

Team Number: JMS 60

School: Jackson Middle School

Area of Science: Health

Project Title: Does The Separation Of Water Impact The Spread of Dengue Fever?

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Project Definition:

Just recently hurricanes have been hitting Florida. With more and more hurricanes happening everyday it has gotten the both of us concerned, than we thought about what happens after hurricanes it has gotten us more concerned. We came up with the question, what happens to small towns in Florida impacted by the Dengue fever? Which is a disease that you can get from mosquitoes after hurricanes. And what about the water changes?

The problem is if the distance between pools of water change? What happens to the Dengue Fever? Dengue fever is most commonly found in humid weather and in the tropics. Aedes Aegypti mosquitoes transmit dengue fever. Aedes aegypti mosquitoes reproduce in small puddles of water. Our mentor Steven B. Bradfute, Ph.D, Phd gave us more information on the disease and the kind of mosquitoes carrying the disease.

We will be taking data from current hurricane waters and determining how Dengue Fever affects small towns in Florida. These diseases are caused by mosquitoes who transmit the disease by biting people who have the disease and then passing it onto others who are healthy. They reproduce by laying eggs in small pools of water they find in the tropics and humid places. We are trying to model how it affects small towns who are close to the water. Part of our question is how far from the water the mosquitoes need to be to lay eggs and/or transmit Dengue Fever.

Coding:

The model shows so far people,mosquitos and, water. We are trying to get the program the mosquitos to create on patches of water. Then the mosquitoes will reproduce more mosquitoes who will randomly sting one person who is sick and then one who in not sick. We predict that the mosquito infestation will decrease if the pools of water are further apart.

The Progress We Made So Far:

We have researched about the Dengue Fever and found out that mosquitoes only reproduce in small places of water. Dengue is a flavis disease in a mosquito that carries the disease and many others such as Zika or Yellow Fever. We have started the coding with much trial and error. We have been successful in gathering research but still need

information about the spread of disease in Florida waters from the hurricanes. In coding we have done a lot of code but we need to do more research to continue.

Expected Results:

The results we expect to get is that the farther apart the pools of water are the less the mosquitoes reproduce. The closer the pools of water are to the small towns the more likely people will be stung. We believe that the further apart the water, the less likely people in towns will get the chances of catching Dengue fever, from the research we have gathered so far. We also believe that people who get Dengue don't usually die but it adds up to a lot of deaths. Dengue fever also impacts huge cities, and Dengue can affect anyone, no matter what age.

Resources:

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