

With annual deaths from malaria on the rise: Scientists ask 'where is all the money going?'

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A new study in the April issue of the *American Journal of Tropical Medicine and Hygiene*, asks the question "With more than \$220 million dollars dedicated to malaria treatment and prevention, why is the annual mortality rate from malaria on the rise?"

The study, entitled "Malaria Vector Management: Where Have We Come From and Where Are we Headed?" conducted by researchers from the University of Alabama at Birmingham School of Medicine, examines the current methods used to control and prevent the spread of malaria.

Robert J. Novak, Ph.D., professor of medicine, division of infectious diseases and Ephanthus J. Muturi, Ph.D., postdoctoral fellow, division of infectious diseases, who lead the study, say the millions of dollars currently being spent on malaria primarily address the mortality of pregnant women and infants. And, while these efforts are important and have resulted in successfully decreasing the death rate in that group with the use of bed nets and insecticides, the disease has burgeoned among teens and adults who are not being protected.

Dr. Muturi, a native of Kenya, who himself has been stricken by malaria, finds the lack of immediate attention frustrating on a more personal level. "I have family in Kenya who are at risk every day. Bed nets work at night and have helped contain the spread of malaria, but what about the hours when people aren't in their beds? The protection during the day is minimal with current insecticides that cannot be used on a regular

basis. The search for a vaccine is necessary, but so are the immediate needs of at-risk communities.”

The scientists say that organizations such as the Bill & Melinda Gates Foundation and The World Health Organization’s Roll Back Malaria, lead in funding research for drug and vaccine development and to provide bed nets, but little of this funding is directed to help identify and address environmental factors that contribute to the growth and spread of this fatal disease.

“We need to address three issues – vectors, parasites, and protect the human host, in an integrated fashion” says Dr. Novak. He explains that by working with environmental and epidemiological information that is already available, researchers can determine where malaria mosquito populations are most concentrated and then design a control program with the right preventive methods. “We can quickly access information by working with the Integrated Malaria Management Consortium. But, funding is needed to know where, when and how to apply the current tools that we have to be most effective with disease prevention. And, to properly educate the at-risk populations so they can better protect themselves.”

Some of the tools that Dr. Novak refers to include modifying the environmental sources proven to house malaria mosquitoes; using environmentally friendly insecticides; determining the exact sections of marsh land, rivers and rice paddies that contain mosquito larvae, and only treating those areas during breeding times to more effectively manage the mosquito population. Identifying these “hot spots” is not only more environmentally friendly, but is also cost effective.

“Relying on drugs and bed nets is the same mentality as in the 1960s and we know that thinking didn’t work since malaria is still here stronger than ever, so we need to attack the disease in new and more efficient

methods,” says Dr. Novak. “By properly combining past successful tactics in managing malaria with new technology in insecticides, surveillance, GIS/remote satellite, PCR and new drugs, malaria can become a minor disease.”

Source: American Society of Tropical Medicine and Hygiene

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