Understanding Disease Hosts

In Task 4-2, the team learned more about factors that affect how diseases can be spread to a host. In the models in Task 4-2, the human was the host. The mosquito was the vector.

In this task, the team will run a series of transmission models with a variety of different mosquito-borne disease hosts. This will help you understand more factors that can affect the spread and transmission of mosquito-borne diseases through a community.

In this task, the team will be focusing on the following questions from the question map.

- How do mosquitoes spread disease?
- What factors influence this?

1. Go to the Task 4-3 folder and get the Vector and Host Game instructions. There is only one version of this task, but can be played inside or outside. You decide!

2. As a team, go over the following terms.
   - A disease vector is an organism that can transmit diseases between humans or from animals to humans.
   - A disease host is an organism that can harbor a disease and typically provide the disease nourishment and shelter. Diseases can survive in a host over a period of time. There are two types of hosts, primary and secondary.
   - In primary hosts, the diseases living in these hosts can be spread back to other mosquitoes and then to other humans or animals.
   - In secondary hosts, the disease is not transmitted to other mosquitoes or animals.

3. Use the instructions in the task folder to play the Vector and Host Game.

4. As a team, discuss the questions in the game instructions.

5. As a team, discuss:
   - How can models such as this game be helpful when doing research?
   - What are some ways this model does not accurately model mosquito-human interactions?
   - What factors can affect how quickly a disease spreads through a group of mosquitoes and humans?
   - What other factors do these models not incorporate? How could you incorporate them into the model?

6. Develop a new model of your own using this setup. Run the model and compare the results.
   - How can models such as these be useful when thinking about questions on the map, such as what factors influence how mosquitoes spread diseases? How can we ensure health for all from mosquito-borne diseases?
Task 4-3

Mosquito! Task 4-3 Understanding Disease Hosts - HHMI West Nile Game Resources
https://www.hhmi.org/biointeractive/west-nile-virus-vectors-and-hosts-game