

GCSE Biology – Herd Immunity - Transcript

How does herd immunity protect people against infectious diseases like the flu? Herd immunity happens when a large proportion of the population has immunity against a disease.

This immunity comes from previous infection, or vaccination against the disease. Vaccinations are often dead or inactive versions of the pathogen that will not cause disease.

More recent vaccines are small sections of the virus' genetic information, so RNA or DNA. When only a few people are vaccinated, there's little protection. A pathogen in a population can still spread quickly from person to person, causing an outbreak.

This transmission can happen by direct contact, airborne spread, contaminated food or water, and through vectors like insects. If most people are vaccinated, the disease can't find enough new hosts to infect, so the chain of transmission breaks.

This is how vaccinations can protect those who aren't vaccinated. And that's the mechanism of herd immunity.

Herd immunity helps to protect people who can't be vaccinated, like newborn babies, the elderly, or people with weakened immune systems.

Because those around them are protected, the disease has nowhere to go. The flu vaccines need to be updated every year because the viruses that cause these infections change.

Other vaccinations like measles or tetanus, offer protection for life. So vaccinations protect the individual and can result in herd immunity, which then helps to protect those around us too.

But the level of protection depends on the amount of people vaccinated.