1 178 457	1 233 334	1 750 000	1 243 744	1 243 744	1 420 795	1 335 445	962 090	1 429 139	
RDT Examined	245 612	2 67 592	273 793	223 074	268 852	437 323	347 597	333 792	266 277	266 277	199 577	465 764	422 447	417 819	
Confirmed with RDT	-	-	-	-	-	19 164	12 990	-	462 249	462 249	1 040 633	255 733	250 709	471 586	
Imported cases	-	-	-	-	-	-	-	-	-	-	72 914	-	-	-	
Presumed and confirmed Microscopy examined	581 560	661 463	721 739	716 806	602 888	516 041	538 110	520 887	634 280	634 280	591 492	693 124	567 452	480 586	
Confirmed with microscopy	381 610	463 194	467 871	481 201	432 581	437 387	485 251	512 862	499 296	499 296	381 424	275 374	312 689	265 135	
RDT Examined	120 083	170 502	173 096	177 530	152 070	165 737	203 071	216 510	223 174	223 174	164 965	103 285	91 752	75 220	
Confirmed with RDT	-	-	-	-	-	-	-	499 725	543 941	543 941	599 216	729 831	795 618	1 158 083	
Imported cases	-	-	-	-	-	-	-	157 448	223 899	223 899	271 103	317 523	373 542	405 366	
Presumed and confirmed Microscopy examined	48 686	146 351	133 431	196 605	140 687	178 056	166 474	135 809	135 809	153 331	123 903	96 383	71 752	70 272	
Confirmed with microscopy	100 063	126 962	183 519	196 223	158 044	188 930	166 476	135 809	135 809	153 331	150 230	102 977	95 011	152 780	
RDT Examined	7981	6396	12 750	9506	4895	5050	4969	5621	3888	3888	3335	3115	1910	1659	
Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	17 887	25 353	22 472	32 989	
Imported cases	-	-	-	-	-	-	-	-	-	-	-	779	1504	433	



WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Western Pacific	Presumed and confirmed Microscopy examined	368 913	373 838	353 114	208 364	412 251	393 288	403 892	150 126	102 140	84 078	95 006	80 859	57 296	53 270
	Confirmed with microscopy RDT Examined	300 806	297 345	278 178	300 591	321 954	316 898	328 555	311 447	276 639	231 221	212 329	182 847	202 620	191 137
	Confirmed with microscopy RDT Examined	68 107	76 493	74 936	92 227	90 297	76 390	75 337	65 404	40 535	33 002	35 373	23 202	21 904	21 540
	Confirmed with RDT	-	-	-	-	-	-	-	-	-	-	17 300	17 457	13 987	26 216
	Imported cases	-	-	-	-	-	-	-	-	-	-	4 331	3 455	2 479	4 069
	Presumed and confirmed Microscopy examined	33 779	19 493	35 151	43 386	42 008	34 912	30 067	20 215	24 279	22 271	16 831	57 64	34 35	23 81
	Confirmed with microscopy RDT Examined	31 668	36 576	54 234	54 524	53 524	61 092	40 625	38 214	30 267	24 813	29 180	19 183	16 981	15 219
	Confirmed with microscopy RDT Examined	6 768	7 647	14 339	15 240	14 653	9 834	8 055	5 471	3 473	3 615	4 013	2 077	733	767
	Confirmed with RDT	-	-	-	-	-	-	-	-	1 639	2 065	10 246	12 529	16 292	13 724
	Imported cases	-	-	-	-	-	-	-	-	292	574	4 156	2 743	2 702	16 14
	Presumed and confirmed Microscopy examined	274 910	188 122	151 961	135 989	108 350	84 473	74 766	59 601	51 668	49 186	54 297	45 588	43 717	35 406
	Confirmed with microscopy RDT Examined	2 682 862	2 821 440	2 856 539	2 738 600	2 694 854	2 728 481	2 842 429	3 634 060	1 297 365	2 829 516	2 760 119	2 791 917	2 897 730	2 684 996
	Confirmed with microscopy RDT Examined	74 316	68 699	47 807	38 790	24 909	19 496	22 637	16 389	11 355	16 130	17 515	16 612	19 638	17 128
	Confirmed with RDT	-	10 000	94 000	-	-	-	130 000	78 294	72 087	44 647	7 017	491 373	514 725	412 530
	Imported cases	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Regional Summary (Presumed and confirmed malaria cases)</b>		<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
African Region		35 663 718	52 098 035	56 721 175	91 116 994	98 423 832	96 541 393	95 920 674	99 645 518	90 068 547	118 026 130	128 263 514	122 023 537	110 176 919	122 454 712
Region of the Americas		1 181 104	982 778	895 134	889 993	909 466	1 049 444	920 506	784 591	563 429	573 032	677 242	495 093	469 884	428 483
Eastern Mediterranean		9 312 314	7 966 892	8 228 975	8 200 465	4 528 808	7 117 410	7 137 177	8 348 266	8 459 131	7 217 208	6 370 339	5 986 974	5 911 503	4 999 692
European		33 293	24 785	20 891	16 558	10 123	5 331	3 111	1 436	757	451	356	311	422	317
South-East Asia		5 046 227	6 508 866	5 846 648	5 972 055	6 331 300	4 422 348	4 180 952	3 526 781	3 425 384	3 058 012	4 610 770	4 463 996	3 760 367	3 121 363
Western Pacific		2 966 036	2 515 921	2 535 215	2 472 548	2 780 229	2 551 772	2 453 993	2 106 470	2 030 728	1 735 776	1 651 715	1 373 263	1 090 370	1 297 314
<b>Total</b>		<b>54 202 692</b>	<b>70 097 277</b>	<b>74 248 038</b>	<b>108 668 613</b>	<b>112 983 758</b>	<b>111 687 698</b>	<b>110 616 413</b>	<b>114 413 062</b>	<b>104 547 976</b>	<b>130 610 609</b>	<b>141 573 936</b>	<b>134 343 174</b>	<b>121 409 415</b>	<b>132 301 881</b>

1 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))

2 Where national totals for the United Republic of Tanzania are unavailable, refer to the sum of Mainland and Zanzibar

3 There is no local transmission

4 Armenia, Morocco and Turkmenistan are certified malaria-free countries, but are included in this listing for historical purposes



WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
African	Eritrea	Suspected	138 667	121 011	107 599	65 025	49 703	80 428	62 449	77 946	96 792	97 479	138 982	134 183		
		No Pf	-	8994	5335	3480	5750	8791	5638	3358	9785	10 263	12 121	12 482		
		No Pv	-	722	743	639	791	6508	2832	3244	3989	4932	9204	7361		
		No Other	-	-	-	-	-	252	-	-	57	19	381	1433		
	Ethiopia	Suspected	-	3 014 879	3 617 056	4 129 225	5 904 132	4 727 209	3 375 994	2 844 963	3 060 407	4 335 001	5 487 972	5 962 646	9 243 894	
		No Pf	-	233 218	262 623	291 402	396 621	374 335	293 326	269 514	274 657	594 751	732 776	814 547	946 595	1 687 163
		No Pv	-	1 57 625	1 64 772	1 71 387	1 78 676	1 58 658	1 49 020	1 71 710	1 73 300	287 114	390 252	665 813	745 983	958 291
		No Other	-	-	-	-	-	-	-	-	-	0	0	-	-	-
	Gabon	Suspected	127 024	132 918	157 440	166 321	230 246	294 348	214 985	287 969	298 150	114 766	233 770	178 822	238 483	256 531
		No Pf	50 810	53 167	62 976	58 212	70 075	70 644	33 458	45 186	40 701	187	2157	-	-	26 432
		No Pv	-	-	-	-	-	-	-	-	-	23	720	-	-	0
		No Other	-	-	-	-	-	-	-	-	-	0	2015	-	-	0
	Gambia	Suspected	-	481 590	620 767	540 165	395 043	329 426	427 598	439 798	508 846	479 409	492 062	-	1 724 884	889 494
		No Pf	-	-	-	-	-	-	-	-	-	-	64 108	190 379	271 038	175 126
		No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ghana	Suspected	3 349 528	3 044 844	3 140 893	3 552 896	3 416 033	3 452 969	3 511 452	3 123 147	3 349 781	5 489 798	5 056 851	5 067 731	12 578 946	8 444 417	
	No Pf	-	-	-	-	-	-	-	457 424	918 105	924 095	926 447	593 518	3 755 166	1 629 198	
	No Pv	-	-	-	-	-	-	-	0	0	0	0	0	0	0	
	No Other	-	-	-	-	-	-	-	19 060	38 254	38 504	102 937	31 238	0	0	
Guinea	Suspected	816 539	851 877	850 147	731 911	876 837	850 309	834 835	888 643	657 003	812 471	1 092 554	1 276 057	1 220 574	775 341	
	No Pf	4800	6238	16 561	4378	103 069	50 452	41 228	28 646	33 405	20 932	20 936	5450	191 421	63 353	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
Guinea-Bissau	Suspected	246 316	202 379	194 976	162 344	187 910	204 555	168 462	160 305	168 326	170 255	195 006	300 233	237 398	238 580	
	No Pf	-	-	-	-	-	-	-	12 856	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Kenya	Suspected	4 216 531	3 262 931	3 342 993	5 395 518	7 577 208	9 181 224	8 926 058	9 610 691	-	8 123 689	7 557 454	13 127 058	12 883 521	14 677 837	
	No Pf	-	-	-	39 383	28 328	-	-	-	839 903	-	898 531	1 002 805	1 453 471	2 335 286	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Liberia	Suspected	-	-	-	-	-	66 043	1 455 807	835 082	994 560	1 200 320	3 087 659	2 887 105	2 441 800	2 202 213	
	No Pf	-	-	-	-	-	44 875	761 095	80 373	157 920	212 657	212 927	577 641	1 407 455	1 244 220	
	No Pv	-	-	-	-	-	-	-	0	0	0	0	-	-	0	
	No Other	-	-	-	-	-	-	-	0	0	0	0	-	-	0	
Madagascar	Suspected	1 417 112	1 411 107	1 621 399	2 228 721	1 489 944	1 260 575	1 111 192	894 213	589 202	717 982	719 967	805 701	980 262	2 142 620	
	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Malawi	Suspected	3 646 212	3 823 796	2 784 001	3 358 960	2 871 098	3 688 389	4 498 949	4 786 045	5 185 082	6 183 816	6 851 108	5 734 906	6 528 505	5 787 441	
	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mali	Suspected	546 634	612 896	723 077	809 428	1 969 214	962 706	1 022 592	1 291 853	1 045 424	1 633 423	3 324 238	2 628 593	2 171 739	2 849 453	
	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mauritania	Suspected	-	243 942	224 614	318 120	224 840	223 472	217 977	222 476	202 297	181 935	250 073	162 820	172 374	135 985	
	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mayotte, France	Suspected	-	-	-	792	743	500	392	421	346	352	2023	1214	1463	82	
	No Pf	-	-	-	-	-	-	373	413	328	306	355	86	66	77	
	No Pv	-	-	-	-	-	-	3	0	4	8	10	5	2	1	
	No Other	-	-	-	-	-	-	2	1	7	20	31	0	4	-	
Mozambique	Suspected	-	-	-	-	-	-	-	6 155 082	4 831 491	4 310 086	6 059 263	7 059 112	6 170 561	8 200 849	
	No Pf	-	-	-	-	-	-	-	-	-	878 009	663 132	927 841	2 998 874	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

