



Women and Children

A quarterly publication addressing maternal, newborn and child health in Nigeria

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Malaria in Pregnancy - the silent threat for mothers and unborns

A bite of a mosquito is usually not considered a big deal. It itches for a short period of time and if you not scratch it you will forget about it in less than a day's time. But this little sting can threaten the life of every pregnant woman and lead to miscarriage and newborn death, if that particular mosquito passes on the malaria parasite. Malaria is the leading indirect cause of maternal mortality, accounting for 11% of deaths during pregnancy or delivery, what comes down to 5830 Nigerian women annually. Further more, it accounts for one quarter of all deaths in under five children in Nigeria.

Malaria is caused by the Plasmodium parasite which is carried by the female Anopheles mosquito. Mosquitoes are coming out at night in search for blood. If a mosquito now bites a person who has malaria parasites in his or her blood the mosquito becomes infected. So the mosquito becomes the transmitter of the disease: The next time it will bite another person and inject Plasmodium parasites in the person's blood which will cause malaria. This cycle repeats itself endlessly, resulting in about 300 million of malaria infections each year worldwide whereby 90% of these occur in Africa. It is estimated that a person dies of malaria every ten seconds, most at risk are pregnant women and children under five. WHO estimates malaria sickens about 247 million people and kills nearly 1 million every year. Malaria disproportionately affects the poor, with 58% of malaria deaths occurring in the poorest 20% of the world's population – a higher percentage than for any other disease of major public health importance.

Taking into consideration that about 7.5 million pregnancies occur every year in Nigeria, the magnitude of the malaria problem reveals itself: Malaria is more frequent and serious during pregnancy, causing anaemia (low blood) a main cause of maternal mortality and morbidity. During an epidemic of malaria, pregnant women are up to three times more likely to develop serious malaria as other adults. Severe malaria is classified by all the signs of uncomplicated malaria (which are fever, shivering, headaches, muscle/joint pains, nausea, mild anaemia and bitter taste in the mouth) PLUS one or more of the following danger signs: Dizziness, difficult breathing, feeling drowsy, confusion, coma, severe dehydration, and severe anaemia. At the occurrence of any of this danger signs the woman must be referred to the hospital immediately to avoid complications and death. Complicated malaria requires specialized management at the health facilities, whereas uncomplicated malaria can be easily treated at home if recognized early. It is, however, essential to finish the course of treatment to ensure its efficiency.

Unfortunately, malaria in pregnancy not only endangers the mothers. It can also have severe effects on the growth and development of the unborn child. The parasites hide in the placenta where they interfere with the transfer of oxygen and nutrients to the baby. This increases the risk of a spontaneous abortion, stillbirth, preterm birth, and low weight babies- the single greatest risk factor for newborn death within the first month of life. Malaria accounts for about 5-14% of low birth weight prevalence.

The health consequences of malaria and HIV co-infection are not yet fully understood, but studies show serious implications for pregnant women and their unborn babies. Co-infected pregnant women are at very high risk of anaemia, and their children will have low birth weights and are more likely to die in infancy. Recent research revealed that levels of HIV in the blood almost doubled when pregnant women with HIV got malaria. Those with impaired immune systems due to HIV/AIDS may also experience more malaria treatment failure.



Pregnant women and children under five are most at risk to die from malaria or malaria related causes

But malaria not only causes huge numbers of preventable deaths, its effects are also influencing communities to a large extent. Malaria results in frequent school absenteeism, missed work and lower productivity, and spending of large sums on medication and treatment. The presence of malaria has also been shown to have a negative impact on macroeconomic growth, inhibiting long-term growth and development to a degree that was previously unimagined. A comparative study of countries with and without malaria suggest that the presence of a high malaria burden results in a 1.3% lowering of the annual growth of the Gross Domestic Product per capita.

Malaria influences socioeconomic decisions, such as the siting of industrial projects, and it impacts negatively on the ability to attract capital developments and skilled labour. The presence of malaria is also an obstacle to the development of tourism in many regions.

