Spring 4-14-2021

# Encouraging public outreach and education to drive COVID-19 vaccination in Farmville

Grace Freeman

Marcia Lanasa

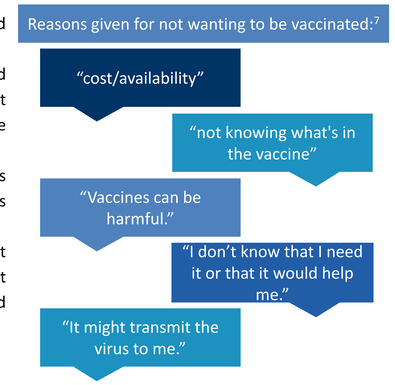
Mitchell Sharry

# Encouraging public outreach and education to drive COVID-19 vaccination in Farmville

Grace Freeman, Marcia Lanasa, & Mitchell Sharry
BIOL 488 Longwood University

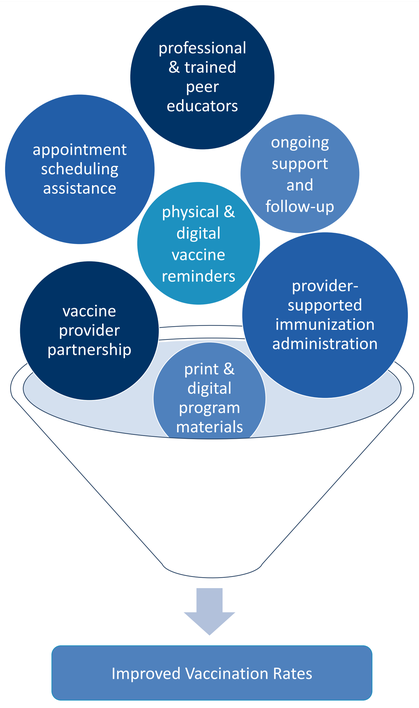
## Problem

- The rapid development of COVID-19 vaccines has led many to speculate on the safety of these vaccines.
- This has contributed greatly to vaccine skepticism and hesitancy as the general public's willingness to get vaccinated has been declining throughout the pandemic.[4,14]
- There are several factors that play a role in people's hesitancy towards these vaccines or their decisions not to receive one.[4,5,7,10]
- Vaccine skepticism and hesitancy is an issue that needs to be addressed as it has been estimated that roughly 75% of the population needs to be vaccinated in order to eradicate COVID-19.[4]




## Proposed Solution

- We believe that a lack of understanding of the current COVID-19 vaccines and their benefits may be partially responsible for keeping vaccination rates below the levels that they need to be at in order to put an end to the COVID-19 pandemic.
- Some studies have suggested intervention via educational outreach programs as a way to increase vaccination acceptance and vaccination rates.[5,4,14]
- In the past, outreach and education programs have been shown to be successful in improving various health-related issues within certain communities.[3,6,8,11,13,17]
- These programs showed success through a number of methods aimed to engage and inform community members in order to have them play a more active role in their own health.
- **Given the need for public education regarding the COVID-19 vaccines, and previous success from outreach and education programs, the Farmville Town Council should consider creating an educational campaign to encourage vaccination within the local community.**




- Please scan the QR code to the left to see the references used for this presentation.

* Case and vaccine numbers obtained from the CDC and VDH were last updated on April 10, 2021 and April 11, 2021 respectively.
** Calculated using population estimates based on the 2010 Census

## COVID-19

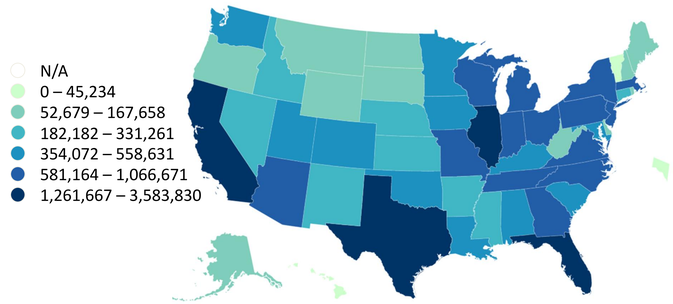



**Figure 1.** *Total number of number of COVID-19 cases reported in the U.S by state/territory.*[2] *

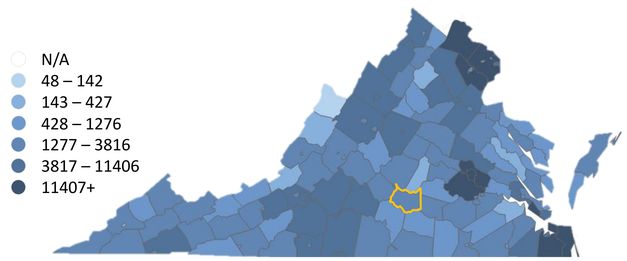



**Figure 2.** *Total number of COVID-19 cases reported in Virginia by county.*[15] *

| United States | |
|---|---|
| **Total Cases** | **Total Deaths** |
| 30,897,028 | 558,028 |
| **Virginia** | |
| **Total Cases** | **Total Deaths** |
| 635,552 | 10,472 |
| **Prince Edward** | |
| **Total Cases** | **Total Deaths** |
| 2044 | 33 |