# Annex 6C – Reported malaria cases by species, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
African	Namibia	Suspected	-	538 512	445 803	468 259	610 799	265 595	172 024	155 399	102 956	39 855	74 407	10 844	188 004	
		No Pf	-	-	-	-	-	-	-	-	1092	505	556	335	194	136
		No Pv	-	-	-	-	-	-	-	-	-	0	0	0	0	0
	Niger	Suspected	-	1 340 142	888 345	681 783	766 502	889 986	982 245	3 677 661	4 493 676	4 719 439	10 616 033	3 637 778	4 250 976	5 151 131
		No Pf	-	-	-	-	53 637	74 129	44 612	54 515	60 998	77 484	601 456	757 449	817 072	1 426 696
		No Pv	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	Nigeria	No Other	-	-	-	-	-	-	-	1113	1245	1581	18 602	23 425	25 270	5102
		Suspected	2 476 608	2 253 519	2 605 381	2 608 479	3 310 229	3 532 108	3 982 372	2 969 950	2 834 174	4 295 686	3 873 463	5 221 656	11 789 970	21 659 831
		No Pf	-	-	-	-	-	-	-	-	-	-	523 513	-	-	-
	Rwanda	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sao Tome and Principe	Suspected	66 250	84 993	94 249	86 546	105 341	73 050	60 819	49 298	358 122	119 877	58 961	117 279	126 897	108 652
		No Pf	-	-	-	-	-	-	-	-	-	-	2219	6363	10 700	9242
		No Pv	-	-	-	-	-	-	-	-	-	-	14	4	1	1
Senegal	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Suspected	1 134 587	974 256	1 000 310	1 472 764	1 240 918	1 418 091	1 645 494	1 337 550	1 031 000	947 514	1 043 632	900 903	897 943	1 119 100	
	No Pf	44 959	14 261	15 261	28 272	23 171	38 746	49 366	118 332	194 234	19 614	343 670	277 326	281 080	345 889	
Sierra Leone	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
South Africa	Suspected	64 624	26 506	15 649	13 459	13 399	7755	14 456	6327	7796	6117	276 669	382 434	152 561	603 932	
	No Pf	-	-	-	-	-	-	-	-	-	-	2181	6906	3109	8645	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	14	5	0	
South Sudan <sup>1</sup>	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Suspected	-	237 712	462 056	646 673	515 958	337 582	116 473	101 008	201 036	325 634	900 283	795 784	1 125 039	1 855 501	
	No Pf	-	-	-	-	-	-	-	-	-	-	-	112 024	-	-	
Swaziland	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Suspected	29 374	35 582	23 456	19 425	11 320	10 374	11 637	6338	5881	6624	1722	797	626	669	
	No Pf	0	1395	670	342	574	279	155	84	58	106	87	130	78	160	
Togo	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Suspected	0	498 826	583 872	490 256	516 942	437 662	566 450	914 590	1 193 316	1 304 772	1 419 928	893 588	1 311 047	2 885 142	
Uganda	No Pf	-	-	-	-	-	-	-	220 521	344 098	191 357	224 080	237 282	260 526	272 847	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	195	7	23	9	8	
United Republic of Tanzania <sup>2</sup>	Suspected	3 552 859	5 624 032	8 079 963	10 422 022	11 697 824	10 869 875	11 539 146	13 281 631	13 020 439	14 397 480	15 332 293	12 522 232	16 845 771	24 068 702	
	No Pf	-	-	546 015	785 748	861 451	1 082 223	850 050	1 024 470	959 712	1 275 310	1 565 348	231 873	2 662 258	5 518 853	
	No Pv	-	-	-	-	-	-	-	-	-	-	15 812	0	0	-	
Mainland	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Suspected	81 442	384 741	494 245	13 792 604	15 007 921	16 740 283	12 821 375	11 387 904	11 496 544	13 018 946	15 388 319	15 299 205	14 513 120	0	
	No Pf	17 734	18 385	16 983	15 705	11 936	7628	1585	293	67	211	2338	4489	2730	-	
Mainland	No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013			
African	Zanzibar	Suspected	81 442	80 309	78 952	77 514	70 806	61 046	45 498	32 857	32 140 66	266 856	272 077	455 718	536 750	527 957		
		No Pf	17 734	18 385	16 983	15 705	11 936	7 628	1 585	-	293	77	211	364	4 489	2 730	2 194	
		No Pv	-	-	-	-	-	-	-	-	-	0	0	0	0	201	52	
	Zambia	Suspected	3 337 796	3 838 402	3 760 335	4 346 172	4 078 234	4 121 356	4 731 338	4 248 295	3 080 301	2 976 395	4 229 839	4 607 908	4 695 400	5 465 122	-	
