KNOW YOUR ANTIBODY STATUS

LEARN HOW AT TEXASCARESPROJECT.ORG
Steven H Kelder, PhD, MPH
Beth Toby Grossman Distinguished Professor

What do schools need to know
What is the TX Cares Study?

Harold W. Kohl, PhD, MPH
Associate Dean, UTSPH Austin Campus

What have we learned from the TX Cares Study?
How long do antibodies last?

George P. Delclos, MD, PhD
Professor and Marcus M. Key, M.D. Shell Occupational and Environmental Health Endowed Chair

Are vaccines safe for children? Adults?
If I am antibody positive (had COVID-19), should I still take the vaccine?
**Viral Test**

AKA: (PCR) TEST, DIAGNOSTIC TEST, ANTIGEN TEST

- Nasal or oral swab
- Detects current infection

**Antibody Test**

Antibodies are part of the body's defense system.

- Blood test
- Detects previous infection
- Some tests can detect antibodies from vaccination
K-12 Schools COVID-19 Mitigation Toolkit

This K-12 Schools COVID-19 Mitigation Toolkit is designed for public health officials, K-12 administrators, school district officials, and occupational safety and health (OSH) professionals to assess hazards and implement mitigation strategies to reduce the spread of Coronavirus Disease (COVID-19) in schools. This toolkit includes the following materials:

- **Toolkit Instructions** introduce public health officials, K-12 administrators, school district officials, and OSH professionals to the content of the toolkit and explain how to use the materials.
- **At-A-Glance: Mitigation Strategies** provide a quick guide for key mitigation strategies based on the evaluation of hazards.
- **Checklists** help K-12 administrators and school staff to prepare for facility reopening for in-person or hybrid classes and continued operations.
- **Resources** provide access to additional information using hyperlinks, URLs, and quick response (QR) codes.
- **Appendix A – Special Considerations** provide information to help reduce the spread of COVID-19 for specific school jobs and positions (e.g., bus drivers, nurses), as well as considerations for students with disabilities or special healthcare needs.
- **Appendix B – Staff Protections** describe an approach used to help reduce risk for staff by removing, eliminating, or isolating a hazard; changing the way people work, or protecting staff by using equipment, such as masks and partitions.
When You've Been Fully Vaccinated

Exceptions:

1. Exposed to COVID
2. International travel
3. High community background rate
4. Healthcare settings, homeless shelters, prisons, and jails, and
5. on public transportation.

Choosing Safer Activities

- If you are fully vaccinated, you can resume activities that you did prior to the pandemic.
- Fully vaccinated people can resume activities without wearing a mask or physically distancing, except where required by federal, state, local, tribal, or territorial laws, rules, and regulations, including local business and workplace guidance.
- If you haven’t been vaccinated yet, find a vaccine.
Cooperation is the only way to completely end the pandemic

1. Providers may begin vaccinating teens 12 and older right away. Call your pediatrician.
2. COVID-19 vaccines are safe and effective.
3. Once you’re fully vaccinated, you can start to do some things that you had stopped doing because of the pandemic.
4. The Texas Department of State Health Services will not require students to get vaccinated against the coronavirus for the upcoming school year.

CDC and FDA endorse the safety and effectiveness of the Pfizer-BioNTech COVID-19 vaccine for 12-15-year-old adolescents.
DON'T FEEL WELL?
STAY HOME WHEN YOU ARE SICK

Tell your mom, dad, or caregiver before you come to school. Tell your teacher or an adult if you become sick at school.

- cough
- Shortness of breath or problem breathing
- chills
- sore throat
- loss of taste or smell
- muscle pain

OTHER SYMPTOMS INCLUDE:
- fever
- runny nose
- diarrhea
- feeling nauseous or vomiting
- feeling tired
- headache
- and poor appetite

Table 1. CDC Indicators and Thresholds for Community Transmission of COVID-19\(^1\)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Low Transmission Blue</th>
<th>Moderate Transmission Yellow</th>
<th>Substantial Transmission Orange</th>
<th>High Transmission Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total new cases per 100,000 persons in the past 7 days(^2)</td>
<td>0-9</td>
<td>10-49</td>
<td>50-99</td>
<td>≥100</td>
</tr>
<tr>
<td>Percentage of NAATs that are positive during the past 7 days(^3)</td>
<td>&lt;5.0%</td>
<td>5.0%-7.9%</td>
<td>8.0%-9.9%</td>
<td>≥10.0%</td>
</tr>
</tbody>
</table>