**Table 1.** *Total number of COVID-19 cases and deaths reported in U.S, Virginia, and Prince Edward count.*[2,15] *

## Vaccine Development

| Vaccine | Efficacy | Number of Doses | Type |
|---|---|---|---|
| Pfizer BioNTech | 95% | Two | mRNA |
| moderna | 94% | Two | mRNA |
| Janssen (Johnson & Johnson) | 66% | One | Live Adenovirus |

**Table 2.** *Current available vaccines for COVID-19.*[1,9,12]

- **Pfizer & BioNTech Clinical Trial**[9]
  - Vaccine efficacy was similar across all subgroups
  - Safety over 2 months was similar to traditional viral vaccines
- **Moderna Clinical Trial**[1]
  - Efficacy observed was higher than that of vaccines for other respiratory viruses (i.e., influenza)
  - No safety concerns identified
- **Janssen (J&J) Clinical Trial**[12]
  - Single dose elicited a strong immune response in majority of participants
  - Safe and effective in both younger and older adults

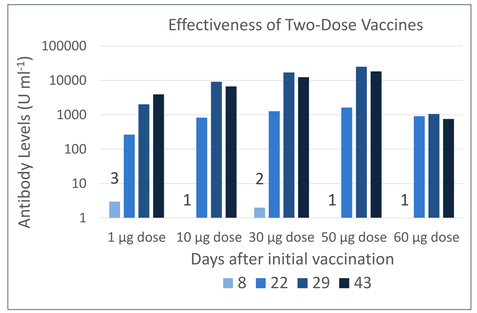



**Figure 3.** *Effectiveness of two-dose vaccines.*[16]

- The FDA has approved the Pfizer, Moderna, and Johnson & Johnson COVID-19 vaccines for emergency use.[2]
- The safety and efficacy of these vaccines can be ensured because:
  - Clinical trials must prove that vaccines are safe and effective prior to being approved.[2]
  - The benefits of the vaccines must outweigh the potential risks before Emergency Use Authorization (EAU).[2]
- Receiving one of these vaccines is beneficial because:
  - It aids the body in building immunity to the COVID-19 virus, sometimes even without causing the associated symptoms of COVID-19 infection.[2]
  - It may provide more protection than that of natural immunity as the protection timeline for natural immunity is still unknown.[2]
  - It reduces the spread of COVID-19.[2]

## Vaccination Rates

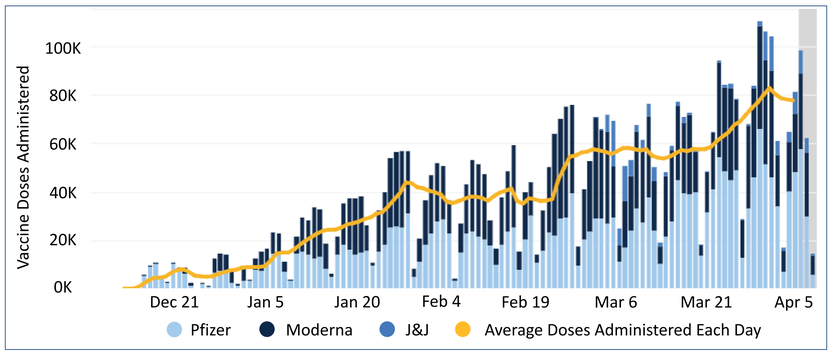



**Figure 4.** *COVID-19 vaccine administration by day in Virginia.*[15] *

| United States | |
|---|---|
| **% of the Population Vaccinated with at Least One Dose** | **% of the Population Fully Vaccinated** |
| 34.5 | 20.5 |
| **Virginia** | |
| **% of the Population Vaccinated with at Least One Dose** | **% of the Population Fully Vaccinated** |
| 35.6 | 20.3 |
| **Prince Edward** | |
| **% of the Population Vaccinated with at Least One Dose** | **% of the Population Fully Vaccinated** |
| 26.2 ** | 17.3 ** |

**Table 3.** *Percentage of population vaccinated in U.S, VA, and Prince Edward county.*[2,15]

- Beginning on April 18, 2021, everyone 16 years of age or older will be eligible to receive a COVID-19 vaccine.[15]
- Only 26.2% of Prince Edwards population has received a vaccination, and only 17.3% have been fully vaccinated.[15]
- As more people become eligible for the vaccines, it is important that everyone who can get vaccinated does so.
- Encouraging people to get vaccinated would lead to reduced morbidity and mortality.[5]
- Increasing vaccination rates would also free up valuable healthcare resources.[5]