		No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Zimbabwe	Suspected	-	-	-	-	1 815 470	1 494 518	1 313 458	1 272 731	1 089 322	867 135	912 618	480 011	727 174	1 115 005	-	
		No Pf	-	-	-	-	-	-	-	-	-	-	249 379	319 935	276 963	422 633	-	
		No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Region of the Americas	Argentina	Suspected	7949	6685	5043	3977	3018	3018	6353	6353	5157	86	2547	7872	12 694	4913	
			No Pf	1	0	0	0	1	1	1	2	0	0	0	0	0	0	0
			No Pv	439	215	125	122	115	251	211	385	385	130	86	72	18	4	4
		Bahamas <sup>3</sup>	Suspected	22	4	1	34	17	9	546	6	6	35	0	27 272	31 013	0	0
			No Pf	-	-	-	-	2	1	-	-	13	-	-	-	-	-	-
			No Pv	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-
Belize		Suspected	18 559	18 173	15 480	15 480	17 358	25 119	25 755	22 134	25 550	26 051	27 366	22 996	20 789	25 351	0	
		No Pf	20	6	0	0	6	32	10	10	0	1	0	1	1	0	0	
		No Pv	1466	1156	1134	1084	1060	1517	834	845	540	255	149	78	36	26	0	
Bolivia (Plurinational State of)		Suspected	143 990	122 933	137 509	158 299	168 307	208 021	214 616	181 816	164 826	133 614	140 857	150 662	132 904	144 139	0	
		No Pf	2536	808	727	793	695	1080	1785	1622	836	574	1200	526	385	975	0	
		No Pv	28 932	14 957	13 549	17 319	14 215	19 062	17 210	12 988	8912	8660	12 569	7635	8141	7398	0	
Brazil		Suspected	2 562 576	2 274 610	2 118 491	2 009 414	2 194 780	2 660 539	2 959 489	2 986 381	2 726 433	2 711 062	2 711 432	2 477 821	2 349 341	1 893 018	0	
		No Pf	131 616	81 333	80 188	88 174	110 422	155 169	145 858	93 591	49 533	50 933	51 048	32 100	32 437	29 717	0	
		No Pv	478 212	306 396	267 245	320 378	354 366	450 687	403 383	364 912	266 300	258 271	283 435	231 368	203 018	143 050	0	
Colombia	Suspected	478 820	747 079	686 635	640 453	562 681	493 562	451 240	589 755	493 135	436 366	521 342	418 032	416 767	327 064	0		
	No Pf	51 730	100 242	88 972	75 730	55 158	43 472	46 147	54 509	22 392	21 441	34 334	14 650	17 106	20 370	0		
	No Pv	92 702	130 991	115 944	105 226	87 083	78 157	73 949	70 753	56 838	57 111	83 255	44 701	51 467	37 862	0		
Costa Rica	Suspected	61 261	43 053	17 738	9622	9204	12 767	24 498	22 641	17 304	4829	15 599	10 690	7485	16 774	0		
	No Pf	12	1	2	14	5	3	32	11	0	1	2	4	0	1	0		
	No Pv	1867	1362	1008	704	1284	3538	2667	1212	966	261	112	13	5	4	0		
Dominican Republic	Suspected	427 297	411 431	391 216	349 717	322 948	397 108	446 839	435 649	381 010	353 336	495 637	477 555	506 533	502 683	0		
	No Pf	1226	1034	1292	1528	2353	3829	3519	2708	1839	1643	2480	1614	950	576	0		
	No Pv	7	4	4	1	2	8	6	3	3	1	0	2	2	3	0		
Ecuador	Suspected	544 646	538 757	403 225	433 244	357 633	358 361	318 132	352 426	387 558	451 732	488 830	460 785	459 157	397 628	0		
	No Pf	48 974	37 491	20 015	10 724	5891	2212	1596	1158	396	551	258	296	80	161	0		
	No Pv	55 624	71 412	66 742	41 341	22 839	14 836	8267	7306	4495	3569	1630	937	478	217	0		
El Salvador	Suspected	279 072	111 830	115 378	102 053	94 819	102 479	113 754	95 857	97 872	83 031	115 256	100 884	124 885	103 748	0		
	No Pf	9	2	0	2	1	2	1	2	1	1	2	3	3	0	0		
	No Pv	744	360	117	83	111	65	48	38	32	19	22	12	16	7	0		
French Guiana, France	Suspected	48 162	44 718	44 718	32 402	32 402	32 402	32 402	32 402	11 994	20 065	14 373	14 429	13 638	22 327	0		
	No Pf	3051	3166	2547	3080	2437	1777	1847	845	406	424	604	376	264	538	0		
	No Pv	657	657	954	759	600	1637	2227	1804	925	1003	476	339	257	337	0		
Guatemala	Suspected	214	0	160	0	0	71	27	23	10	6	5	5	2	0			
	No Pf	246 642	198 114	197 113	156 227	148 729	178 726	168 958	132 410	175 651	156 651	237 075	195 080	186 645	171 405	0		
	No Pv	50 171	34 772	33 695	29 817	28 103	38 641	30 289	15 182	7148	7024	7163	6707	5278	6062	0		
		36	0	0	0	0	48	0	0	0	0	0	0	0	0			

