

## New York New York - More Good News

On April 23, New York reported the results of the State's serological testing to determine how many people have had COVID-19 and recovered.

The testing found that 13.9% of 3,000 people tested across the State have already had COVID-19. For New York City, the percentage was 21.2%.

"If the state infection rate stands at 13.9% on a large scale, that would amount to roughly 2.7 million people who have been infected, and drops the fatality rate of the virus down to about 0.5%, the governor said."

<https://www.marketwatch.com/story/early-antibody-tests-find-21-of-new-yorkers-have-had-covid-19-2020-04-23>

Since most NY residents with mild or moderate symptoms of COVID-19 are sequestered and not being tested, the number infected is most likely far greater.

Consistent with its basic transmission rate being far greater than the seasonal flu, COVID-19 appears to be widespread throughout the population.

As in my post, The Good News, this is just more piece of evidence that the case fatality rates for COVID-19 are consistently low.

### Dr. Kuttner's Commentary

The numbers in this report reflect the results of serological testing for antibodies to the SARS-CoV-2 virus. While not proven, it is possible that many people exposed to or infected with a virus never reach the stage of antibody production.

There are two basic components to an individual's immune response to an infection. The first stage is known as innate immunity. In this first stage antibodies specific for the virus are not produced. If the innate immune system is successful in preventing or ridding the body of the infection, the second phase of immunity, known as adaptive immunity, will not have sufficient time to kick in and produce detectable levels of antibodies. If this is true, it would explain why many people report symptoms consistent with COVID-19 illness but test negative for antibodies. The proportion of people throughout the NYC population who have been exposed to or infected with the SARS-CoV-2 virus might be far greater than 21%. This could mean we have reached the

stage of herd immunity. Papers recently posted from Oxford University and Stanford University suggest that we may be near that scenario. [1] [2] Right now, everything I have written in this commentary is theoretical and unproven. Time will tell if this theory is accurate. I certainly hope so

Barry Kuttner, M.D., PhD., M.MSc., P.I.

1. Peirlinck, M., et al., *Outbreak dynamics of COVID-19 in China and the United States*. medRxiv, 2020: p. 2020.04.06.20055863.
2. Lourenco, J., et al., *Fundamental principles of epidemic spread highlight the immediate need for large-scale serological surveys to assess the stage of the SARS-CoV-2 epidemic*. medRxiv, 2020: p. 2020.03.24.20042291.