

## Overview of malaria control activities and programme progress

Malaria is the leading cause of illness and death in Papua New Guinea. Areas of perennial, very high intensity transmission of *P. falciparum* malaria, such as are common in tropical Africa, are found throughout the country.

Papua New Guinea is dedicated to halving the number of deaths and illness caused by malaria between 2001 and 2010. The NMCP has implemented strategies to: (i) improve diagnosis and treatment; (ii) implement vector control through ITNs, IRS and (where feasible) environmental modification; and (iii) information, education and communication materials about malaria. Targets set for these strategies include ensuring that 80% of the population in endemic areas are sleeping under an ITN by 2010 and conducting annual spraying in the highland regions prone to epidemics.

Before 2003, little progress was made caused by financial constraints. With funds from the GFATM granted in that year, the NMCP adjusted its targets for 2008: (i) more than 80% of the population in malaria-endemic areas should be consistently using LLINs; (ii) over 70% of suspected malaria cases should be laboratory-confirmed by rapid diagnostic tests or microscopy; (iii) the case rate should be reduced from 504/100 000 in 2001 to 300/100 000; and (iv) the mortality rate should be reduced from 12.8/100 000 in 2001 to 7/100 000.

The GFATM grant will finance the free distribution of LLINs in all malarious areas of Papua New Guinea, covering at-risk populations in endemic as well as epidemic-prone areas. The GFATM malaria control programme will also strengthen malaria diagnosis through the expansion of microscopy services and rapid diagnostic tests in health centres, subcentres and urban clinics in peripheral areas. Malaria treatment will be based on ACT.

The GFATM granted just over US\$ 6 million for 2 years; implementation of the GFATM malaria control programme began in August 2004.

### National malaria policy and strategy environment

#### National malaria strategy overview for 2003

|  | Strategy |
|--|----------|
| <b>Treatment and Diagnosis Guidelines</b><br>Published/updated in                  |          |
| <b>Monitoring antimalarial drug resistance</b><br>Number of sites currently active | Yes<br>4 |
| <b>Home management of malaria</b>  | NA       |
| <b>Vector control using insecticides</b>   | Yes      |
| <b>Monitoring insecticide resistance</b><br>Number of sites currently active       |          |
| <b>Insecticide-treated mosquito nets (ITNs)</b>                                    | Yes      |
| <b>Intermittent preventive treatment (IPT)</b>                                     | NA       |
| <b>Epidemic preparedness</b>   |          |

#### Current antimalarial drug policy

|                                      | Current policy             |
|--------------------------------------|----------------------------|
| <b>Uncomplicated malaria</b>         |                            |
| <i>P. falciparum</i> (unconfirmed)   | CQ / AQ+SP                 |
| <i>P. falciparum</i> (lab confirmed) | CQ / AQ+SP                 |
| <i>P. vivax</i>                      | CQ+PQ(14d)* or<br>CQ+SP+PQ |
| <b>Treatment failure</b>             | ASU(7d)+SP                 |
| <b>Severe malaria</b>                | ATM(7d)+SP                 |
| <b>Pregnancy</b>                     |                            |
| Prevention                           | CQ                         |
| Treatment                            | CQ or Q                    |

## EPIDEMIOLOGICAL DATA

Following WHO recommendations, malaria case reporting is carried out in most countries. The data presented below reflect aggregated malaria cases at the national level and are presented by gender, age and subnational level as submitted to WHO. Malaria reporting from national surveillance systems varies in quality and reporting completeness and may have limited value in understanding the actual malaria burden, but may be useful for understanding trends in the relative burden of malaria in the public health sector.