# Annex 6C – Reported malaria cases by species, 2000–2013 (continued)

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Region of the Americas	Guyana	Suspected	209 197	211 221	175 966	185 877	151 938	210 429	202 688	178 005	137 247	169 309	212 863	201 728	196 622	205 903
		No Pf	12 324	12 831	10 599	12 970	12 226	16 438	9818	4677	5741	7542	14 401	15 945	16 772	13 655
		No Pv	11 694	14 291	11 296	14 654	16 141	21 255	10 560	6712	5927	6029	8402	9066	11 244	13 953
	Haiti	No Other	0	0	0	3	446	1291	686	267	147	102	132	96	92	101
		Suspected	21 190	51 067	-	-	30 440	3 541 506	87 951	142 518	168 950	270 438	270 427	184 934	167 726	172 624
		No Pf	16 897	9837	-	-	10 802	21 778	32 739	29 824	36 768	49 535	84 153	32 969	25 423	20 957
	Honduras	No Pf	0	0	0	0	0	0	0	1	6	0	0	0	0	0
		No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Suspected	175 577	174 430	178 616	137 891	145 082	153 474	125 162	130 255	119 484	108 529	152 961	152 451	155 165	144 673
	Jamaica <sup>3</sup>	No Pf	1446	938	606	540	834	998	767	813	610	1382	986	605	583	1159
		No Pv	33 679	23 211	16 617	13 583	16 425	15 011	11 156	9700	7758	7939	8759	7013	5856	4269
		No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Mexico	Suspected	874	596	725	394	3879	2470	6821	199	30 732	34 149	10 763	5042	3687	-
		No Pf	-	3	-	-	-	-	-	21	17	17	-	-	-	-
		No Pv	-	2	-	-	-	-	-	1	4	4	-	-	-	-
Nicaragua	No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Suspected	2 003 569	1 857 233	1 852 553	1 565 155	1 454 575	1 559 076	1 345 915	1 430 717	1 246 780	1 240 087	1 192 081	1 035 424	1 025 659	1 017 508	
	No Pf	131	69	19	44	49	22	16	4	0	1	0	6	9	4	
Panama	No Pv	7259	4927	4605	3775	3357	2945	2498	2357	2357	2702	1226	1124	833	495	
	No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Suspected	509 443	482 919	491 689	448 913	492 319	516 313	476 144	537 637	543 173	553 717	554 414	535 925	552 722	536 170	
Paraguay	No Pf	1369	1194	995	1213	1200	1114	336	106	61	93	154	150	236	219	
	No Pv	22 645	9304	6700	5525	5699	5498	2784	1250	701	517	538	775	999	974	
	No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peru	Suspected	149 702	156 589	165 796	166 807	171 179	208 582	212 254	204 193	200 574	158 481	141 038	116 588	107 711	93 624	
	No Pf	45	39	337	627	882	766	62	48	4	3	20	1	1	6	
	No Pv	991	889	1907	3873	4213	2901	1601	1233	740	775	398	353	843	699	
Suriname	No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Suspected	97 026	71 708	99 338	126 582	97 246	85 942	111 361	92 339	96 313	64 660	62 178	48 611	31 499	24 806	
	No Pf	0	4	1	4	1	0	2	7	2	10	5	7	11	7	
Venezuela (Bolivarian Republic of)	No Pv	6853	2706	2777	1388	693	376	821	1337	333	81	22	3	4	3	
	No Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Suspected	1 483 816	1 417 423	1 582 385	1 485 012	1 438 925	1 438 925	1 438 925	861 290	1 438 925	42 645	702 952	744 650	702 952	759 285	
Afghanistan	No Pf	20 618	17 687	21 174	19 154	20 955	15 058	8437	7766	4768	4044	2374	2929	3399	6630	
	No Pv	47 690	61 680	78 000	66 588	72 676	72 611	56 488	43 031	33 895	32 976	29 169	22 018	28 164	36 285	
	No Other	13	11	10	13	0	-	-	-	-	0	3	3	7	11	
Djibouti	Suspected	63 377	67 369	68 070	43 241	56 975	59 855	45 722	33 992	29 911	34 717	-	15 270	20 810	19 736	
	No Pf	10 648	13 217	9752	8782	6738	6931	2331	547	838	929	721	331	126	420	
	No Pv	1673	1229	1648	1047	915	1611	733	509	639	895	817	382	167	359	
Egypt <sup>3</sup>	No Other	811	1549	1388	0	726	589	225	14	17	18	36	17	2	64	
	Suspected	261 866	198 000	278 205	344 236	420 165	420 165	479 708	396 338	414 137	370 258	400 495	382 303	410 663	476 764	
	No Pf	5491	2774	2572	5562	4620	6026	6928	8077	5540	8776	12 385	11 167	13 302	22 777	
Iran (Islamic Republic of)	No Pv	24 829	17 224	26 907	26 111	41 972	38 985	30 111	33 621	26 437	27 002	32 710	34 651	39 478	50 938	
	No Other	1	8	12	46	63	38	23	51	60	50	60	6	23	46	
	Suspected	366 865	-	-	-	280 301	548 503	789 186	869 144	935 043	847 666	847 589	936 252	847 933	787 624	
Iran (Islamic Republic of)	No Pf	5115	-	84 528	44 243	12 789	5917	6216	6283	4355	4026	6142	5581	1231	1877	
	No Pv	89 240	-	330 083	316 697	229 233	110 527	79 913	85 919	77 219	60 854	63 255	71 968	53 609	37 386	
	No Other	-	-	-	-	-	-	0	0	0	0	0	0	0	0	
Iraq (Islamic Republic of)	Suspected	-	-	-	-	-	3969	-	7945	6305	-	-	356	1410	-	
	No Pf	-	-	-	-	-	413	1796	210	119	-	1010	-	22	939	
	No Pv	-	-	-	-	-	0	0	0	0	-	0	-	0	0	
Jordan	No Other	-	-	-	-	-	0	0	0	0	-	0	-	0	0	
	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	No Pf	17	9	8	44	39	23	27	28	76	81	82	107	179	238	
Kuwait	No Pv	0	0	2	1	4	0	2	4	4	13	3	9	26	19	
	No Other	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lebanon	No Pf	2546	2158	2382	4475	1380	2219	1199	1266	938	264	166	152	44	72	
	No Pv	-	17 145	13 176	19 087	12 441	16 747	14 710	14 322	10 337	5485	2610	2668	1418	1073	
	No Other	-	0	0	0	0	0	0	0	0	0	0	0	0	1	



WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013		
Eastern Mediterranean	Iraq <sup>2</sup>	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		No Pf	-	-	1	0	0	0	0	0	1	0	2	3	0	1	-
		No Pv	-	-	346	154	47	24	24	3	3	5	1	4	7	8	7
	Oman	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Pf	316	283	266	299	158	153	100	93	94	160	140	101	83	81	-
		No Pv	366	336	315	428	449	385	341	602	718	718	1039	1422	1963	1366	-
	Pakistan	Suspected	-	7 024 978	7 530 636	8 662 496	6 074 739	8 671 271	8 680 304	9 330 723	8 330 040	7 973 246	8 601 835	8 418 570	8 902 947	7 752 797	-
		No Pf	-	41 771	32 591	39 944	32 761	42 056	37 837	39 856	24 550	37 079	73 857	73 925	70 006	46 067	-
		No Pv	-	83 504	75 046	85 176	93 385	85 748	86 999	88 699	79 868	95 604	143 136	205 879	215 950	223 660	-
	Saudi Arabia	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Pf	-	2360	1999	1234	-	-	984	2349	833	1649	883	1045	1279	974	-
		No Pv	-	678	567	462	-	-	280	515	638	672	1023	1719	2088	1527	-
	Somalia	Suspected	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Pf	-	-	102 540	28 356	55 423	63 770	-	-	120 060	106 341	220 698	99 403	-	119 752	-
		No Pv	-	-	-	-	-	-	-	617	738	504	0	-	-	-	-
	Sudan	Suspected	-	-	-	-	-	-	-	4 597 254	4 555 054	4 440 882	2 398 239	2 962 407	2 475 340	2 197 563	-
		No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		No Pv	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Syrian Arab Republic <sup>3</sup>	Suspected	-	-	-	-	-	-	-	68 000	-	25 751	19 151	25 109	19 136	18 814	-
		No Pf	-	14	6	8	9	17	27	35	46	38	19	37	40	21	-
No Pv		-	-	-	-	-	-	-	-	-	1	0	9	1	1	-	
Yemen	Suspected	42	65	21	15	4	11	7	2	5	0	3	0	1	0	-	
	No Pf	-	667 794	612 693	611 552	629 380	962 017	740 940	900 735	899 320	835 018	804 940	891 394	891 394	927 821	-	
	No Pv	-	73 667	47 782	47 306	42 627	53 887	64 991	42 702	52 836	77 271	59 689	109 504	102 369	102 369	-	
European	Armenia <sup>4</sup>	Suspected	527 688	536 260	507 252	536 822	545 145	515 144	498 697	465 033	408 780	451 436	456 652	449 168	497 040	432 810	-
		No Pf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
		No Pv	1526	1056	506	482	386	242	143	109	109	72	80	6	3	0	-
	Azerbaijan	Suspected	173	3574	6145	5457	3365	5169	4400	3400	4398	4120	2368	2032	1046	192	-
		No Pf	0	0	1	2	1	0	1	0	1	5	0	3	3	6	-
		No Pv	245	438	473	314	255	155	59	24	7	1	0	3	2	1	-
	Georgia <sup>3</sup>	Suspected	70 500	72 020	69 807	144 070	79 895	114 316	74 729	62 444	40 833	33 983	30 190	27 850	18 268	54 249	-
		No Pf	0	0	1	0	0	0	1	0	0	0	0	0	0	0	-
		No Pv	12	28	2742	468	93	226	318	96	18	4	6	4	2	3	-
	Kyrgyzstan <sup>3</sup>	Suspected	795	898	642	533	382	205	143	35 784	28 340	27 382	33 024	28 311	0	-	-
		No Pf	60	-	48	51	43	31	41	42	47	62	60	39	-	-	-
		No Pv	-	-	-	-	-	-	-	76	46	40	34	40	-	-	-
	Russian Federation <sup>3</sup>	Suspected	233 785	248 565	244 632	296 123	272 743	216 197	175 894	159 232	158 068	165 266	173 523	173 367	209 239	213 916	-
		No Pf	831	826	509	252	151	81	28	7	2	1	1	5	2	1	-
		No Pv	18 233	10 561	5651	5176	3437	2228	1316	628	316	164	111	73	31	13	-
	Tajikistan	Suspected	1 597 290	1 550 521	1 320 010	1 187 814	1 158 673	1 042 509	934 839	775 502	616 570	606 875	507 841	421 295	337 830	255 125	-
		No Pf	7	11	12	12	13	32	29	29	23	16	49	97	131	186	-
		No Pv	11 424	10 799	10 209	9209	5289	2052	767	329	191	65	28	30	243	94	-
	Turkey	Suspected	1	2	3	1	0	0	0	0	1	3	0	1	1	-	-
		No Pf	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No Pv		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Western Pacific	Lao Peoples Democratic Republic	Suspected	496 070	303 306	309 688	326 297	218 884	173 698	210 927	275 602	311 395	266 096	280 549	221 390	369 976	339 013
		No Pf	38 271	25 851	20 696	18 307	15 648	13 106	28 347	17 178	18 938	5328	4393	5770	37 692	24 538
		No Pv	1689	1204	712	574	491	473	316	193	193	247	176	122	442	7634
	Malaysia	No Other	-	-	-	-	-	-	-	7	21	0	1	14	770	956
		Suspected	1 832 802	1 808 759	1 761 721	1 632 024	1 577 387	1 425 997	1 388 267	1 565 033	1 562 148	1 565 982	1 619 074	1 600 439	1 566 872	1 576 012
		No Pf	6000	5643	5486	2756	2496	2222	1790	1778	2288	1885	1681	973	73	894
	Papua New Guinea	No Pv	5953	6315	4921	3127	3167	2729	2774	2862	3820	3379	3812	2422	1461	969
		No Other	-	-	-	-	-	-	-	615	1011	1502	984	1758	2306	-
		Suspected	1 897 579	1 802 857	1 739 219	1 783 145	2 000 261	1 962 493	1 816 963	1 779 343	1 779 343	1 769 032	1 507 122	1 505 393	1 279 140	1 113 528
	Philippines	No Pf	63 591	74 117	58 403	54 653	63 053	62 926	59 040	61 803	61 071	48 681	56 735	59 153	58 747	119 469
		No Pv	14 721	18 113	14 187	14 055	18 730	22 833	22 744	16 239	16 806	11 472	13 171	9654	7108	7579
		No Other	-	-	-	-	-	-	2998	5128	3168	1024	1990	632	609	1279
	Republic of Korea	Suspected	36 596	34 968	37 005	48 441	446 104	593 996	396 706	408 254	278 652	352 006	301 031	327 060	332 063	318 883
		No Pf	25 912	18 006	22 831	32 948	29 018	20 033	24 515	8789	11 807	13 933	11 824	6877	4774	4968
		No Pv	-	-	-	-	-	6482	8839	3622	4806	4951	2885	2380	2189	1357
Solomon Islands	No Other	-	-	-	-	-	-	-	17	197	262	175	127	57	83	
	Suspected	4183	2556	1799	1171	864	1369	2051	2227	1052	1345	1772	838	555	443	
	No Pf	-	-	-	-	-	-	-	-	11	26	51	56	54	31	
Vanuatu	No Pv	-	-	-	-	-	-	-	2227	1052	1319	1721	782	501	397	
	No Other	-	-	-	-	-	-	-	-	-	-	0	0	0	0	
	Suspected	601 612	594 690	556 356	416 728	643 908	633 796	657 110	396 169	396 169	338 244	282 297	284 931	254 506	249 520	245 014
Viet Nam	No Pf	46 703	50 806	50 090	64 910	64 449	54 001	54 441	48 612	29 492	19 580	22 892	14 454	14 748	13 194	
	No Pv	21 322	25 649	24 822	27 399	25 927	22 515	20 971	16 653	11 173	8544	12 281	8665	9339	11 628	
	No Other	-	-	-	-	-	-	-	139	84	-	-	0	232	446	
Viet Nam	Suspected	58 679	48 422	75 046	82 670	80 879	86 170	62 637	52 958	52 420	44 960	48 088	32 656	33 273	28 943	
	No Pf	3226	3402	7016	8406	6999	3817	3522	2424	1579	1802	1545	770	1257	1039	
	No Pv	2972	4236	7210	6582	6350	4453	4405	2987	1850	1632	2265	1224	1680	1342	
Viet Nam	No Other	-	-	-	-	-	-	-	0	0	4	10	2	470	0	
	Suspected	2 883 456	2 950 863	3 054 693	2 835 799	2 778 295	2 793 458	3 024 558	3 755 566	3 755 566	1 409 765	2 907 219	3 312 266	3 436 534	3 115 804	
	No Pf	57 605	52 173	36 583	29 435	19 023	14 231	17 911	11 470	8901	12 719	12 763	10 101	11 448	9532	
Viet Nam	No Pv	15 935	15 898	10 846	9004	5681	5102	4497	4737	2348	3206	4466	5602	7220	6901	
	No Other	-	-	-	-	-	-	-	0	0	0	0	0	0	0	

