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Geneva -- The World Health Organization (WHO) announced today that the emergence of artemisinin resistant parasites at the Thai-Cambodia border could seriously undermine global malaria control efforts achieved.

Surveillance systems and research studies supported by WHO to monitor antimalarial drug efficacy in countries are providing new evidence that parasites resistant to artemisinin have emerged along the border between Cambodia and Thailand where workers walk for miles every day to clear forests. The risk that they may be infected with a drug-resistant form of malaria could set back recent successes to control the disease.

Huge strides have been made in the last ten years to reduce the burden of malaria, one of the world's major killer diseases. Strong malaria control programs have helped lower infection rates in several countries. The recent shift from failing drugs to the highly effective artemisinin-based combination therapies (ACTs) has been a breakthrough. Appropriate treatment with ACTs succeeds in more than 90% of cases. However, malaria drug resistance now emerging along the Thai-Cambodia border threatens these gains.

With a US\$22.5 million grant from the Bill & Melinda Gates Foundation, WHO will endeavour to contain artemisinin resistant malaria parasites before they spread. WHO will work in collaboration with several key partners including the National Center for Parasitology, Entomology and Malaria Control of the Cambodian Ministry of Health, Bureau of Vector-Borne

Disease of the Thai Ministry of Public Health, Faculty of Tropical Medicine of Mahidol University Bangkok, Institut Pasteur Cambodia, Mahidol Oxford Tropical Medicine Research Unit, Bangkok and the Malaria Consortium.

“If we do not put a stop to the drug-resistant malaria situation that has been documented in the Thai-Cambodia border, it could spread rapidly to neighbouring countries and threaten our efforts to control this deadly disease,” said Dr Hiroki Nakatani, Assistant Director-General, WHO.

Resistance along the Thai-Cambodia border started with chloroquine, followed by resistance to sulfadoxine-pyrimethamine and mefloquine, drugs used in malaria control several years ago. Malaria poses a risk to half of the world's population and more than one million people die of the disease each year. The malaria map, or the area where it is prevalent, has been reduced considerably over the past fifty years, but the disease has defied elimination in areas of intense transmission.

Obstacles to malaria control include drug resistance in the parasite that causes the disease, as well as resistance of the vector mosquito to insecticides, environmental factors and counterfeit medicines. The likelihood of drug resistance is increased with the use of single drug therapy for malaria, especially monotherapies of artemisinin and its derivatives. Monotherapy fosters resistance because it is easier for the parasite to adapt and eventually overcome the obstacles presented by a single drug than a combination of drugs delivered together. This makes it crucial for monotherapies to be removed from the market. WHO treatment policy is to treat all cases of uncomplicated falciparum malaria with artemisinin combination therapy (ACTs).

“We know that malaria can be treated and prevented,” said Dr. Regina Rabinovich, Director of Infectious Diseases Development at the Bill & Melinda Gates Foundation, “and if we lose the key treatment available at this

time, it's like living in a house with a half a roof."The grant will be used to meet the following key objectives:

- Eliminate artemisinin tolerant parasites by detecting all malaria cases in target areas and ensuring effective treatment
- Reduce exposure of the parasites to artemisinin to limit emergence of resistance
- Prevent transmission of artemisinin tolerant malaria parasites through mosquito control and personal protection
- Limit the spread of artemisinin tolerant malaria parasites by mobile populations
- Support the containment and elimination of artemisinin tolerant parasites through comprehensive behavior change, communication, community mobilization and advocacy
- Undertake basic and operational research to fill knowledge gaps and ensure that strategies applied are evidence-based
- Provide effective management, surveillance and coordination to enable a rapid and high quality implementation of the strategy.

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