

# Modeling the Spread of Disease in a Typical High School Environment

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## Abstract

Considering the increasing virulence of diseases and their resistance to contemporary medicines, it is of utmost importance to consider and explore non medicinal avenues to control and halt the spread of disease. By providing ways to stop epidemics before they become epidemics, we provide a great service to humanity. This project utilizes environmental based modeling to attempt to define the optimal behavior for an individual in a population in which an epidemic is released. This project takes a real step towards predictive modeling and explores how disease is transmitted

## Background

Considering the increasingly globalized nature of the world, examining and producing efficient methods to combat both diseases and bioterrorism outbreaks is of utmost importance. This project attempts to do so by pioneering in the field of environmental modeling – using computers to design and examine a real-world model. By combining observed scientific research with various modeling methods, this project hopes to achieve a comprehensive modeling solution.

## Procedures/Methods

This project will use an environmental based model to realistically simulate a model designed to achieve the goals mentioned above.

## (Anticipated) Results

As more time goes on, more people become infected. Smaller classroom sizes make for less infections, and obviously more viral disease infect more people over the course of the simulation.