The good news is: Malaria is easily preventable and if early detected also curable without much effort. The old practice of malaria chemoprophylaxis in pregnancy prescribed a 4 tablets dose of chloroquine at the first antenatal care visit, followed by a weekly dose of

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pyrimethamine during pregnancy up to six weeks postpartum. This practice, despite its effectiveness, created various problems: Many women are allergic against chloroquine and experienced itching pains, the frequent, regular intake is not guaranteed and sometimes impossible because of the financial burden, and health care providers tend to be uninformed about the correct dosages. As a result, FMOH and malaria Action Coalition implemented a new policy for malaria in pregnancy. One of its key pillars is focused antenatal care, including health education on malaria aiming at malaria prevention. Pregnant women are advised to always sleep under insecticide treated bed nets (ITNs). The benefits of ITNs are clear: They repel and kill mosquitoes, prevent physical contact with mosquitoes and additionally kill and repel other insects as lice, bedbugs, and cockroaches. The cost factor must also be considered: ITNs are far cheaper than treatment of acute malaria and they furthermore reduce the number of sick children and adults, ensuring productivity. ITNs can be purchased at pharmacies, in markets, in public and private health facilities or they are distributed by community health workers or NGOs working in the area of disease prevention. If they are used correctly and persistently and are re-treated every six months, ITN have been shown to avert around 50% of malaria cases.

Other areas of focus of the new policy on malaria in pregnancy are early detection & prompt appropriate case management of symptomatic women and intermittent preventive treatment (IPT). IPT replaces the old practice of malaria chemoprophylaxis and is based on the assumption that every pregnant woman living in an area of high malaria transmission has malaria parasites in her blood or placenta, whether or not she has symptoms of malaria. WHO recommends that every pregnant woman should receive two doses of IPT and attend at least 4 antenatal care visits. Presently, the most effective drug for IPT is sulfadoxine-pyrimethamine (SP). Overall coverage of IPT to every pregnant woman is targeted, but special target groups are women in their first or second pregnancies, HIV positive women, adolescent women (aged 10-19), and women with sickle cell disease, as they are more prone to high risk pregnancies.

IPT is best given when the foetal growth velocity is at its highest, in order to reduce placental parasitaemia and resultant foetal growth retardation. That means practically that the first dose should be given from week 16 of pregnancy on, and the second dose should follow with at least 4 weeks space in between up to week 36. But however, if any signs of malaria occur in the woman she still needs to seek medical care.

Without a doubt, these interventions on community level can only succeed if government and other stakeholders completely commit themselves towards the

fight against malaria. The key message of the importance of preventing malaria in pregnant women by sleeping under INTs and taking IPT medication must be passed on to every Nigerian citizen, using both English and the local dialects. The media must be engaged fully in the coverage of malaria issues and educate their audiences on prevention and treatment of the disease. The federal ministry of health need to ensure supply with adequate and sufficient drugs to every health facility and consider the possibilities of free or highly subsidized ITNs for pregnant women. All efforts aiming at prevention must be complemented by effective case management of malaria illness for all women of reproductive age, emphasizing screening and prompt treatment for anaemia.

If only detected early enough malaria can be cured, its effects on the unborn child can be prevented and maternal and newborn mortality can be effectively curbed. Antenatal care and treatment can save the lives of thousands of Nigerian mothers and children, so make sure every pregnant woman takes that opportunity!



Joel Breman, senior scientific advisor at the Fogarty International Center, U.S. National Institutes of Health, is an epidemiologist expert for malaria issues. He has trained, mentored, and collaborated with scientists and public health workers in over 20 countries in Africa in developing national malaria control policies, programs, and guidelines. Dr. Breman has been interviewed online in a Population Reference Bureau PRB Discussion and has responded to the following questions:

What are the most effective measures applicable by families to control malaria?

Joel Breman: Get, use, and maintain your long-lasting insecticide treated bednets, keep your compound and community free of mosquito breeding sites, respond to any fever episode by taking your family member to a health worker right away. Find out what your government and local non-governmental organizations are doing to combat malaria and ask how you can

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A critical view of malaria homecare and the new global malaria drug subsidy

Treating African children at home for malaria doesn't help in cities because most fevers aren't actually caused by malaria, said a new study published online in the medical journal Lancet. Experts monitored more than 400 children aged between 1 and 6 in Kampala, Uganda, from 2005-2007. Malaria drugs were distributed to households where parents had been told by researchers to automatically treat their children if they became feverish. Roughly half the children were treated at home while the other half were taken to health clinics within a day of developing a fever. The study found that children at home got twice as many medicines as those taken to clinics, but didn't do any better.

