

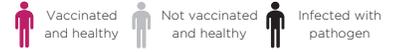
# THE COSTS OF WAITING

**When a significant proportion of a population is vaccinated, and therefore protected against a disease, the disease has less opportunity to spread through the population. This is known as herd immunity.<sup>1,2</sup>**



## PROTECTING COMMUNITIES THROUGH HERD IMMUNITY

### HOW HERD IMMUNITY WORKS<sup>1,2</sup>



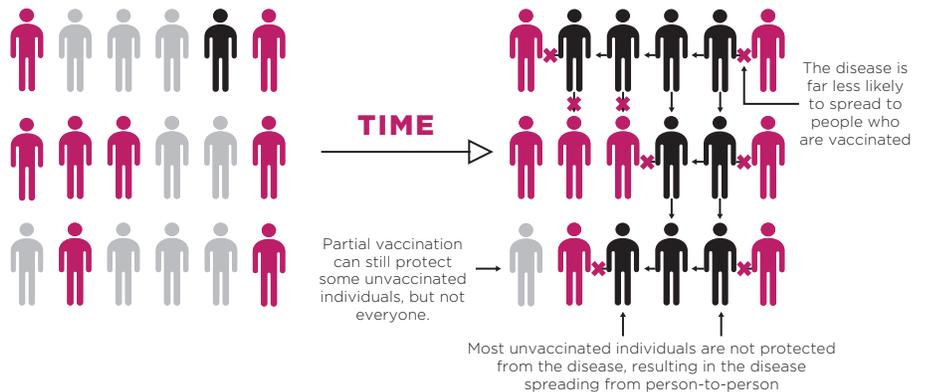
#### WHEN NOBODY IS VACCINATED\*

The disease is able to spread through the population



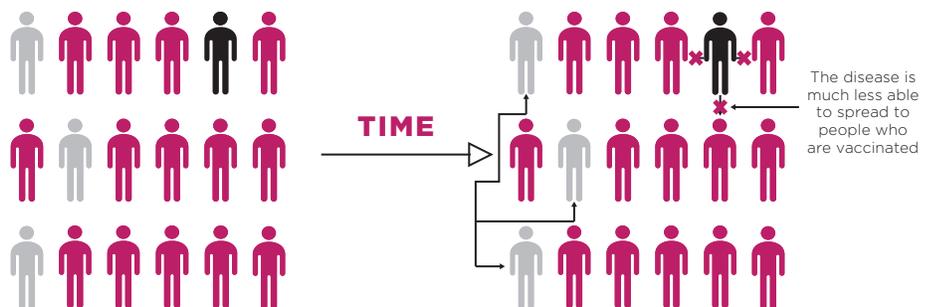
#### WHEN A SMALL PROPORTION OF THE POPULATION IS VACCINATED\*

The disease is able to spread through individuals who are not vaccinated



#### WHEN A SIGNIFICANT PROPORTION OF THE POPULATION IS VACCINATED\*

The disease is much less able to spread through the population



#### WHEN THE MAJORITY OF THE POPULATION IS VACCINATED, THERE IS PROTECTION FOR BOTH:<sup>3</sup>

- Vaccinated individuals: because they are less likely to catch the disease.
- Unvaccinated individuals: because they are protected by the vaccinated population which stops the virus spreading to them.

Vaccines can protect both the immunised and unimmunised within a population through herd immunity.<sup>3</sup>

This phenomenon is particularly important for individuals who are vulnerable to diseases but cannot be vaccinated.<sup>3</sup>

It is important to note that herd immunity only works for diseases that spread through the population via direct person-to-person contact.<sup>4</sup> If a disease is caused from pathogens in the environment, i.e. not from people who have the disease, then unvaccinated people can become infected, regardless of how many people in the community are vaccinated.<sup>1</sup>

\*Images constructed based on information provided in references<sup>1,2</sup>

# WIDESPREAD VACCINATION MAKES HERD IMMUNITY POSSIBLE

**Herd immunity is dependent on a significant proportion of a population being vaccinated.<sup>1,2,5</sup>**

The higher the vaccination rates, the harder it is (and the longer it takes) for a disease to spread. To ensure complete protection within a population or community, vaccination rates must achieve a certain threshold.<sup>1,2</sup> For example, at least 89-94% of the population must be vaccinated against measles to protect those who have not been, or who cannot be, vaccinated.<sup>6</sup>

**When herd immunity is achieved, the disease cannot spread through the population or cause outbreaks.<sup>1-3</sup>**

Through widespread vaccination, herd immunity can make it difficult for a disease to spread.<sup>1,2</sup>

If vaccination rates fall, herd immunity can break down.<sup>2</sup> Without this level of protection, when the disease appears in the population it may quickly spread to other unimmunised individuals and cause an outbreak.<sup>1,2</sup>

## HERD IMMUNITY PROTECTS PEOPLE WHO ARE NOT IMMUNE<sup>1,2</sup>

Herd immunity can protect people who have not yet been vaccinated and those who cannot be vaccinated.<sup>1,2</sup> These individuals rely on the rest of the vaccinated population to protect them from disease, and may include:<sup>1,2</sup>



### Newborn babies

Newborn babies who have not yet been vaccinated



### Older adults

Older adults who have less responsive immune systems (i.e. vaccines are less effective)



### Compromised Immune Systems

People with compromised immune systems (e.g., people living with underlying medical conditions)



### Chemotherapy Patients

People receiving chemotherapy whose immune systems are weakened

By getting vaccinated, you not only protect yourself, but you also protect your family and friends, the broader community, as well as future generations.<sup>1,2</sup>

**FOR MORE INFORMATION ABOUT VACCINATION, PLEASE SPEAK TO YOUR DOCTOR.**

**References 1.** Herd immunity. Vaccine Knowledge Project. Available at: <http://vk.ovg.ox.ac.uk/herd-immunity>. Accessed: September 2021.

**2.** What is herd immunity? Vaccines Today. Available at: <https://www.vaccinestoday.eu/stories/what-is-herd-immunity/>. Accessed: September 2021.

**3.** NHS. Why vaccination is safe and important. Available at: <https://www.nhs.uk/conditions/vaccinations/why-vaccination-is-safe-and-important/>. Accessed: September 2021.

**4.** Somerville M, et al. Public health and epidemiology at a glance. 2012.

**5.** Mayo Clinic. Herd immunity and COVID-19 (coronavirus): What you need to know.

Available at: <https://www.mayoclinic.org/diseases-conditions/coronavirus/in-depth/herd-immunity-and-coronavirus/art-20486808>. Accessed: September 2021.

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