

Executive summary

This report – the first of its kind – takes stock of the malaria situation and of continuing efforts to tackle the disease in Africa; it is based on a review of the best information available to WHO and UNICEF, from sample surveys and routine reports, at the end of 2002.

Malaria continues to be a major impediment to health in Africa south of the Sahara, where it frequently takes its greatest toll on very young children and pregnant women. Because malaria is such a common disease and well known to the people it affects most, and because many of those who become sick with malaria do not visit health care facilities, assessing the size of the problem, and how it is changing over time, is an enormous challenge.

New analyses confirm that malaria is a principal cause of at least one-fifth of all young child deaths in Africa. The latest available data on outpatient visits and on hospital admissions and deaths due to malaria confirm that this disease makes substantial demands on Africa's fragile health infrastructure. In endemic countries, as many as one-third of all clinic visits and at least a quarter of all hospital admissions are for malaria. In some countries, these data suggest that illness due to malaria has increased over the past decade; in others, the size of the problem has remained constant. No country in Africa south of the Sahara for which data are available shows a substantial decline.

Additional information on trends in malaria mortality is available for an increasing number of countries with "demographic surveillance systems". These sources indicate that the number of children dying of malaria rose substantially in eastern and southern Africa during the first half of the past decade compared with the 1980s. In west Africa over the same period there was little change in the overall malaria mortality rate in children.

In summary, the burden of sickness and death due to malaria remained high in Africa south of the Sahara during the 1990s and increased in most countries in the eastern and southern part of the continent. Monitoring systems cannot yet reliably track changes in

indicators of the burden of malaria, particularly malaria mortality, on a yearly basis.

The high burden of malaria in Africa, and the increasing burden in some parts of the continent during the 1990s, is not an indication that the intensified efforts to control the disease over the past few years have had no impact. The full impact on malaria sickness and death of the recent efforts to accelerate malaria control described in this report will be measurable only some years after high coverage of interventions is achieved. It is possible that the start of intensified control efforts coincided with increasing malaria mortality, meaning that – without them – the situation might have been substantially worse than is now reported. The strengthening of malaria surveillance and monitoring needs to be given priority in parallel with efforts to control malaria.

The 2000 Summit on Roll Back Malaria, held in Abuja, endorsed a "shortlist" of relatively inexpensive malaria control interventions already available and known to be effective. Partners in the Roll Back Malaria effort, which include governments of malaria-endemic countries, donor governments, international organizations, the private sector, and civil society bodies, have supported the introduction of these interventions.



Picture: WHO/RBM

The 2000 Abuja Summit established control priorities and goals.

Picture: WHO AFRO



Insecticide-treated nets are highly effective in reducing malaria mortality in young children.

Insecticide-treated nets (ITNs) are a low-cost and highly effective way of reducing the incidence of malaria in people who sleep under them, and they have been conclusively shown in a series of trials to substantially reduce child mortality in malaria-endemic areas of Africa. By preventing malaria, ITNs reduce the need for treatment and the pressure on health services, which is particularly important in view of the increase in drug-resistant falciparum malaria parasites. Although accurate data from the 1980s are not generally available for comparison, it is certain that there are now more children sleeping under nets and a greater use of ITNs in Africa than ever before. Recent survey data showed that approximately 15% of young children slept under a net, but that only about 2% used nets that were treated with insecticide. Untreated nets provide some protection against malaria, but their full protective benefits can be realized only if they are regularly retreated with insecticide.

The price of nets has fallen substantially as a result of greater demand, increased competition between producers, and reductions in taxes and tariffs and other obstacles to trade that many African countries instituted after the Abuja Summit. In many countries, both nets and the

insecticide to treat them can now be purchased in small shops and markets and even on street corners; only a few years ago they would have been available only in a few specialist shops in capital cities. At least five large factories in Africa are now producing nets. Almost all malaria-endemic African countries now have active programmes under way to encourage ITN use, and most of these support a variety of different mechanisms to increase net coverage. Nevertheless, the commercial price of nets and insecticide – though falling – still puts this life-saving technology beyond the reach of the poorest income groups of the population. Major efforts are now being made in at least five African countries to provide subsidized ITNs to the most vulnerable groups – young children and pregnant women. New technological developments promise nets that will retain insecticidal activity for many years, and novel ways of encouraging regular net treatment with insecticide should make it possible to increase the proportion of nets that are effectively treated.

Treated nets and other means of reducing mosquito bites will not totally prevent malaria. People who become ill with the disease need prompt and effective treatment to prevent the development of severe manifestations and death. Since the 1980s, parasite resistance to chloroquine, the most commonly available antimalarial drug, has emerged as a major challenge. In most countries in eastern, central, and southern Africa, chloroquine has lost its clinical effectiveness as a malaria treatment. A similar evolution is taking place, though some years later, in west Africa, and there is indirect, but compelling, evidence that this is giving rise to increasing mortality. Unfortunately, resistance to the most common replacement drug, sulfadoxine-pyrimethamine, has also emerged, especially in eastern and southern Africa.