Home-based management of fever aims to improve the chances that a child with malaria will be promptly and appropriately treated. In high-prevalence settings, treatment with antimalarial drugs is likely to be appropriate, since the cause is more likely to be malaria than not. However, in settings with lower transmission rates, there is a risk that children with non-malarial fever will be treated as having malaria and the true underlying cause (such as pneumonia) will not be addressed.

Some doctors said the study showed a worrying tendency to treat fevers before they were diagnosed as malaria: "If you just go on fever, you're over-treating so many children and you could miss other diseases by using malaria drugs," said Dr. Tido von-Schoen Angerer of Doctors Without Borders. Malaria medicines don't work on fevers caused by other diseases, and children can die if they are not properly treated.

Previous studies have found home treatment works in rural areas. But malaria is also a problem in cities, and will have to be tackled differently there than in the countryside. Across Africa, the World Health Organization puts the figure of children promptly treated with effective medication at only 3 percent. The United Nations and partners lately announced a \$200 million strategy called the Affordable Medicines Facility for Malaria to make drugs cheaper in 11 African countries. The Affordable Medicines Facility for Malaria (AMFm) will massively subsidise the price of artemisinin-based combination therapies (ACTs), the most effective malaria treatments that exist today. The scheme seeks to reduce the price

of ACTs sufficiently to drive older, ineffective treatments that are still being purchased because they are considerably cheaper, out of the market. Von-Schoen Angerer and others worry the tendency to over-treat malaria, as proven by the Lancet study, will be worsened by the strategy. They fear it will flood the market with drugs that promote resistance.

The initiative, led by WHO and the Global Fund to fight AIDS, tuberculosis and malaria, will subsidize the price of artemisinin combination therapies, the most effective malaria treatments. But the U.N. has not insisted the drugs be combined in a single pill, which would curb the resistance risk.



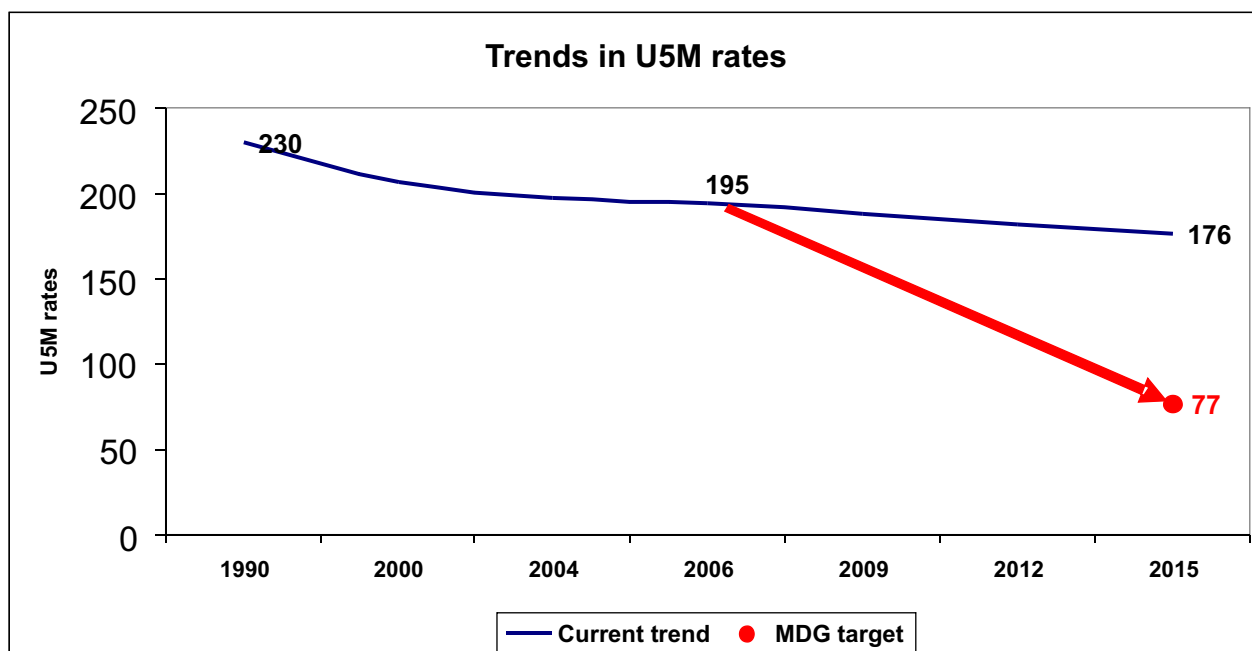
Home treatment of malaria can result in over-treating and foster ACT immunity