Prevention Strategies: All Schools

All schools implement 5 key prevention strategies:
- Universal and correct use of masks required
- Physical distancing
- Handwashing and respiratory etiquette
- Cleaning and maintaining healthy facilities
- Contact tracing in combination with isolation and quarantine

[Sources: cdc.gov/coronavirus]
Texas CARES 5E Plans for K-12 Educators

- Helping educators teach their students about the pandemic response
- Texas CARES has developed specialized curriculum sets to support educators who want to teach their students about the pandemic response. More detailed information about the curriculum, as well as downloadable lesson plans, are available on the Texas CARES curriculum page which is now live on our website.

- Lesson plans are available for the following groups and are aligned to the Health, Science, and Math TEKS for each respective grade range.
  - Grades K-2
  - Grades 3-5
  - Grades 6-8
  - Grades 9-12
In the classroom

Helping educators teach their students about pandemic response

Texas CARES has developed specialized curriculum sets to support educators who want to teach their students about pandemic response. More detailed information about the curriculum, as well as downloadable lesson plans, are available on the Texas CARES curriculum page.

Lesson plans are available for the following groups, and is aligned to the Health, Science, and Math TEKS for each respective grade range.

- Grades K-2
- Grades 3-5
- Grades 6-8
- Grades 9-12
TEXAS CARES 5E LESSON PLANS

Curriculum available for grades K-12

Use the tabs on the right to toggle between the different grade-specific plans.

[Back to Texas CARES home page]

Lesson plan overview

The Texas Coronavirus Antibody Response Survey (Texas CARES) measures the percentage of volunteer participants in Texas, ages 5–80, who have antibodies to SARS-CoV-2 virus. The lesson plans provided are aligned to the survey project and are divided into grade bands:

- K-2
- 3-5
- 6-8
- 9-12

[Side panel with lesson resources]
Texas CARES offers up to 3 free antibody tests to help us learn about exposure in our community, how long COVID-19 antibodies last, and how much protection they provide.

LEARN MORE
TEXASCARESPROJECT.ORG
#KNOWYOURANTIBODYSTATUS

Texans (ages 5-80) are eligible to participate regardless of vaccination status
- semi-quantitatively evaluates vaccine-induced immune response
- determines pre-vaccination immune status
- indicates recent or prior COVID-19 infection
Complete a brief survey at go.uth.edu/txcare & your order number will be texted to you

Please choose an answer here only if you understand the information given to you about the research and you choose to take part in Texas CARES. Make sure that all your questions have been answered. A copy of this consent statement will be given to you for your future reference.

Please select the appropriate response:

I give permission to participate in Texas CARES.

I DO NOT give permission to participate in Texas CARES.
Go to cplllabs.com/locations to find the nearest CPL location and hours

No appointment necessary!

CLINICAL PATHOLOGY LABORATORIES
2-3 Days Later

Get your results by text message so you can

#KnowYourAntibodyStatus
You will receive your personalized T2 survey link by text message 3 months after your T1 which will generate your T2 order number.

T3 survey links are sent 3 months after your T2.

#KnowYourAntibodyStatus
OUR PARTICIPANTS SAY...

Q: WHY PARTICIPATE?
"TO HELP OUR COMMUNITY"

"IT WAS EASY. IT WAS FAST."

"IT COSTS NOTHING, YOU DON'T LOSE ANYTHING, BUT YOU GAIN A LOT."

"PRETTY PAINLESS & FAST"
KNOWLEDGE IS A SUPERPOWER
#KNOWYOURANTIBODYSSTATUS

PROTECT YOURSELF.
PROTECT YOUR FAMILY.
PROTECT YOUR COMMUNITY.

GET TESTED FOR FREE.

LEARN MORE AT
TEXASCARESPROJECT.ORG
Texas CARES Dashboard
Seroprevalence of SARS-CoV-2 antibodies and demographic data for Texas CARES

Please note, figures are updated weekly and may not represent current enrollment in the program. Scroll over each figure for descriptive details. Click on any part on a figure to select and filter by. To make multiple selections, click and hold the Ctrl key.

