

Swift Student Challenge 2021

Vaccines and containing an outbreak

How do Vaccines work?

Vaccines work to give your immune system the memory of a virus so that when the virus does attempt to infect you, your immune system will recognize it and eliminate it and reduce your risk of a severe infection

Why do they matter for containing a disease?

Vaccines not only save lives by reducing the severity of infections, but they also massively help reduce the transmission of a disease. The higher percentage of population that's vaccinated, the fewer opportunities for the disease to spread to others.

An Outbreak infection simulator and herd immunity

On the right, there's an infection simulator. The spheres correspond to people, while the lines correspond to a possible path of transmission. Tap a node to vaccinate it. Once the outbreak starts, try to contain it by quarantining nodes by tapping them. The simulator starts in easy mode, but try out the different options!

Herd immunity

A common phrase by healthcare professionals is that we need at least 75% of the population to be vaccinated to build herd immunity. So what's herd immunity?

Herd immunity is when a large enough portion of a population is immune to a disease, which makes the spread of the disease much less likely. With herd immunity, the population is protected even though everyone is not vaccinated. Herd immunity is important as it protects those who are unable to get vaccinated for various reasons.