

Editorial comment by Sanford Kuvin, MD, MSc, DTM&H on the Jerusalem Malaria Conference of 2013 cohosted by the Braun School of Public Health and the Sanford Kuvin Center for Infectious and Tropical Diseases at the Hebrew University of Jerusalem

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There have been three Nobel Prize winners in malaria, but all in the early 1900's. Ronald Ross in 1902, Camillo Golgi in 1906, and Alphonse Laveran in 1907. We are clearly waiting for another Nobel Prize winner for malaria which has been elusive, because there have been few significant advances in malaria eradication and control. In 2012, an estimated 219 million cases of malaria were reported and 660,000 people died in 98 countries. The human species has constantly been subjected to germ warfare by malaria, but despite our best efforts the germ warfare of malaria successfully continues, and how to reverse this trend is clearly what this malaria conference and this Jerusalem Declaration was all about.

In 1964 while working at the National Institutes of Health, I infected prisoner volunteers by mosquito bite with *Plasmodium vivax* and *Plasmodium cynomolgy bastianelli*, a form of monkey malaria, which led to my discovering the first reliable antibody test for malaria. Since this antibody test for malaria was the first for any parasitic infection, I wrote in subsequent publications that followed that a vaccine would surely not be far behind. I was obviously wrong, and here we are 50 years later with no effective vaccine, no effective insecticide or larvicidal usage and control, including insecticide drenched bed nets, which can be routinely used for mass malaria elimination and protection.

In 1955, The World Health Organization submitted to the World Health Assembly of the U.N. a proposal to eliminate malaria and smallpox within 3 years. Smallpox elimination was a resounding success, but malaria eradication a dismal failure, and has remained a dismal failure. Why?

Mosquitoes know no borders and we gathered in Jerusalem to re-examine a program I call "Back to the Future", to not only employ the malaria programs that Israel Kliger did to save British Mandate Palestine from extinction, but to further compliment recent advances in the epidemiology of mosquito elimination. For example, Kuvin Center scientists like Professor Yosef Schein has used Attractive Toxic Sugar Bait to eliminate mosquitos

with great success, and recent advances in malaria molecular biology by Professor Ron Dzikowski, showed the parasite's ability to express one gene while hiding another 59 because of a unique DNA sequence found in the regulatory regions of the gene family.

When the re-establishment for global eradication was abandoned in 1969, and death rates from malaria soared, the main reasons for failure were technical challenges which failed to execute time tested strategies of mosquito elimination, proper insecticide usage, and open and safe political borders which the mosquito does not recognize, especially in Africa. In this Jerusalem Declaration we have examined the "Back to the Future" strategies of Mandate Palestine for success, complimented with advances in larvicide and insecticide use, molecular biology and vaccine development.

Regional elimination of malaria in Palestine did not point to global eradication, and that is but one of the reasons why this Jerusalem conference and this Jerusalem Declaration have tried to sort these problems out and go forward.

Perhaps loosely translated "Out of Jerusalem shall come forth the word of the Lord," ---and hopefully a comprehensive program to eradicate malaria will ensue.

Sanford F. Kuvin, MD, MSc, DTM&H
Founder & Chairman of the International Board
The Sanford F. Kuvin Center for the Study of Infectious and Tropical
Diseases
The Hebrew University of Jerusalem