

# Spatial and temporal clustering of dengue virus transmission in Thai villages

November 4 2008

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In a new study reported in *PLoS Medicine*, Mammen P. Mammen Jr. of the Armed Forces Research Institute of Medical Sciences (AFRIMS) in Bangkok and colleagues investigated the spread of dengue virus infection in rural Thai villages.

Identifying cases by screening schoolchildren with fever, the researchers then found that infection spread from the homes of infected children to nearby houses, resulting in localized clustering of cases. This focal pattern of transmission suggests that active case detection prompting local spraying to kill the mosquitoes that carry the virus could reduce spread within rural areas.

Every year, over 50 million people living in tropical and subtropical areas become infected with dengue and several hundred thousand develop a potentially lethal complication called dengue hemorrhagic fever. Dengue is caused by four closely related viruses that are transmitted to people through the bites of infected female *Aedes aegypti* mosquitoes. Neither a safe, effective vaccine nor antiviral treatment is available for dengue infection.

In a related Perspective article, Steven Riley of the University of Hong Kong, who was not involved in the study, noted that "it is sometimes difficult to obtain funding for expensive ecological studies. Therefore, carefully designed prospective cluster studies provide a much more efficient way of gathering key data."

Citation: Mammen MP Jr, Pimgate C, Koenraad CJM, Rothman AL, Aldstadt J, et al. (2008) Spatial and temporal clustering of dengue virus transmission in Thai villages. PLoS Med 5(10): e205.

doi:10.1371/journal.pmed.0050205

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