Artemisinin combination therapies are also sold as several pills. Some cause side effects like nausea, and patients commonly throw those pills out, encouraging resistance. "The risk of resistance is very scary," von-Schoen Angerer said. "We don't have a back-up medicine at this stage." Richard Tren, director of the nonprofit Africa Fighting Malaria, called the U.N. initiative "an untested experiment," and warned the strategy could backfire. "We need policies based on evidence," he said. "And the evidence this could work is pretty shaky."

Which way to 2015, Nigeria?

Creating a supportive environment for maternal and newborn health

Despite the relatively short period of time left until 2015, Nigeria still lacks behind in reaching her Millennium Development Goals. The gap becomes most obvious in the area of maternal, newborn and child health, encapsulated in the MDGs 4 & 5. Nigeria is the world's second largest contributor to maternal mortality, accounting for 10% of all global maternal deaths. This sad second-highest ranking is also found in under-five mortality rates, resulting in the death of one out of every five Nigerian children before their fifth birthday (191 out of every 1000 children). This number is shockingly high, especially compared to the target of 77 out of 100 which is to be achieved in only six years time. If we look at maternal morbidity the condition seems similarly grim: MDG 5 aims at curbing maternal mortality from presently 1000 out of 100,000 mothers dying in the course of pregnancy, delivery or immediately after childbirth to 250 out of 100,000, a reduction of three quarters. The key question remains: Can these goals ever be met?



Yes, they can. But there are many steps to be taken to effectively curb maternal and infant deaths in Nigeria. A supportive environment for maternal, newborn and child health must be created through various approaches, programs, community interventions and involvement of all stakeholders, most importantly the Nigerian society.

Education for women and girls is essential, as women are the center of all interventions in maternal and child health issues. Research has shown that education until at least secondary level lowers maternal and child mortality drastically. On the one hand, these women are less likely to marry early what delays their first pregnancy and lowers their exposure to maternity risks. Complications from pregnancy and childbirth are an important cause of mortality for girls aged 15-19 worldwide, accounting for 70,000 deaths annually.

If the first pregnancy can be delayed till at least 20 years of age maternal mortality risks are curbed drastically and the babies of women over 20 are most likely to be healthier: Children of underage mothers are often suffering from low birth-weight, undernutrition, and late physical and cognitive development. On the other hand these women are far more likely to immunize their children and provide adequate nutrition and disease prevention, resulting in reduced infant deaths. Furthermore, women's education sustains economic growth, thereby automatically creating a better health system.