<table>
<thead>
<tr>
<th>Survey populations - Current enrollment</th>
<th>Current Enrollments Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-Aged Children</td>
<td>469</td>
</tr>
<tr>
<td>Participants at Community Clinics (FQHCs)</td>
<td>1,644</td>
</tr>
<tr>
<td>Educational Professionals</td>
<td>1,605</td>
</tr>
<tr>
<td>University Members</td>
<td>1,017</td>
</tr>
<tr>
<td>Business Employees</td>
<td>3,037</td>
</tr>
<tr>
<td>Unemployed</td>
<td>1,061</td>
</tr>
<tr>
<td>Other</td>
<td>236</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,069</strong></td>
</tr>
</tbody>
</table>

**Antibody Seroprevalence**
Seropositivity percentage of SARS-CoV-2 antibodies among Texas CARES participants

Positive: 2,340 (25.80%)
Negative: 6,729 (74.20%)

**COVID-19 Prior Diagnosis**
Number and percentage of Texas CARES participants self-reported previous diagnosis of COVID-19 (based on antigen test result or by health professional)

- COVID +: 1,850 (34.29%)
- COVID -: 5,219 (65.71%)

**Seropositivity percentage distribution by Prior Diagnosis**

- 2,100 (70.36%)
- 650 (23.29%)
- 100 (3.44%)

**Percentage and number of Texas CARES participants stratified by Age groups**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>97</td>
<td>0.39%</td>
</tr>
<tr>
<td>10-19</td>
<td>2,127</td>
<td>72.01%</td>
</tr>
<tr>
<td>20-29</td>
<td>623</td>
<td>20.61%</td>
</tr>
<tr>
<td>30-39</td>
<td>3,037</td>
<td>13.81%</td>
</tr>
<tr>
<td>40-49</td>
<td>328</td>
<td>1.11%</td>
</tr>
<tr>
<td>50-59</td>
<td>1,961</td>
<td>6.96%</td>
</tr>
<tr>
<td>60-69</td>
<td>1,260</td>
<td>4.61%</td>
</tr>
<tr>
<td>&gt;69</td>
<td>2,076</td>
<td>7.52%</td>
</tr>
</tbody>
</table>

**Percentage and number of Texas CARES participants stratified by Sex**

- Male: 2,700 (20.81%)
- Female: 6,359 (70.19%)

**Percentage and number of Texas CARES participants stratified by Ethnicity**

- Hispanic: 2,480 (20.52%)
- Non-Hispanic: 6,500 (89.48%)

**Percentage and number of Texas CARES participants stratified by Race**

- White: 7,760 (89.04%)
- Black: 1,017 (11.96%)
- American Indian or Alaskan Native: 55 (0.63%)
- Hawaiian or Other Pacific Islander: 6 (0.07%)
- Multi-racial: 236 (2.60%)

**Seropositivity percentage distribution by Race**

- White: 73.93% ± 6.07%
- Asian: 76.78% ± 2.32%
- Black: 70.63% ± 2.17%
- American Indian or Alaskan Native: 74.65% ± 6.68%
- Hawaiian or Other Pacific Islander: 94.12% ± 5.48%
- Multi-racial: 76.77% ± 23.22%
### Antibody Seroprevalence

Seropositivity number and percentage of SARS-CoV-2 antibodies among Texas CARES participants

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,429 (25.86%)</td>
<td>6,965 (74.14%)</td>
</tr>
</tbody>
</table>

### Survey populations

Seropositivity percentage distribution by **survey population** | Number and Percentage of Texas CARES participants stratified by **survey population**

<table>
<thead>
<tr>
<th><strong>Survey Population</strong></th>
<th><strong>Positive</strong></th>
<th><strong>Negative</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Professionals</td>
<td>1,630</td>
<td></td>
</tr>
<tr>
<td>Participants at Community Clinics (FQHCs)</td>
<td>1,661</td>
<td></td>
</tr>
<tr>
<td>School-Aged Children</td>
<td>474</td>
<td></td>
</tr>
<tr>
<td>Business Employees</td>
<td>3,191</td>
<td></td>
</tr>
<tr>
<td>University Members</td>
<td>1,060</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>1,142</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>236</td>
<td></td>
</tr>
</tbody>
</table>

### COVID-19 Prior Dx

Seropositivity percentage distribution by **Prior Diagnosis** | Number and percentage of Texas CARES participants self-reported previous diagnosis of COVID-19 (based on antigen test result or by health professional)