1 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))

2 Where national totals for the United Republic of Tanzania are unavailable, refer to the sum of Mainland and Zanzibar

3 There is no local transmission

4 Armenia and Turkmenistan are certified malaria-free countries, but are included in this listing for historical purposes

# Annex 6D – Reported malaria deaths, 2000–2013

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
African	Algeria	1	1	-	-	-	-	-	-	-	0	1	5	1	0	
	Angola	9510	9473	14 434	38 598	12 459	56	10 220	60	9465	355	8114	6909	69	7300	
	Benin	-	468	707	560	944	322	1226	1005	918	1157	801	1753	2261	1671	
	Botswana	-	4	23	1	19	11	7	6	1	6	8	8	1	7	
	Burkina Faso	-	4233	4032	4860	4205	5224	333	3828	61	4707	51	5519	88	6294	
	Burundi	691	167	483	185	689	354	434	90	595	566	2677	1116	2263	44	
	Cabo Verde	-	0	0	4	0	0	2	0	2	0	2	0	1	1	0
	Cameroun	-	-	-	-	-	-	836	2887	1811	1112	4943	241	2528	3209	39
	Central African Republic	422	535	-	326	859	523	865	467	456	456	515	526	711	1442	810
	Chad	712	957	98	1021	13	558	837	617	1018	1018	221	676	1	1359	1881
	Comoros	-	-	-	-	0	92	0	10	10	47	-	53	14	9	15
	Congo	-	-	-	-	-	-	-	113	113	70	116	-	12	623	2870
	Côte d'Ivoire	-	-	-	-	-	-	-	5	5	1249	391	1023	261	1534	3261
	Democratic Republic of the Congo	3856	416	2152	989	13 613	1439	12 970	1616	17 940	217	0	23 476	310	15 725	215
	Equatorial Guinea	-	-	-	-	-	-	-	-	-	3	0	20	52	77	0
	Eritrea	-	37	86	29	24	6	47	0	0	19	0	4	0	30	6
	Ethiopia	-	67	1607	68	401	71	432	17	189	189	11	242	150	195	358
	Gabon	2016	438	1141	175	466	87	238	48	156	434	0	95	46	134	273
	Gambia	-	160	3	122	2	270	9	229	14	94	94	151	246	289	262
	Ghana	54	1717	60	2103	74	2037	54	4622	29	4622	3378	3859	1539	2855	13
	Guinea	6	517	15	586	528	490	-	274	441	441	11	735	4	11	9
	Guinea-Bissau	-	416	780	535	565	373	507	242	487	487	168	296	472	4	418
	Kenya	48 767	48 286	47 697	51 842	25 403	44 328	40 079	285	1102	1102	-	26 017	230	284	135
	Liberia	-	-	-	-	-	41	36	310	310	345	1706	1422	-	11	31
	Madagascar	238	742	211	817	302	699	186	428	127	127	348	177	398	552	641
	Malawi	-	2027	5775	2872	3457	3042	6464	54	8048	25	25	3393	3398	3398	3723
	Mali	444	562	826	1309	1012	1285	1914	1782	951	951	2331	3006	1558	1894	1680
	Mauritania	-	-	-	-	-	-	67	5	5	-	66	211	17	106	25
	Mayotte, France	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	Mozambique	-	-	-	-	-	-	-	1733	1733	4424	954	3354	923	2818	2941
	Namibia	-	1728	1504	1106	1185	1325	571	181	181	152	10	63	2	4	8
	Niger	1244	2366	2248	1382	2060	2570	2356	10 289	8677	8677	4126	4238	1860	4209	7878
	Nigeria	-	4317	4092	5343	6032	156	6586	449	566	566	280	175	380	459	409
	Rwanda	-	1653	3167	1208	2362	1288	2486	0	0	11	0	9	2	2	11
	Sao Tome and Principe	198	2	251	1	139	1	17	0	0	0	0	0	0	0	0
	Senegal	127	1515	61	1602	79	1587	50	1935	24	24	574	553	160	649	313
	Sierra Leone	-	328	30	157	56	50	23	254	871	871	564	8188	2723	3611	2962
	South Africa	424	81	96	142	88	63	87	37	37	43	45	83	54	1	104
	South Sudan <sup>1</sup>	-	-	-	-	-	-	-	-	-	263	187	1053	297	1321	1311
	Swaziland	-	62	46	30	28	17	27	0	0	10	2	8	1	3	4
	Togo	-	1394	1661	1130	1183	1024	819	13	2663	9	9	14	944	1197	373
	Uganda	-	-	-	-	-	-	2795	113	1279	1279	69	4463	5958	6585	4136
	United Republic of Tanzania	379	1087	815	15 121	19 859	18 238	141	12 565	5065	5065	16 776	10 896	11 806	3925	73
	United Republic of Tanzania (Mainland)	-	838	441	14 943	19 547	18 075	4	12 529	5007	5007	16 696	10 893	11 799	3925	73
	United Republic of Tanzania (Zanzibar)	379	249	374	178	312	163	137	36	36	58	80	3	7	0	0
	Zambia	-	5513	9021	4935	8289	3388	6484	3801	3781	3781	38	2790	4540	36	2011
	Zimbabwe	-	-	1844	1044	1809	1916	174	18	18	37	108	40	451	351	352
Region of the Americas	Argentina	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
	Bahamas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Belize	0	0	0	-	1	0	1	0	0	0	0	0	0	0	
	Bolivia (Plurinational State of)	11	0	4	1	3	0	0	0	0	0	0	0	0	0	
	Brazil	243	142	93	103	100	122	105	93	67	85	76	69	64	41	
	Colombia	41	58	40	24	25	28	53	19	22	12	12	18	20	10	
	Costa Rica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Dominican Republic	6	17	11	12	16	16	10	17	11	14	14	15	10	8	
	Ecuador	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
	El Salvador	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
French Guiana, France	0	3	2	5	1	2	5	5	5	2	1	1	2	2		
Guatemala	0	0	0	0	2	4	2	3	3	0	0	0	0	0		