Over the past few years, 13 countries in Africa have changed their national policies to require the use of more effective antimalarial treatments. Where current monotherapies are failing, WHO recommends artemisinin-based combination therapy (ACT), which is highly efficacious and promises to delay the emergence of resistance. So far however, its use is constrained by high costs and limited operational experience in Africa. To date, four African countries have adopted ACTs as first-line treatment.

Improved management of malaria cases may be undertaken as part of a general strengthening of public health services, for example as part of the strategy for Integrated Management of Childhood Illness (IMCI). However, in many malaria-endemic countries the first treatment for malaria is often purchased from a shop. Data from representative sample surveys indicate that almost half of all children under 5 years of age with fever are treated with an antimalarial drug. Although this is encouraging, some of these treatments may have been with failing drugs or been given too late or in the wrong dosage. Recent studies indicate that home treatment, supported by public information and pre-packaging (as an aid, to ensure that patients take the full treatment course at the right time), can help to reduce malaria mortality in children. Many countries now concentrate on making effective malaria treatment available close to the home, through support to community initiatives and engagement of drug sellers and the pharmaceutical industry. Realizing the full potential of effective treatment as a tool for reducing mortality will require a systems approach, ensuring that effective drugs are affordable (which will often require subsidization) and that they are supported by appropriate education of formal and informal providers as well as mothers, and by quality assurance and regulation.

The impact of malaria on pregnant women and their newborns can be substantially reduced by the recently recommended use of "intermittent preventive treatment" (IPT). This strategy provides at least two treatment doses of an effective antimalarial at routine antenatal clinics to all pregnant women living in areas at risk of endemic falciparum malaria in Africa (irrespective of whether they are actually infected with malaria or not). About two-thirds of pregnant women in Africa south of the Sahara attend clinics for antenatal care, and incorporating IPT for malaria into their routine care should be straightforward. Now an integral part of the "Making Pregnancy Safer" strategy, IPT has been adopted as policy by six countries to replace chemoprophylaxis; most other countries in the region are reviewing their policies in the light of the new recommendation. The beneficial effects of IPT will probably be additive to the proven benefits of ITN use by pregnant women. A comprehensive approach



Picture: WHO/MAL

Pre-packaged antimalarial drugs can increase compliance and facilitate home treatment.

to the prevention and management of malaria during pregnancy therefore calls for a combination of IPT, support for ITN use, and prompt access to effective treatment. Five countries in eastern and southern Africa have recently formed a coalition to reduce the impact of malaria in pregnancy through this combined approach.

Areas on the northern and southern fringes of the malaria-endemic belt of Africa, as well as highland areas in many countries, are at



Picture: WHO/RBM/L Taylor

Young children are at the greatest risk of malaria in Africa.



Picture: WHO/TDR

Prevention of malaria during pregnancy results in healthier mothers and infants.

risk of epidemic malaria. Unlike the endemic disease, epidemic malaria typically affects people of all ages and can have high case-fatality. Roll Back Malaria has been supporting efforts to improve the early recognition of, and effective and timely response to, malaria epidemics. Indoor residual spraying can play an important role in malaria vector control, especially in the control of epidemics. Malaria early warning systems have been established in southern Africa to improve outbreak detection and response and are being developed in other epidemic-prone parts of Africa. Fifteen epidemic-prone countries have developed a preparedness plan of action; data on the timeliness and effectiveness of epidemic response in these countries are presented in this report.

Tackling malaria effectively requires substantial resources. At the Abuja Summit it was estimated that at least US\$ 1 billion is needed from a combination of increased domestic spending and international assistance; the report provides information on resource flows. Since the launch of Roll Back Malaria in 1998, international spending on malaria has more than doubled to approximately US\$ 200 million per year. Further untapped resources for malaria control may become available through debt relief initiatives. Government spending on all health care is low in most African countries – typically less than US\$ 15 per person per

year – and the costs of malaria control are high: artemisinin-based combination drugs to treat resistant malaria are likely to cost US\$ 1–3 per treatment for the drug alone, and ITNs cost around US\$ 5. Most of the costs of preventing and treating malaria in Africa today are in fact borne by people themselves. For example, people buy nets, insecticide sprays, and coils, and spend a considerable amount of money on malaria treatment, which may contribute to poverty. Increasing the efficiency of domestic “out of pocket” spending is a priority, and this can be achieved through government support for the most effective interventions and the appropriate regulation to ensure that only safe, effective malaria interventions are sold and that the public is fully informed about their use and effectiveness.

The recently established Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) is a major new source of grant funding for tackling malaria in Africa. Twenty-five countries and one multi-country group have submitted successful proposals to the GFATM. Almost all of these proposals build on the national malaria control plans developed by these countries with the support of the Roll Back Malaria Partnership during the period 1999–2001. The countries have been awarded a total of US\$ 256 million for an initial two years to scale up malaria control activities. Depending on success, it is expected that additional funds will be made available for a total period of five years.