<table>
<thead>
<tr>
<th><strong>COVID</strong></th>
<th><strong>Positive</strong></th>
<th><strong>Negative</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID +</td>
<td>1,920</td>
<td></td>
</tr>
<tr>
<td>COVID -</td>
<td>3,682</td>
<td></td>
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</tbody>
</table>
### Age groups

Seropositivity percentage distribution by Age groups | Number and Percentage of Texas CARES enrollees stratified by Age groups

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>67.96%</td>
<td>32.04%</td>
</tr>
<tr>
<td>10-19</td>
<td>67.25%</td>
<td>32.75%</td>
</tr>
<tr>
<td>20-29</td>
<td>72.14%</td>
<td>27.86%</td>
</tr>
<tr>
<td>30-39</td>
<td>76.84%</td>
<td>23.16%</td>
</tr>
<tr>
<td>40-49</td>
<td>74.31%</td>
<td>25.69%</td>
</tr>
<tr>
<td>50-59</td>
<td>73.27%</td>
<td>26.73%</td>
</tr>
<tr>
<td>60-69</td>
<td>75.85%</td>
<td>24.15%</td>
</tr>
<tr>
<td>70-79</td>
<td>75.06%</td>
<td>24.94%</td>
</tr>
<tr>
<td>80+</td>
<td>83.64%</td>
<td>16.36%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10</td>
<td>103 (1.10%)</td>
<td></td>
</tr>
<tr>
<td>10-19</td>
<td>516 (5.49%)</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>1,077 (11.46%)</td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>1,710 (18.20%)</td>
<td></td>
</tr>
<tr>
<td>40-49</td>
<td>2,145 (22.83%)</td>
<td></td>
</tr>
<tr>
<td>50-59</td>
<td>2,054 (21.87%)</td>
<td></td>
</tr>
<tr>
<td>60-69</td>
<td>1,317 (14.02%)</td>
<td></td>
</tr>
<tr>
<td>70-79</td>
<td>417 (4.44%)</td>
<td></td>
</tr>
<tr>
<td>80+</td>
<td>55 (0.59%)</td>
<td></td>
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</tbody>
</table>

### Sex

Seropositivity percentage distribution by Sex | Number and Percentage of Texas CARES participants stratified by Sex

<table>
<thead>
<tr>
<th>Sex</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>74.26%</td>
<td>25.74%</td>
</tr>
<tr>
<td>Male</td>
<td>73.95%</td>
<td>26.05%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>6,557</td>
</tr>
<tr>
<td>Male</td>
<td>2,825</td>
</tr>
</tbody>
</table>

### Hispanic Ethnicity

Seropositivity percentage distribution by Ethnicity | Number and Percentage of Texas CARES participants stratified by Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>71.32%</td>
<td>28.68%</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>75.53%</td>
<td>24.47%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hispanic</td>
<td>2,744</td>
</tr>
<tr>
<td>Non-Hispanic</td>
<td>6,343</td>
</tr>
</tbody>
</table>

### Race

Seropositivity percentage distribution by Race | Number and Percentage of Texas CARES participants stratified by Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>73.89%</td>
<td>26.11%</td>
</tr>
<tr>
<td>Asian</td>
<td>77.04%</td>
<td>22.96%</td>
</tr>
<tr>
<td>Black</td>
<td>75.34%</td>
<td>24.66%</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>74.14%</td>
<td>25.86%</td>
</tr>
<tr>
<td>Hawaiian or Other Pacific Islander</td>
<td>94.12%</td>
<td>5.88%</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>76.25%</td>
<td>23.75%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>8,038</td>
</tr>
<tr>
<td>Asian</td>
<td>392</td>
</tr>
<tr>
<td>Black</td>
<td>365</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>98</td>
</tr>
<tr>
<td>Hawaiian or Other Pacific Islander</td>
<td>77</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>160</td>
</tr>
</tbody>
</table>
Weekly T1 seropositivity percentages and weighted moving average [13-weeks window] for each population in All TSA
Weekly T1 seropositivity percentages and weighted moving average [13-weeks window] for each population in All TSA
**Time 1 – Time 2 Seropositivity – Texas Cares 2020-2021**

- **Positive at Time 1:** 98.9%
  - **Positive at Time 2:** 89.5%
- **Negative at Time 1:** 1.1%
  - **Negative at Time 2:** 10.3%
Time 1 – Time 2 Seropositivity – Texas Cares Education Professionals 2020-2021