WHO region	Country/area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Region of the Americas	Guyana	-	30	27	41	38	32	20	20	11	11	18	3	3	3	
	Haiti	16	62	76	102	23	29	32	28	17	7	8	5	6	10	
	Honduras	0	0	0	0	0	1	0	0	2	2	1	2	1	1	
	Jamaica	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mexico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Nicaragua	4	2	8	7	1	6	1	0	0	0	0	1	0	2	0
	Panama	1	1	2	4	2	1	1	1	1	1	0	1	0	1	0
	Paraguay	0	0	0	0	0	4	6	2	2	2	2	0	0	0	0
	Peru	20	25	12	9	6	4	6	2	2	2	2	0	2	2	4
	Suriname	24	23	15	18	7	1	1	1	1	0	0	1	1	0	1
	Venezuela (Bolivarian Republic of)	24	28	23	40	35	17	11	16	9	11	11	18	16	6	6
	Eastern Mediterranean	Afghanistan	-	-	-	-	-	0	-	25	46	32	22	40	36	24
		Djibouti	-	-	-	-	-	-	29	1	-	0	0	0	0	17
		Egypt <sup>2</sup>	-	-	-	-	-	-	0	0	2	2	2	4	-	-
		Iran (Islamic Republic of)	4	2	2	5	1	1	1	3	3	-	-	0	-	2
		Iraq	-	-	-	-	-	0	0	0	0	0	0	0	0	0
Oman		-	-	-	-	-	0	0	0	2	2	0	0	0	0	
Pakistan		-	-	-	-	-	52	9	24	-	-	-	4	4	260	244
Saudi Arabia		-	0	0	0	0	0	0	2	0	0	0	2	0	0	
Somalia		-	-	8	54	79	15	58	45	49	45	45	6	5	-	
Sudan		2162	2252	2125	2479	1814	1789	1193	1254	1125	1142	1023	612	618	685	
Syrian Arab Republic <sup>2</sup>		-	-	-	-	-	2	2	1	1	1	1	0	0	1	
Yemen		-	-	-	-	-	-	73	-	-	-	38	92	75	72	55
European		Armenia <sup>1</sup>	0	0	0	0	0	0	0	0	0	0	0	0	-	-
		Azerbaijan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Georgia <sup>2</sup>	-	0	0	0	0	0	0	0	0	0	0	0	0	0
		Kyrgyzstan <sup>2</sup>	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Russian Federation <sup>2</sup>	2	3	2	4	5	3	4	3	2	1	1	1	1	-	
	Tajikistan	-	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Turkey	0	0	0	0	0	0	0	0	3	1	1	4	4	3	
	Turkmenistan <sup>3</sup>	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
	Uzbekistan <sup>2</sup>	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
	South-East Asia	Bangladesh	484	470	598	574	505	501	508	86	154	8	7	13	0	15
		Bhutan	15	14	11	14	7	5	7	0	2	1	0	0	1	0
		Democratic People's Republic of Korea	-	-	-	-	-	-	-	0	0	0	0	0	0	0
		India	892	1015	973	1006	949	963	1708	1311	1055	1144	1018	754	519	440
		Indonesia	833	-	-	-	508	88	494	-	669	900	432	388	252	45
		Myanmar	14	2814	14	2476	27	1707	14	1261	9	972	788	65	403	236
		Nepal	-	1	3	5	7	10	42	3	-	8	0	2	2	0
Sri Lanka		77	52	30	4	1	0	1	1	0	0	0	0	0	0	
Thailand		625	424	361	204	230	161	113	97	101	5	80	2	37	37	
Timor-Leste		-	-	-	-	65	71	68	23	33	8	58	5	3	3	
Western Pacific		Cambodia	91	476	67	492	50	296	59	241	20	279	151	11	45	12
		China	31	27	42	52	31	48	37	18	23	10	19	33	14	23
		Lao People's Democratic Republic	0	242	4	187	0	77	0	14	0	5	7	3	0	28
		Malaysia	2	46	38	21	4	33	1	18	3	26	33	18	16	14
		Papua New Guinea	617	144	647	145	619	725	668	559	628	604	616	523	381	307
		Philippines	536	439	71	162	167	145	124	73	1	24	0	2	1	12
	Republic of Korea	0	0	0	0	0	0	0	1	1	1	2	2	0	2	
	Solomon Islands	38	55	61	71	51	38	3	15	13	53	34	7	18	18	
	Vanuatu	1	4	1	14	1	5	5	5	1	2	1	1	1	0	
	Viet Nam	5	91	3	8	34	2	41	1	25	3	0	14	0	6	
	Regional summary	African	69 089	91 269	105 487	141 069	107 526	93 259	102 642	50 672	74 745	47 236	112 823	59 969	66 420	57 079
		Region of the Americas	390	391	313	367	260	263	248	207	145	145	165	127	115	84
		Eastern Mediterranean	2166	2254	2135	2538	1894	1859	1365	1355	1228	1262	1145	742	987	1027
		European	2	3	2	4	5	3	4	4	5	2	1	6	0	3
		South-East Asia	2940	4790	1990	4283	2299	3506	2955	2782	2023	3047	2383	1229	1215	776
		Western Pacific	1321	1524	934	1152	957	1369	933	945	714	1007	863	614	475	422
<b>Total</b>		<b>75 908</b>	<b>100 231</b>	<b>110 861</b>	<b>149 413</b>	<b>112 941</b>	<b>100 259</b>	<b>108 147</b>	<b>55 965</b>	<b>78 860</b>	<b>52 699</b>	<b>117 380</b>	<b>62 687</b>	<b>69 212</b>	<b>59 391</b>	

1 In May 2013 South Sudan was reassigned to the WHO African Region (WHA resolution 66.21, [http://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R21-en.pdf](http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R21-en.pdf))

2 There is no local transmission

3 Armenia and Turkmenistan are certified malaria-free countries, but are included in this listing for historical purposes

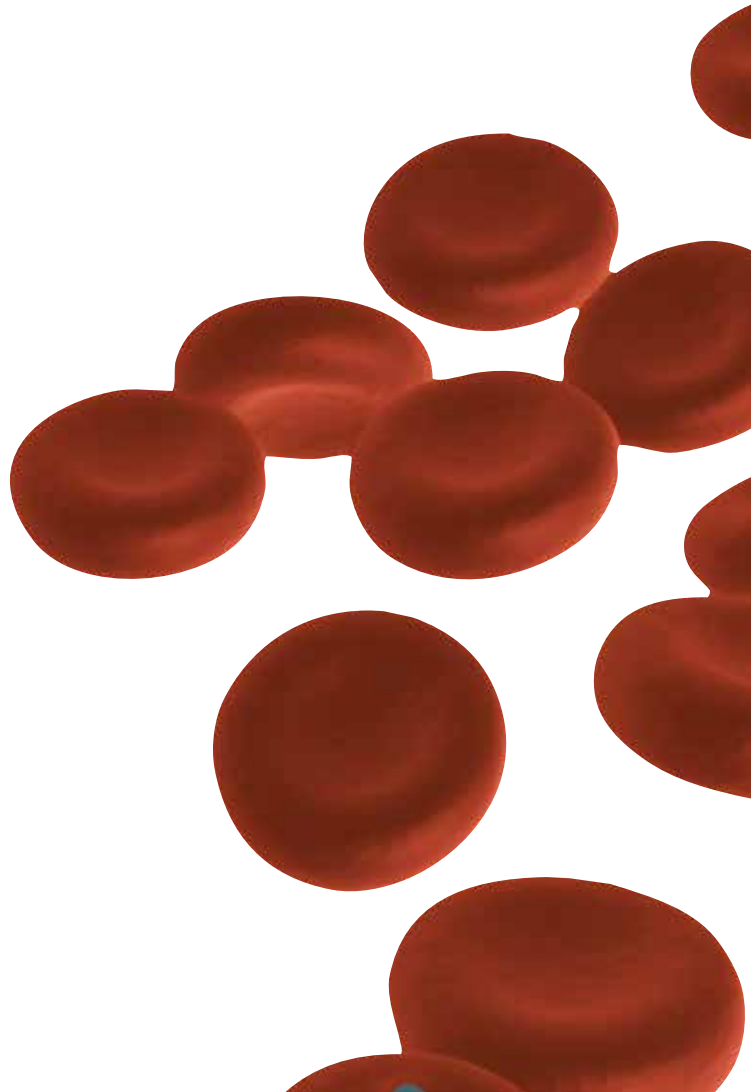


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