Antimicrobial Resistance

Team [Moriarty-1]

Moriarty High

Taylor Cannaday, Nicholas Cox, Margaret Young

Carol Thompson

(project mentor)

Antimicrobial Resistance

The point of our project is to shed light on the dangers of antimicrobial resistance by computing the bacteria MRSA, and its ability to resist a specific antibiotic. The purpose is to collect data on how quickly MRSA adapts to the antibiotics we administer to them. We will be testing multiple variables like, the amount administered, the rate at which the bacteria multiplies and the rate at which its offspring develops resistance to the antibiotics.

We will be conducting this experiment by using the code program NetLogo. By modeling the variables stated, as well as using the 'turtles', it will show how MRSA develops resistance. This data will produce an equation that represents our findings. We will expect to show the state at which Staph became resistant. This will provide a somewhat accurate hypothesis for what will come and a way to watch antibiotic resistance for the future of healthcare.

Thus far the search for information on MRSA has come to a close as our team is well equipped to start the coding process. We have researched the bacteria MRSA, the antibiotics used to treat it, and the antibiotics it has developed a resistance, and will soon be ready to test our theories.

Lowy, Franklin D. "Antimicrobial Resistance: The Example of *Staphylococcus Aureus*." *Journal of Clinical Investigation*. American Society for Clinical Investigation, 01 May 2003. Web. 08 Dec. 2016.

"Superbug, Super-fast Evolution." *Superbug, Super-fast Evolution*. N.p., n.d. Web. 08 Dec. 2016.

N.p., n.d. Web.