

Getting a Clue about the Flu

New Mexico Adventures in Supercomputing Challenge

Final Report

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Team 091

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Table of Contents

Introduction	Pg 3
Description	Pg 4
Results	Pg 5
Conclusions	Pg 6
References	Pg 7

Executive Summary

Introduction

Influenza, commonly known as the flu, is a virus that affects the respiratory system. Complications from influenza may even lead to death. It is most contagious from October to May. The peak of the flu season may occur anywhere from late December to March, although it has occurred as early as September before. The flu season varies each year. Influenza has an incubation period of one to four days. Most people who come into contact with the virus don't show symptoms for at least a couple of days, yet they are still able to pass the illness on to others. Symptoms include fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. People 65 and older and children six to twenty-four months are the most susceptible to the flu.

The goal of this project is to create a program that is capable of predicting the number of vaccinations needed to meet the demand in each season. We originally designed our project, "Getting a Clue About the Flu" to project numbers for the current flu season and seasons to come by manipulating data from years past. The flu is a common epidemic and its vaccine cannot be stored in any great quantity because of recurring mutations in the virus. With a program available to predict the need of the vaccinations, we believe it would deplete the number of unexpected shortages.

Description

Our group started out strong once a topic was decided on. The project was divided equally among the team members based on our individual strengths and particular interests. We intended to use Star Logo to show the spread of influenza, however complications arose. We completed extensive research and were meeting regularly to finish the project. However, our team had many challenges and complications on the way. Two of our team members had to leave our school district for personal reasons, and are no longer working with us, which leaves us with no program as they were the head programmers in our project.

Results

While we learned much about the influenza virus itself, we were unable to obtain results due to aforementioned reasons.

Conclusions

In our progressive work we came to find that the available resources that we had, mainly our teachers, offered much guidance and support, while finding a mentor was disappointing. In our search for data, Penny Hill, RN, BSN, the Infection Control Practitioner at San Juan Regional Medical Center was extremely helpful. We are sad to say that we did not get the chance to put her data to good use.

References

This is a list of the references we used along the way in our research

- [1] Penny Hill – Personal Interview January 2005
- [2] Penny Hill – San Juan Regional Weekly Influenza Reports
- [3] <http://www.cdc.gov/ncidod/diseases/flu/weeklyarchives1999-2000/99-00summary2.htm>
- [4] <http://www.cdc.gov/ncidod/diseases/flu/weeklyarchives2000-2001/00-01summary.htm>
- [5] <http://www.cdc.gov/ncidod/diseases/flu/weeklyarchives2001-2002/01-02summary.htm>
- [6] <http://www.cdc.gov/ncidod/diseases/flu/weeklyarchives2002-2003/02-03summary.htm>
- [7] <http://www.cdc.gov/ncidod/diseases/flu/weeklyarchives2003-2004/03-04summary.htm>
- [8] <http://www.health.state.nm.us/immunize/Pages/Public/stats/stats.html>