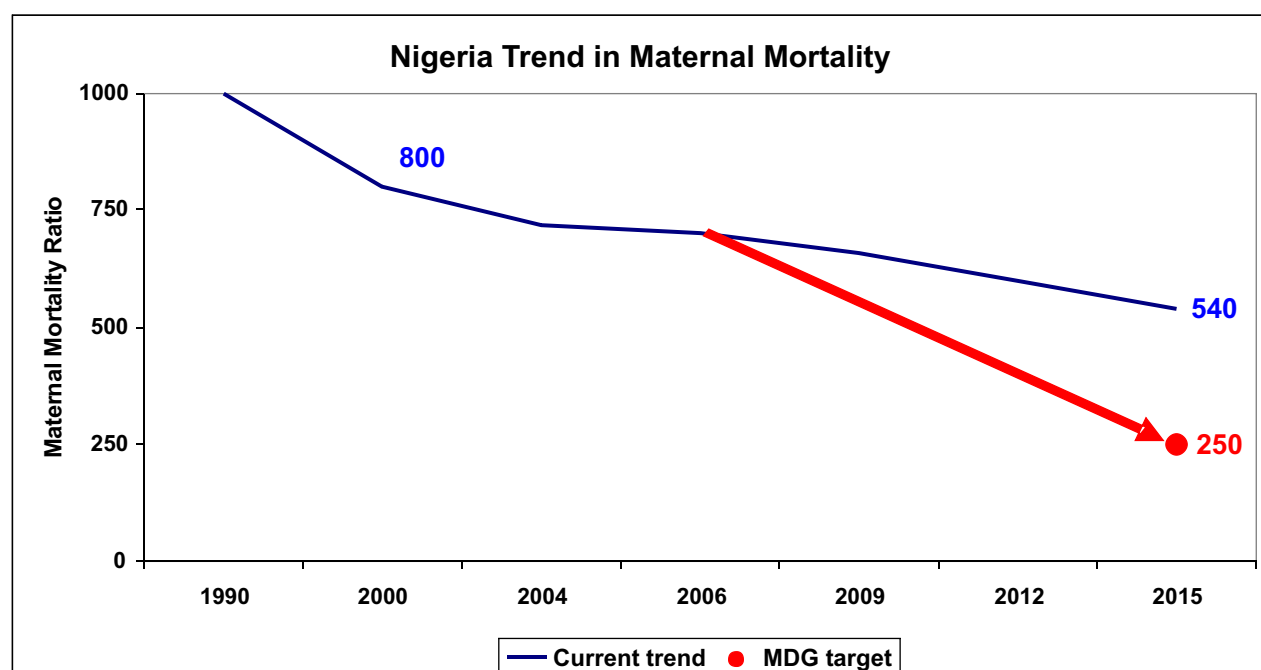
To create a supportive environment for mothers and children, women must be more involved in decision making processes, both at household level (studies have shown that when women are able to participate in key decisions in the household, they are more likely to ensure that their children are well nourished and to seek appropriate medical care for themselves and their children) and within the communities. Community initiatives are highly effective in improving the health of mothers and children as they can challenge attitudes and practices that entrench gender discrimination. Women can share work and pool resources, for example in contributing money to pay transport to the hospital in cause of an emergency.

Regular visits and basic health education through community health workers is a key pillar of necessary interventions. The health workers advocate for key household practices such as sleeping under insecticide treated bed nets to prevent malaria, exclusive breastfeeding, and hand-washing with soap or ash. All these interventions have been proved highly effective in ensuring the health of children and mothers and prevent the most common causes of child death. In addition to that, they are practically for free.

These initiatives aiming at women empowerment need to be backed up by community support, above all by male support. Present attitudes of gender discrimination need to be addressed and challenged. This calls for the help and commitment of religious & community leaders towards improving the situation for women in Nigeria. Harmful traditional practices such as child marriage and female genital mutilation (FGM) need to be abolished completely. Another field of action is the prevalence of physical violence against women, which causes many health problems for women and their born or unborn babies. Legislation against woman-battering must be implemented and effectively enforced throughout the country.

Without a doubt, the government also has to play its role and deliver the adequate services at critical points. This includes investment in infrastructure to ensure the access to safe water, good nutrition, adequate sanitation and hygiene facilities, as well as disease prevention and treatment for every Nigerian citizen. Facilities must have sufficient medicines, supplies, equipment and trained personnel. Every pregnant woman must be granted the access to quality antenatal care, skilled assistance at delivery and clean delivery facilities to prevent severe infections. In case of an emergency, EOC (Emergency obstetric care) should be available at every secondary and tertiary health facility to save the life of mothers and newborns alike.

After giving birth post-natal care and neonatal care should be easily available at every health facility. Antenatal and postnatal care also serve as a means of educating the mother on best practices with her newborn, stress the importance of exclusive breastfeeding and promote hygienic child care. In order to put all this initiatives in place it is essential to expand the Maternal, Newborn and Child health workforce and establish solid financing mechanisms. Government must be prepared and willing to allocate more resources to MNCH- because it is the nation as a whole who will finally profit from living mothers and healthy babies.



Hazards of Teenage Pregnancy

It is no longer a diplomatic statement that young people in the last decade, especially within the age group of 10-18 years, are living beyond the yard sticks of adventures compared to the youths of the 90s'. A blend of unpredictable, news breaking activities and issues of topmost concern has risen in the last few years. One of the most striking

facts is the rising number of teenage pregnancy. Teenage pregnancy is a result of sexual intercourse between young girls and boys who are in their growing years, exploring the changes happening in their bodies by having unsafe sex with each other. Health organizations across the world are still in the frontlines of reducing maternal deaths due to complications and diseases. But even now, however, they have more to do with the increasing number of teenage pregnancy.