### Reported malaria cases (annual)

| 1990    | 1991   | 1992   | 1993   | 1994                                 | 1995   | 1996   | 1997   | 1998   | 1999   |
|---------|--------|--------|--------|--------------------------------------|--------|--------|--------|--------|--------|
| 104 900 | 86 500 | 86 500 | 66 797 | 65 000                               | 99 000 | 71 013 | 38 105 | 20 900 | 18 564 |
| 2000    | 2001   | 2002   | 2003   | Date of last report: 18 October 2004 |        |        |        |        |        |
| 81 192  | 89 819 | 79 822 | 70 226 |                                      |        |        |        |        |        |

### Reported malaria by type and quality

For most recent year

|                         |        |
|-------------------------|--------|
| Reported malaria cases  | 70 226 |
| Reported malaria deaths | 537    |

#### Probable or clinically diagnosed

|  |           |
|--|-----------|
| Malaria cases                            | 1 729 697 |
| Severe (inpatient or hospitalized) cases | 17 590    |
| Malaria deaths                           | 537       |

Slides taken  
Rapid diagnostic tests (RDTs) taken

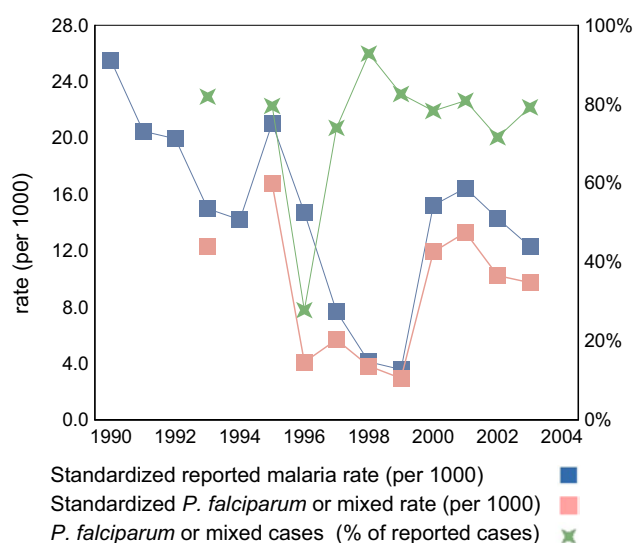
#### Laboratory confirmed

|  |        |
|--|--------|
| Malaria cases                            | 70 226 |
| <i>P. falciparum</i> or mixed            | 55 638 |
| <i>P. vivax</i>                          |        |
| Severe (inpatient or hospitalized) cases |        |
| Malaria deaths                           |        |

#### Investigations

Imported cases

Estimated reporting completeness (%)



### Reported malaria cases by age and gender

| Group | Subgroup | 2000   | 2001   | 2002   | 2003   | %   |
|-------|----------|--------|--------|--------|--------|-----|
|       | Total    | 81 192 | 89 819 | 79 822 | 70 226 | 100 |

### Reported malaria cases by selected subnational area

| 15 of 20 areas            | 2000   | 2001   | 2002   | 2003   | %  |
|---------------------------|--------|--------|--------|--------|----|
| Morobe                    | 11 431 | 11 804 | 10 719 | 13 898 | 20 |
| New Ireland               | 10 788 | 10 511 | 10 129 | 8 150  | 12 |
| East New Britain          | 7 207  | 6 163  | 8 587  | 7 738  | 11 |
| National Capital District | 13 511 | 11 826 | 11 943 | 6 853  | 10 |
| Western Highlands         | 638    | 942    | 4 175  | 4 986  | 7  |
| Sanduan (West Sepik)      | 3 272  | 2 520  | 7 186  | 4 542  | 6  |
| Madang                    | 5 376  | 5 383  | 4 641  | 4 097  | 6  |
| Milne Bay                 | 3 732  | 3 751  | 2 609  | 4 057  | 6  |
| West New Britain          | 3 470  | 4 492  | 4 248  | 3 222  | 5  |
| Oro (Northern)            | 1 853  | 2 121  | 1 891  | 2 160  | 3  |
| North Solomon             | 2 700  | 2 432  | 2 510  | 1 699  | 2  |
| Chimbu                    | 6 471  | 6 652  | 2 157  | 1 610  | 2  |
| Eastern Highlands         | 1 264  | 1 371  | 1 617  | 1 569  | 2  |
| Central                   | 663    | 479    | 924    | 1 356  | 2  |
| Western                   | 2 606  | 4 714  | 2 281  | 1 224  | 2  |

## COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

Information related to the coverage of RBM key interventions is presented here. This includes coverage of antimalarial treatment, possession and use of insecticide-treated nets (ITNs), and use of intermittent preventive treatment (IPT) among pregnant women (PW) where national policy indicates.

