

# What is an epidemic?

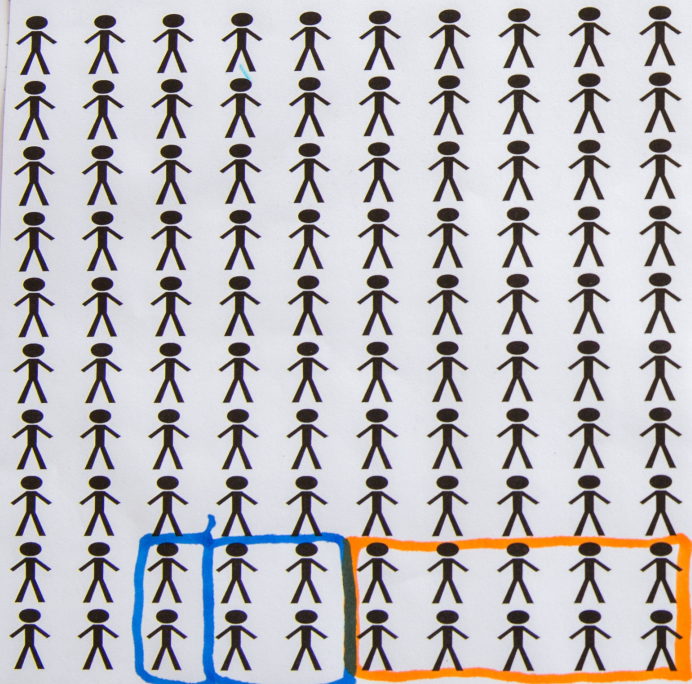
## Epidemiology

$$\text{Prevalence} = \frac{\# \text{ people with disease}}{\text{Total population (at risk)}} \\ = \frac{10}{100} = 10\%$$

Time  
Point-in-time

$$\text{Incidence} = \frac{\# \text{ newly sick}}{\# \text{ susceptible } \& \text{ becoming sick}} \\ = \frac{4}{90}$$

Over a  
time  
period



## Drivers of Prevalence

- 1) Incidence  $\uparrow$
- 2) Case fatality rate  $\downarrow$