'Airport malaria' -- cause for concern in the US

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In a global world, significant factors affect the spread of infectious diseases, including international trade, air travel and globalized food production. "Airport malaria" is a term coined by researchers to explain the more recent spread of malaria to areas such as the United States and Europe, which some scientists credit to warmer climate changes.

Airport malaria is transmitted when a mosquito infected with the disease bites a human within the vicinity (usually one mile or less) of an international airport. Warmer climate changes in major U.S. cities with a large presence of international air traffic, such as New York and Los Angeles, seem to have created a more welcoming environment where these infected mosquitoes can survive. It begins with a mosquito that is transported during an international flight from a malaria-endemic region. Once the infected female mosquito leaves the aircraft, it can survive long enough to seek blood meals and transmit the disease to other humans within the airport.

This type of international transmission creates an increased possibility for the reintroduction of not just malaria, but other detrimental diseases such as dengue and Chikungunya fever, into areas where they are not normally found. For example, people infected with malaria can travel anywhere in the world in 24 hours or less and as long as the malaria-transmitting mosquitoes are present, countries can face larger local outbreaks of imported malaria.

"As international travel increases and climate patterns change – particularly warming nighttime temperatures and increased precipitation -- the U.S. becomes a more stable ecosystem for these disease carrying insects to survive and flourish for longer periods of time," says James H. Diaz, M.D., member of the ASTMH and program director for Environmental and Occupational Health at Louisiana State University.

Dr. Diaz explains that warm, dry summers followed by heavy rain causes mosquitoes to rush breeding and seek out more blood meals, which in turn creates more mosquitoes in a shorter period of time. Similarly, as the winter season becomes more mild, mosquitoes and their eggs are surviving longer and not being killed by the harsh winter freeze. These extreme climate changes allow for longer reproductive lives and prolonged breeding seasons, while increasing the risk of infected mosquitoes spreading malaria to the U.S.

While this is a growing problem for the U.S. there are ways to help prevent the spread of airport malaria. "The best defense against the spread of malaria through international travel is prevention, early detection and treatment of malaria-infected patients, and draining stagnant areas of water where mosquitoes breed and lay eggs," says Dr. Diaz. "People need to remember that West Nile disease was introduced into the U.S. in 1999 by international air travel. Before reaching the United States, West Nile wasn't viewed as a threat to North America. Now we see just how quickly and easily infectious diseases can be spread, proving that we need to take measures to protect ourselves from these diseases before they actually reach the United States."

Source: American Society of Tropical Medicine and Hygiene