### Insecticide-treated nets

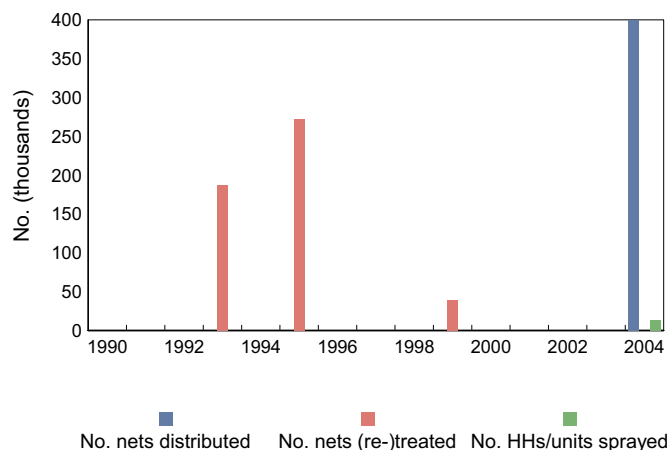
ITNs are one of the key interventions promoted by RBM. Coverage of ITNs is best assessed through household (HH) surveys which ask questions on possession and use of nets, as well as insecticide treatment status, among the target populations of children under 5 years of age (U5) and pregnant women. Data below represent available household survey results in which household possession and use of nets and ITNs have been assessed.

*No survey-based estimates of mosquito net or ITN coverage are currently available.*

## SERVICE DELIVERY AND MALARIA-RELATED COMMODITIES

### General malaria-related services delivered

Services delivered for malaria control include numbers of nets and insecticides delivered or sold, numbers of nets (re-)treated with insecticide and numbers of households (HHs)/units sprayed during IRS campaigns. These services and service-related commodities mostly reflect core malaria control activities of national malaria control programmes. The information reflects annual, country-reported data.

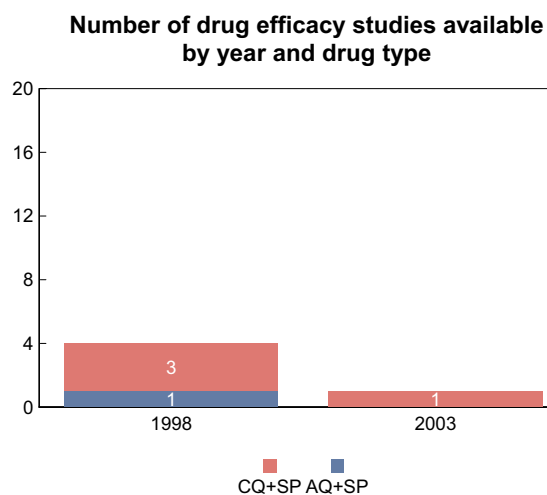


|      | No. HHs/units sprayed | No. nets (re-) treated | No. nets sold or distributed |
|------|-----------------------|------------------------|------------------------------|
| 1993 | -                     | 187 750                | -                            |
| 1995 | -                     | 272 765                | -                            |
| 1999 | -                     | 38 800                 | -                            |
| 2004 | 14 000                | -                      | 400 000                      |

## MONITORING ANTIMALARIAL DRUG EFFICACY

Monitoring antimalarial drug efficacy is important for understanding the impact of antimalarial treatment being delivered and the need for drug policy change, essential for ensuring prompt access to effective treatment. Median, range and quartiles are based on percentage clinical failure for uncomplicated *P. falciparum* malaria for countries in Africa south of the Sahara, and percentage total failure for all other areas. Included are studies that used WHO protocol among selected drugs.

