

Why is it important to get the Flu vaccine?

Supercomputing Challenge

Final Report

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Picacho Middle School

Team 97

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1.Executive Summary

This research of the flu vaccine is to show the people about the flu, to show them the importance of the flu vaccine, what could happen to them, ways to prevent the flu, and the symptoms. We made a StarLogo model to show the differences between having the flu vaccine and when you don't have the flu shot. In the model we are showing how people react to the flu vaccine. We are also giving information on how the people from the past used to cure themselves and what plants they used. We used mathematics, graphics, science and knowledge. We also compared bacteria and viruses in our PowerPoint. We also talk about what people think about the flu and ways to prevent the flu and the symptoms. We also learned how they discovered that milkmaids did not get a strong small pox; there they called it cowpox. Jenner from England discovered this. Also that a virus can pass from a person to a flea, to a rat, to a flea to a person so blood can be transmitted, become a plague, and that not all of the viruses are in the air. The word vaccine comes from the word ``vaca`` which means cow in Spanish.

2. Statement of the Problem

The statement of the problem is that not many people get the flu vaccine. The percent of people that got the flu vaccine in 2010 is 36% of children and 38% of adults in Las Cruces, New Mexico. The receiving the flu vaccine is important because it can keep you safe from getting infected or sick. People need to stop thinking that the flu is a winter disease and need to get the flu vaccine in the summer also because the flu is an anytime disease. The percent of the people that get the flu vaccine get it because they want to be protected from bacteria and viruses.

3. Explanation of StarLogo Model

In the beginning we setup the model to reset the clock and to clean all. Then humans were created—five without the vaccine and five with the vaccine, and set their energy to random fifteen. We created flu by a random number in a slider. We set the color of the flu to red because we need to distinguish between the flu and vaccine. Homer doesn't have the vaccine and Marge has the flu vaccine.

Procedure human movement:

FORWARD, STEPS: RAMDOM 10

LEFT, DEGS: RAMDOM 10

RIGHT, DEGS: RAMDOM 10

Procedure flu moment:

FORWARD, STEPS: RAMDOM 20

LEFT, DEGS: RAMDOM 50

RIGHT, DEGS: RAMDOM 50

BACK, STEPS: RAMDOM 20

Setup:

RESET CLOCK

CLEAR ALL

CREATE HUMAN WITH OUT VACCINE: 5. DO SET ENERGY
RANDOM 15

CREATE FLU: QUIANTITY SET BY SLIDER: DO SET COLOR
RED AND SET ENERGY RAMDOM 15

CREATE HUMAN WITH VACCINE: 5: DO: SET ENERGY
RAMDOM 15.

CREATE VACCINE: QUANTITY SET BY SLIDER: DO: SET
COLOR BLUE AND SET ENERGY RAMDOM 15.

AT LAST SCATTER EVERYONE

COLLITIONS:

HUMAN WITH VACCINE	INC ENERGY=-0.5
FLU	

FLU	
HUMAN WITH OUT VACCINE	INC ENERGY=-2

HUMAN WITH VACCINE	INC ENERGY=-0.5
HUMAN WITH OUT VACCINE	

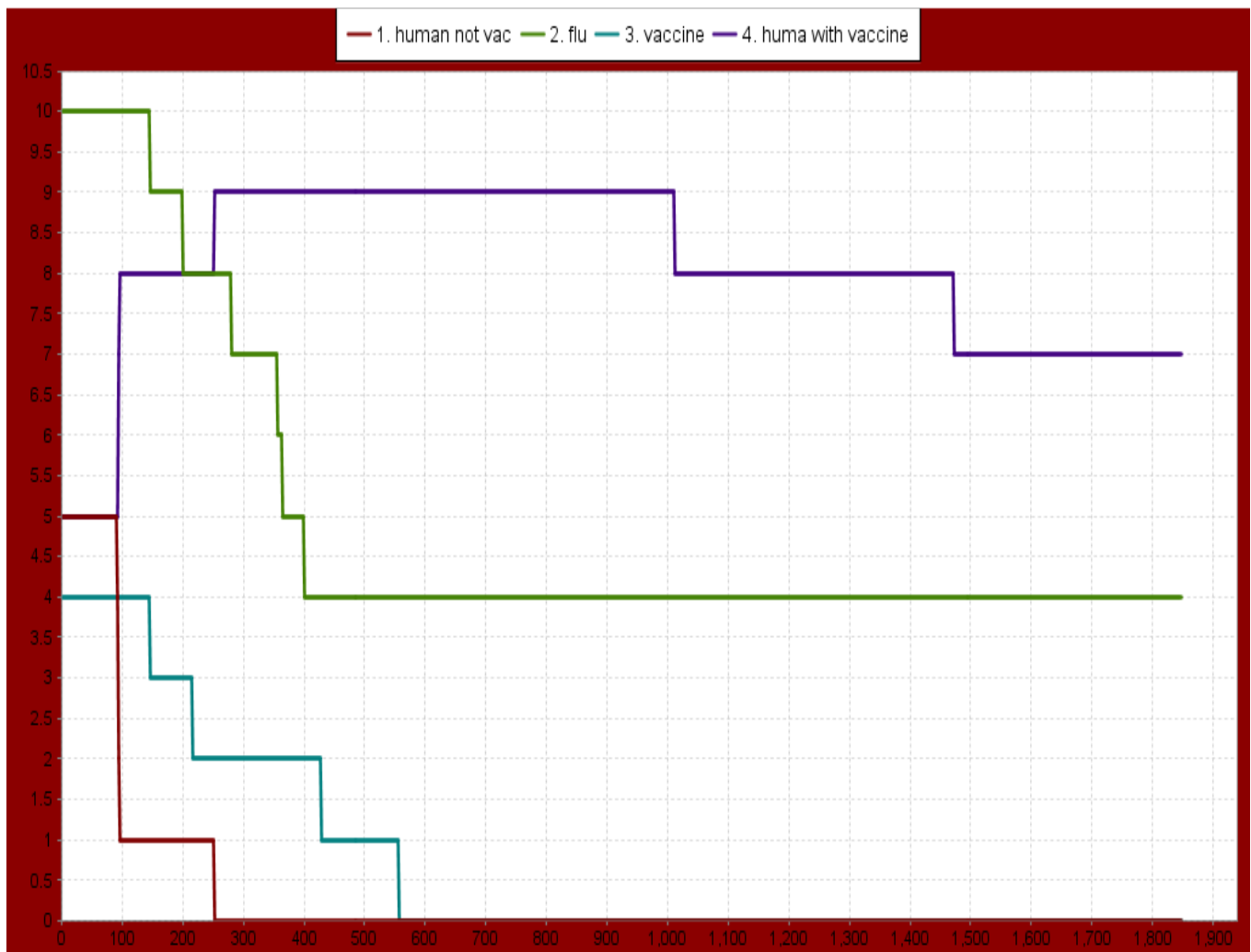
VACCINE	
HUMAN WITH OUT VACCINE	INC ENERGY=2 SET BREED: BREED HUMAN WITH VACCINE

HUMAN WITH VACCINE	INC ENERGY=2
VACCINE	

VACCINE	INC ENERGY=-1
FLU	INC ENERGY=-1

4.Evaluation and Goodness Functions

We used this graph to represent the number of people that don't have the flu vaccine, the flu, the flu vaccine, and the people that have the flu vaccine.



5. How to Prevent the Flu

- ❖ Eat well (fruit and vegetables)
- ❖ Sleep enough hours (sleep at least eight hours)
- ❖ Exercise (at least 30 minutes a day)
- ❖ Get the flu vaccine (every year)
- ❖ Wash your hands often (may use hand sanitizer)
- ❖ Cover mouth and nose (when cough or sneeze)



6. Results

When creating the StarLogo model we noticed that the people who had the vaccine did not pass the virus on to others. On the other hand people who did not have the vaccine were able to get the virus easier and did pass the virus on to others.

7. Conclusion

By using the StarLogo model we were able to find out that having the vaccine does prevent people from getting the virus and from passing it on. Therefore this can help prevent others from having the flu and from creating an epidemic.

8. Original Achievements

With this project we learned about the flu, ways to prevent the flu, and the symptoms. Workings on this project also let us learn more about technology.

We really enjoy being able to manipulate the StarLogo program. We think we accomplish our goal by working in this project.

9. Work products

For this project we used different Internet resources, the StarLogo model, outside advisers, books, and resources from the Supercomputing model of the previous years.

10. References

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11. Acknowledgments

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