

COVID-19 science: Understanding the basics of 'herd immunity'

26 March 2020, by Dr. Eduardo Sanchez



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Recently I heard a medical "expert" on the news incorrectly define the term "herd immunity." It's a new phrase for many people, but we're hearing about it more and more, so it's important to understand exactly what it is.

First, let's discuss how immunity works for individuals. A person can become immune (or resistant) after exposure to a [disease](#)-causing agent, such as the coronavirus causing COVID-19 in this case. The process of becoming immune includes the production of antibodies specific to the [virus](#) for future protection.

This production typically happens when a person develops the symptoms of the viral disease, but also may occur without symptoms. Irrespective of the symptoms, after significant exposure and time to develop the antibodies, a person becomes immune to that specific virus. In other words, the person is naturally "protected."

If a large group of people—the [herd](#)—is immune to a virus, then an individual in the middle of this group is unlikely to become infected. The virus has

a very hard time getting through the herd. Herd immunity, then, happens when people in a community are protected from a virus and its associated disease to a degree that people who are not immune are still protected because of the high population immunity.

Herd immunity can slow the spread of a contagious virus. Herd immunity can be alternatively achieved by vaccinating people if there is an available vaccine (or vaccines). Treatments that may be discovered and developed will help prevent progression of disease, help people recover from COVID-19 and will probably add to [herd immunity](#).

Herd immunity is disease-specific and is influenced by the ease with which the disease spreads from person to person, or the level of contagiousness. The specifics about [coronavirus](#) and herd immunity are not yet characterized. Regardless of the specifics, achieving herd immunity by the repeated process of infection of one person, recovery and immunity will take a long time—many, many months or even years.

It will take a long time to achieve worldwide herd immunity. It may take less time in some cities or countries, but it will take time. Those individuals who are immune will be able to get back to work and be protected from reinfection and, probably, not transmit the virus or disease.

Provided by American Heart Association

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