### **Modeling Zombies and Infection**

Ricky Marske and Steven Rosendahl

## A Simple Model

• Population decay can be modeled by

$$y = a(1-r)^x$$

Population decay can be modeled by

$$y = a(1-r)^{x}$$

• a : Initial amount of population

Population decay can be modeled by

$$y = a(1-r)^{x}$$

- a : Initial amount of population
- r : Decay rate

Population decay can be modeled by

$$y = a(1 - r)^{x}$$

- a : Initial amount of population
- r : Decay rate
- x : The amount of time that has passed

**Adding Complexity** 

• In the initial model, we assumed

- In the initial model, we assumed
  - 1. No one was immune

- In the initial model, we assumed
  - 1. No one was immune
  - 2. Non-Infected would have no response to infected

- In the initial model, we assumed
  - 1. No one was immune
  - 2. Non-Infected would have no response to infected
  - 3. No one could survive the virus or be cured

#### **Immunities**

#### Non-Infected Responses

#### **Cures and Survival**

# Modeling Outside of NetLogo