Bearing a child while still in childhood themselves, these young mothers under the age of 20 are prone to birth injuries and maternal death. It also affects their emotional well being: Teenage mothers are 3 times more likely to suffer from post-natal depression and experience poor mental health for up to 3 years after the birth. Children born to teenage mothers have 60% higher rates of infant mortality and are at increased risk of low birth-weight which impacts on the child's long-term health. Further more, they are at increased risk to be brought up in poverty.

"These adolescent actions have matured consequence", states Chineye Nwokolo (18 years), a member of Youth Rescue Club, a teenage advocacy group based in Ibadan. Chineye narrated about the terrain of her adolescence, compared to the experience with a pregnant girlfriend of hers: *"About three years ago, I lost a friend to the plight of teenage pregnancy. She dropped out from being my classmate in school and could hardly be regarded to enjoy any teenage experience, like I did. Her name is also Chineye. I saw my friend draw back from what could have been a future for her into the waters of idleness, pain, outright isolation and oblivion. Against my convictions, Chineye's family believed she had brought home a gift into the family. Her mother was a sales woman in the market and her dad just lost his job; tentatively speaking they are a well-to-do family. Chineye had four sisters, for their middle age mother who was closing in to the end of child bearing years this was an opportunity to have a son through her daughter. Her parents did not really care who was responsible but looked forward to the joy of having a male child in the family at all cost, which makes me wonder if she was not*



pushed out by her parents in the first place to get pregnant! With her parents support, my friend exploited the opportunity to be pampered in her new state. She gave birth and soon enough was back in the crooks and corners where she got pregnant in the first place; I tried reaching out to her to understand the social setback it has cost her but she excusably pointed out to other girls around us who were also getting pregnant. Pregnancy was now a fashionable trend in our community, and week in and out somebody was naming a child, become victim of maternal death, or was commercially parading their pregnancy status. Chineye's child, the adorable little girl, died 4 weeks after delivery. Apparently the family had stopped celebrating the newborn girl with respect to having expected a boy. Little attention was being paid to her medically. She was gone within a short while of her arrival. I can't put a value on the opportunity she missed out in her academics, social growth and uniqueness. My strong convictions are that Chineye represents thousands and thousands of children who are living under the hazard of teenage pregnancy due to the low level of orientation about teenage pregnancy; indiscipline by the parents and moral guidance on understanding the teenage adventures."

Evidence from areas with the largest reductions has identified a range of factors that need to be in place to successfully reduce teenage pregnancy rates. These factors include a well-publicised contraceptive and sexual health advice service which is centred on young people. The service needs to have a strong remit to undertake health promotion work, as well as delivering reactive services. It is key to prioritize sexual and reproductive health education at schools, supported from the local authority to develop comprehensive programmes of sex and relationships education (SRE) in all schools. A strong focus on targeted interventions with young people at greatest risk of teenage pregnancy, in particular with looked-after children must be put in place to effectively curb teenage pregnancies and its many undesirable effects.



A drama raising awareness on teenage pregnancy

MP4 Women and Children

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help them do a better job. If they are not doing anything demand that they do so with your village or community committee.

What do you think are key preventive measures?

Joel Breman: Crucial are bed nets, insecticide residual spraying, and environmental management (draining and filling pools of water), particularly in urban/periurban areas. Also, intermittent preventive treatment (IPT) of pregnant women (IPTp) (and, possibly, children) is an important prevention because this combats low birth weight due to malaria infection and maternal anemia and mortality from hemorrhage. Most countries have preventive policies for malaria and are trying to increase their coverage and use rates. Intensified research on drugs and vaccines to interrupt transmission is essential, too.

What is the most pragmatic solution to the malaria issue, given the political, social, and environmental conditions of developing nations?

Joel Breman: This question is key. Despite the challenges, there are scientific, operational, financial, and political solutions to malaria control and elimination, and they are being implemented. Communities at risk must participate in malaria programs--assuring compliance by taking their drugs, using and maintaining their bed nets, participating in spraying of houses and understanding the reasons. Presidents of endemic countries and ministers have met to establish global and national goals. Is essential that the current tools for malaria are affordable--free in many low-income countries--and that research for new drugs, insecticides, and vaccines is well supported financially. Perhaps most importantly, we need to train many more malariologists and others--in clinical, service delivery, managerial, laboratory, and research disciplines to confront the huge malaria problem.