

Malaria Summit 12 November 2009



JOHNS HOPKINS
BLOOMBERG
SCHOOL *of* PUBLIC HEALTH



Protecting Health, Saving Lives—*Millions at a Time*

Questions?

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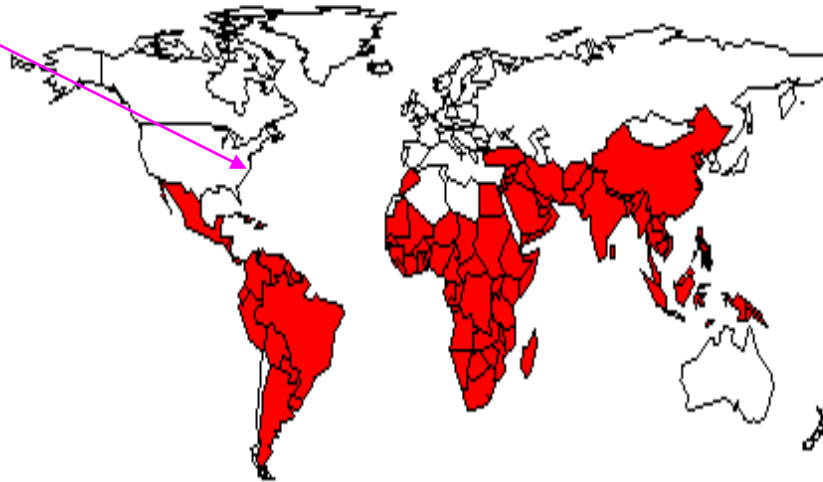
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<http://www.jhsph.edu/malariasummit2009>

The Big Picture

**"Malaria-Carrying Mosquitoes Found in Loudoun"
-Washington Post (September 27, 2002)**



**40% of world population lives in endemic areas
300 - 500 million cases annually
1.5 - 3 million deaths annually**

Our Mission

Founded in 2001, the [Johns Hopkins Malaria Research Institute \(JHMRI\)](#), is dedicated to the search for basic science breakthroughs to attack the complex life cycle of malaria.

- Creating new strategies for blocking malaria transmission
- Exploring new approaches to vaccines
- Attracting new scientists to malaria research
- Developing new diagnostic techniques
- Creating the next-generation of antimalarial drugs
- Mapping the mosquito and disease in endemic areas

What is Malaria?

Single-cell parasites of the protist kingdom

Protozoans: animal-like (4 phyla)

Algae: plant-like (6 phyla)

Slime molds: fungus-like (2 phyla)

Malaria is transmitted by *Anopheles* mosquitoes

Four species commonly infect humans:

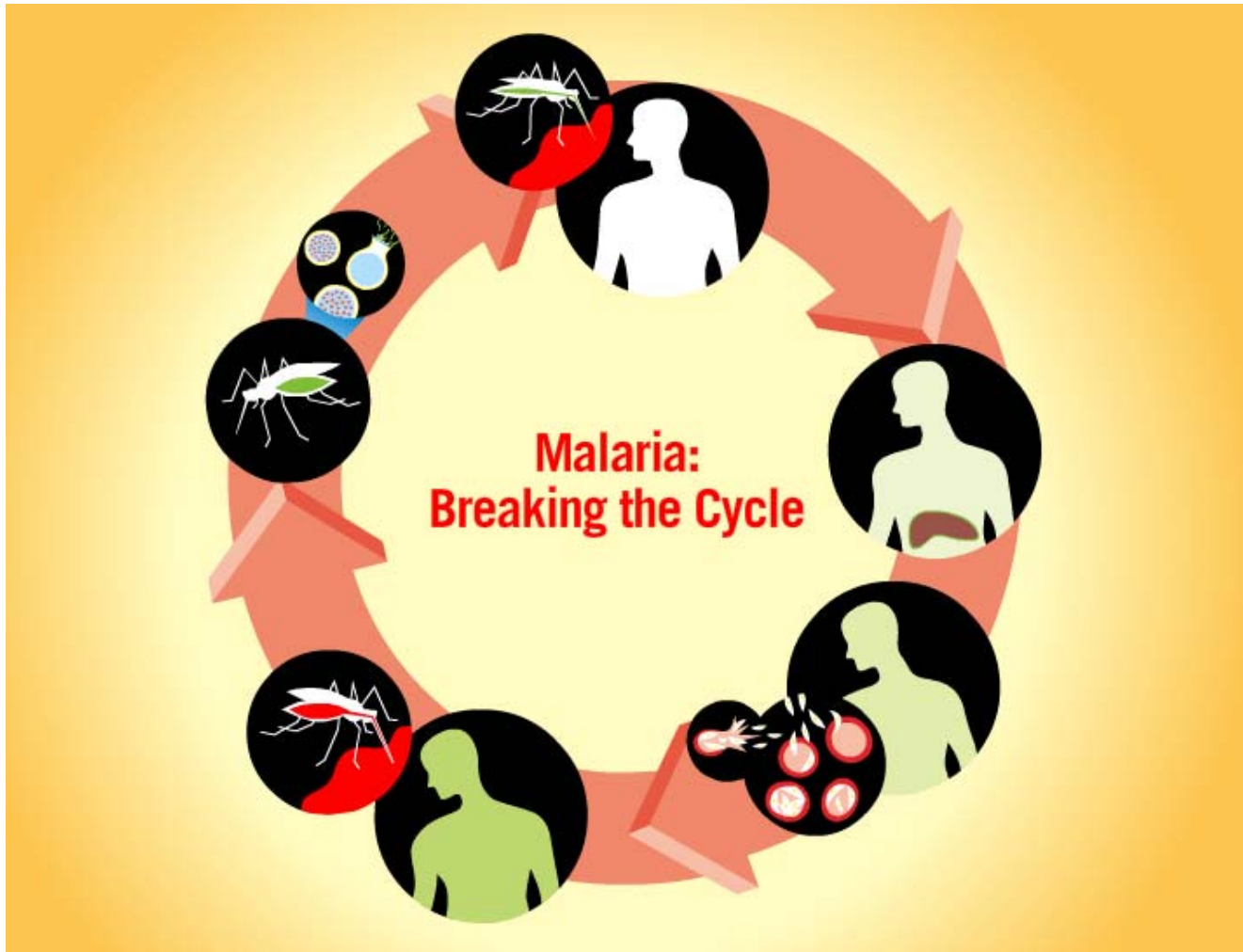
Plasmodium falciparum

Plasmodium vivax

Plasmodium ovalae

Plasmodium malariae

Malaria Life Cycle



Malaria: A Moving Target

Drug resistance

Chloroquine

Resistance to all approved antimalaria drugs

Insecticide resistance

DDT

Resistance to every chemical class of insecticide

Emerging infections

Plasmodium knowlesi

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