

FROM THE UNITED NATIONS

WORLD MALARIA DAY 2011

Malaria has been a human scourge for thousands of years. The United Nations as one of their current major health goals is determined to control the spread of this disease.. Malaria is a disease caused by an adaptable and wily parasite that is transmitted into the bloodstream by way of mosquito bites. Mosquitos breed in brackish water and marshy swampland. Of particular interest is the fact that malaria is largely preventable and treatable and has been eliminated from most developed countries; a good example is the elimination of malaria in the US in 1951. Yet, malaria still kills nearly a million people a year much of it in sub-Saharan Africa. Malaria is a disease of the poor who live in areas where living conditions encourage the disease and where medicines are expensive and the population has little or no access to treatment or health care.

After World War 1, there was an upsurge of malaria in the 1920s. As a result the League of Nations health organization investigated the new epidemic using two approaches referred to as **Horizontal** and **Vertical**. The horizontal approach emphasizes public health measures that focus on the specific environmental conditions that lead to disease in general. The League concluded that Malaria is closely linked to social, political and economic conditions and recommended public health measures such as draining of swamps, better housing, economic development, education, health care, water management and the use of quinine which was then still effective. The horizontal approach is important and has had many successes; e.g., providing decent sanitation and clean water both of which were shown to reduce infectious diseases in Europe and the US. (In 1700 the average male lived to around 30 years. By 1970 the expected life span reached 75 years. More than half of the achievement occurred before 1900.)

An additional example is the work of the Tennessee Valley Authority (TVA) in the US. which brought tremendous improvements to this poverty-stricken region in the US between 1930 and 1950. The TVA attacked mosquito breeding sites, controlled water levels and introduced insecticide application.

Another important example is the building of the Panama Canal when the US took control in 1904 after the French departed. The US started a major sanitation program, draining and filling wetlands around the Canal Zone. Hospitals were built and good medical care was provided. To our national disgrace and shame housing was not provided for black workers, many of whom had to live in tents and tenements outside the mosquito controlled zone. As a result black workers died in far greater numbers than white workers.

The Horizontal approach of the League was not accepted by the Rockefeller Foundation which had funded much of the League of Nations health foundation. Scientists of the foundation promoted the Vertical approach which emphasizes vaccines, antibiotics and powerful insecticides like DDT. This magic bullet approach, it was argued, can fight disease without addressing the difficult and messy realities which fuel the disease in the first place. This top-down approach can sometimes be very effective with the

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development of vaccines for polio and smallpox. On the other hand, the Gates Foundation has poured billions of dollars into developing a malaria vaccine using a useless and dangerous microwave treatment (for details of the disgraceful politics involved please refer to the August 22, 2011, New York Times Health Section) The development of a vaccine must also include, at the same time, public health measures for cleaning swamps, distributing insecticide- treated bed nets and indoor spraying.

One serious problem with the use of malaria drugs has been that the parasites develop resistance just as they did with DDT, quinine and Chloroquine. A more recent effective drug is **Artemisinin**. The development of this drug is very interesting: Mao Zedong was alarmed that more Vietcong soldiers died from malaria along the Ho Chi Min trail than from US bombs during the Vietnam war. He assembled scientists who found, in an ancient medical text, a fourth -century cure for recurrent fevers. The remedy was a tea made from the sweet wormwood plant. The crucial ingredient turned out to be **Artemisinin**. The Chinese government licensed this procedure to a Swiss company, but (not surprisingly), although it is very effective it is also very expensive so (as usual) poor people cannot afford it.

The UN World Health Organization (WHO) is distributing treated bed nets and Artemisinin-based combined therapy (ACT) in an effort to reduce drug resistance. An intensive rapid diagnostic test is also available at the community level to limit over-prescribing ACT in an effort to prevent drug resistance. This requires local health facilities.

What is most needed at this time is a combination of both the horizontal and vertical strategies. A vaccine would be a major achievement but access to cheap safe and effective drugs is also required. No approach will be sufficiently successful without improving world-wide basic living conditions, public health measures and a robust primary health care system for people throughout the world, regardless of their ability to pay.

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