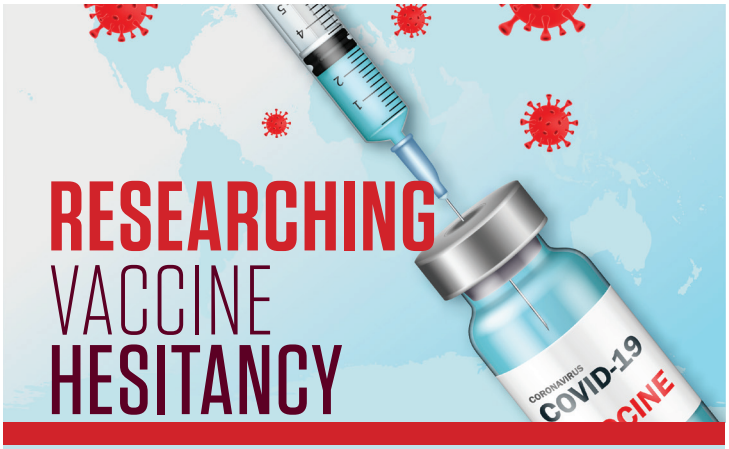

RESEARCHING VACCINE HESITANCY

Vaccines are considered the most important achievement in the public health field. According to the World Health Organization (WHO), vaccines prevent 2-3 million deaths per year around the world.

In the United States, childhood immunizations prevent more than 20 million cases of vaccine-preventable illnesses and 42,000 deaths per year, according to the Centers for Disease Control & Prevention (CDC).

Widespread vaccination creates herd immunity, which is achieved when a large portion of a community becomes immune to a disease, decreasing the chances of spreading a disease from person to person.

VACCINE HESITANCY AND COVID-19

Despite these achievements, there has been a dramatic increase in vaccine hesitancy in recent decades. Vaccine hesitancy is defined as a delay in acceptance or refusal of vaccine despite availability.

Vaccine hesitancy has existed for centuries (dating back to the smallpox vaccine) but has increased in recent decades as a result of a growing distrust of science, the medical community, and pharmaceutical companies. This hesitancy has grown more hostile over time.

Vaccine hesitancy was at an all-time high when COVID-19 hit, with many new issues contributing to these high levels of COVID-19 vaccine hesitancy. In addition, people who have been trusting of vaccines have become hesitant to vaccinate against COVID-19.

Impacts of Hesitancy:

- Many vaccine-preventable diseases are highly transmissible.
- In order to protect those who cannot receive vaccinations (babies and those with health conditions, for example), up to 95% of people must be vaccinated, depending on the disease.
- As vaccination rates decline, herd immunity is compromised and diseases are better able to spread in the population.

NEWEST SCIENTIFIC RESEARCH

Scientists, historically, have been interested in how common vaccine hesitancy is and how to best measure it. Texas A&M University School of Public Health researchers such as Dr. Timothy Callaghan are among those who have been increasingly interested in anti-vaccine attitudes, even before the COVID-19 pandemic began.

IN TWO OF DR. CALLAGHAN'S RECENT STUDIES, HE ASKED:

STUDY #1

Do individuals hold anti-vaccine beliefs because they inaccurately believe that they know more than experts?

The research team found that people displaying the Dunning-Kruger effect (overconfidence in their knowledge of a subject despite low levels of knowledge) are associated with anti-vaccine attitudes and support non-experts playing a role in policymaking. These people are also more likely to endorse false or misleading information.

Motta, M., Callaghan, T. and Sylvester, S., 2018. Knowing less but presuming more: Dunning-Kruger effects and the endorsement of anti-vaccine policy attitudes. *Social Science & Medicine, 211,* pp.274-281.

STUDY #2

Who are the people who hold anti-vaccine beliefs and why?

The research team found that as of Summer 2020:

- Black people were more likely to refuse the COVID-19 vaccination.
- The more conservative someone consider themself, the more likely they were to refuse vaccination.
- Those who voted for Donald Trump were more likely to refuse COVID-19 vaccination.
- COVID worriers were less likely to refuse COVID-19 vaccination.
- Those tested for COVID were less likely to refuse COVID-19 vaccination.
- People who trust experts and view vaccines as safe, effective, and important also were less likely to refuse COVID-19 vaccination.

Callaghan, T., Moghtaderi, A., Lueck, J.A., Hotez, P., Strych, U., Dor, A., Fowler, E.F. and Motta, M., 2021. Correlates and disparities of intention to vaccinate against COVID-19. *Social Science & Medicine (1982).*

The reasons for COVID-19 vaccine hesitancy addressed in this study include:

- The vaccine won't be safe.
- The vaccine won't be effective.
- They lack health insurance.
- They lack financial resources.
- They already had COVID-19.

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