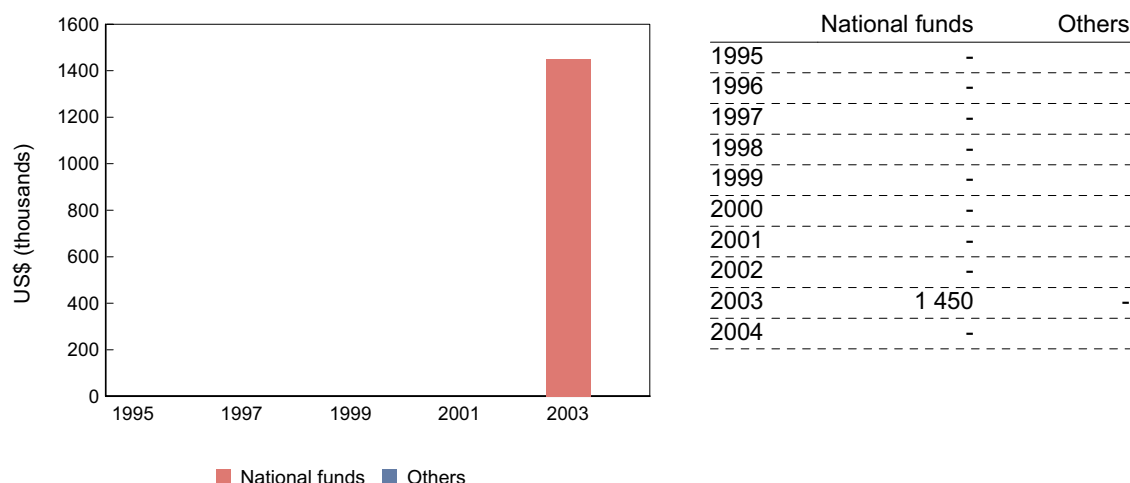
| Study years  | Number of studies | Median | Range |      | Percentile |      |
|--------------|-------------------|--------|-------|------|------------|------|
|              |                   |        | Low   | High | 25th       | 75th |
| <b>CQ+SP</b> |                   |        |       |      |            |      |
| 1998-2003    | 4                 | 0.0    | 0.0   | 27.0 | 0.0        | 13.5 |
| <b>AQ+SP</b> |                   |        |       |      |            |      |
| 1998         | 1                 | 0.0    |       |      |            |      |



## FINANCING FOR MALARIA

### Annual funding for malaria control

This information represents country-reported national and other resources budgeted or spent for national malaria control programme efforts. If information was reported in a different currency than US\$, the annual average of the official exchange rate from the World Development Index was used for conversion. Currency is presented in US\$ (thousands).



### Malaria funds from the Global Fund to Fight HIV, Tuberculosis, and Malaria

Information on additional resources provided to countries through GFATM from 2-year committed funds for malaria from successful proposals through the first four rounds is presented. The details on approved proposals, grant agreements and disbursements to date are provided. Figures are presented in US\$. These data are maintained and updated by GFATM.

| Approved proposals |       |                        | Grant agreements and disbursements (as of 13 January 2005) |        |                |              |                      |                 |             |
|--------------------|-------|------------------------|--|--------|----------------|--------------|----------------------|-----------------|-------------|
| Source             | Round | Total year 1-2 budgets | Principal recipient  | Signed | Signature date | Grant amount | No. of disbursements | Total disbursed | % disbursed |
| CCM                | 3     | 6 106 557              | MoH  | Yes    | 07-Jul-04      | 6 106 557    | 1                    | 2 185 723       | 35.8%       |

### General notes and remarks

See explanatory notes at the beginning of the section.

The information on ITNs reflects nets that have been distributed since 1997, including 320,000 distributed by Rotary Against Malaria, and the rest among others agencies including WHO, UNICEF, AusAID, Mines and other NGOs.

\* for areas of stable transmission