The Flu

New Mexico

Final Report

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Executive Summary

We used a ratio of one in ten people exposed are infected. In our model we started with one infected person. When we made our model in StarLogo TNG we made it so each infected person recovers in a period of time. Most of the times we played our model, either the person that was infected got better before they infected anyone, or they infected a few people. Sometimes there was a huge epidemic.

Problem Statement

Many people can get the flu. The Flu is a highly contagious viral infection of the respiratory passages causing fever, severe aching, and. It often occurs in epidemics. Flu symptoms make you feel miserable Symptoms of the flu are:

- Headache
- fever (usually high)
- chills
- muscle aches
- weakness
- sore throat
- runny or stuffy nose
- red or itchy eye
- dry cough
- tiredness (can be extreme)
- diarrhea (especially children)

The flu vaccine can protect you against some types of flu virus. There are 3 forms: The flu "shot" is usually given in the muscle of the arm. It is given to children 6 months and above. It cannot make you sick with the flu. The flu "micro-shot" is given in the skin of the arm. It can be given to adults between the ages of 18 and 64 years. It cannot make you sick with the flu .The flu nasal spray is a mist that is sprayed in your nose. This is a live weakened virus vaccine that cannot be used by people with lung or other repertory issues. Our project shows how many people can catch the flu from one person.

Method Used to Solve Problem

We defined an infection and recovery rate of the flu. We did field research to make a data base to model in StarLogo TNG. We demonstrated this infection using StarLogo TNG. In our model we started with one infected person. When we made our model in StarLogo TNG we made it so every person that gets infected recovers in a period of time.

How Model was Verified and Validated

We went online and found the infection rate of people with the flu. The results we found were 1/10. We chose StarLogo TNG because it is easy to program and we all knew how to use it. We set the infection rate on our model to 7.5. Our recovery rate was set to 19. This made our model realistic.

Results of study

Since 1/10 people get infected with the virus. We researched the project results that were most of the times we played our model, either the person that was infected got better before they infected anyone, or they infected a few people. Sometimes there was a huge epidemic. In our research it says that these are the people who are at high risk of the flu:

- Adults 65 years and older
- Children younger than 5 years old
- Pregnant women and women up to 2 weeks after the end of pregnancy
- American Indians and Alaskan Natives

Conclusion Reached by Analyzing Results

In conclusion, our model started with one infected person. When we made our model in StarLogo TNG we made it so every person that gets infected recovers in a period of time. Now we know that newborns and elderly are more likely to get the flu than young people.

Software, References, Citations, Tables and Plots

Influenza-Like Illness (ILI) Activity Level Indicator Determined by Data Reported to ILINet 2013-14 Influenza Season Week 1 ending Jan 04, 2014



In this picture it shows the results of this year's flu (influenza).

References

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http://science.howstuffworks.com/life/cellularmicroscopic/flu.htm

http://science.slashdot.org/story/13/01/20/1317249/

Most Significant Achievement

We learned how to use StarLogo TNG. We learned more facts about the flu, how we can cure the flu, and the symptoms of the flu. We learned how to be more responsible with our work.

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- Ms. Stout
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