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>98.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Time 2</td>
<td>85.4</td>
<td>14.5</td>
</tr>
</tbody>
</table>
COVID-19 Vaccines: Are they safe for adults and children?
**Pfizer Biontech**

**Vaccine Name:** Comirnaty (also known as Tozinameran or BNT162b2)

**Efficacy:** 95%

**Dose:** 2 doses, 3 weeks apart

**Type:** Muscle injection

**Storage:** Freezer storage only at -13°F to 5°F (-25°C to -15°C)

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**Moderna**

**Vaccine Name:** mRNA-1273

**Efficacy:** 94.5%

**Dose:** 2 doses, 4 weeks apart

**Type:** Muscle injection

**Storage:** 30 days with refrigeration, 6 months at -4°F (-20°C)

---

**Johnson & Johnson**

**Vaccine Name:** Ad26.Cov2.S

**Efficacy:** 72% in United States, 64% in South Africa, 61% in Latin America

**Dose:** 1 dose

**Type:** Muscle injection

**Storage:** Up to two years frozen at -4°F (-20°C), and up to three months refrigerated at 36-46°F (2-8°C).
Common side effects/discomfort

Local (arm):
- Pain
- Redness
- Swelling

Generalized (body):
- Fatigue
- Headache
- Muscle ache
- Chills
- Fever
- Nausea

Treatment:
- Apply a cold, humid pack to the arm
- Move your arm
- Acetaminophen

Treatment:
- Drink fluids
- Rest
- Acetaminophen

All of these should resolve in 24-48 hours.

What percentage of people have fever or other responses after receiving the vaccine?

Anaphylaxis

Anaphylaxis reactions have been rarely reported following receipt of COVID-19 vaccines

How to recognize anaphylaxis

Healthcare personnel should consider anaphylaxis when patients present with generalized signs or symptoms such as hives, serious or life-threatening symptoms (e.g., hypotension, respiratory distress, or significant swelling of the tongue or lips), or symptoms that involve more than one body system.

Respiratory:
- sensation of throat closing
- stridor (high-pitched sound while breathing)
- shortness of breath
- wheeze, cough

Gastrointestinal:
- nausea
- vomiting
- diarrhea
- abdominal pain

Cardiovascular:
- dizziness
- fainting
- tachycardia (abnormally fast heart rate)
- hypotension (abnormally low blood pressure)

Skin/mucosal:
- generalized hives
- itching
- swelling of lips, face, or throat

Neurological:
- agitation
- convulsions
- acute change in mental status
- sense of impending doom (a feeling that something bad is about to happen)

Observation period following vaccination

- History of an immediate allergic reaction (any severity) to a vaccine or injectable therapy
- Contraindication to a different type of COVID-19 vaccine
- History of anaphylaxis (due to any cause)

All other persons

30 minutes

15 minutes
Severe Adverse Vaccine Reactions

Severe allergic reactions to vaccine formulation:

• 3-6 per million for mRNA vaccines (Pfizer, Moderna)
• Probably less common in viral vector vaccines (Janssen)
• 1-2 per million for flu and human HPV vaccines

Why was the Janssen / J&J Vaccine Paused?

- CDC and FDA recommend that the Janssen / J&J vaccinations be paused for further study – April 13
- Reports of increased risk of an adverse event called Thrombosis with Thrombocytopenia Syndrome (TTS)
  - Thrombosis – blood clots – block venous or arterial vessels
  - Thrombocytopenia – low platelets (<150,000/microliter) – dangerous internal bleeding
- Symptoms started between 6 and 15 days after vaccination
ACIP/CDC Findings:

- For all women, it is a “rare event”
- For women $\geq 50$ and men of all ages, it is even rarer
- The vaccine’s known and potential benefits outweigh its known and potential risks for those recommended to receive it
Therefore...

- The CDC & FDA Resumed the Use of J&J/Janssen Vaccine - April 23
- ACIP Interim Recommendation:
  - “The Janssen COVID-19 vaccine is recommended for persons 18 years of age and older in the U.S. Population under the FDA’s Emergency Use Authorization (EUA)”
- The EUA Fact Sheet was Updated to Reflect the Rare Clotting Events
  - Fact Sheet Should Be Provided to All Recipients
- Continue to Report Adverse Reactions to VAERS (Vaccine Adverse Event Reporting System)
Central Venous Sinus Thrombosis: Comparative Risk Assessment Taquet et al (Oxford), 2021

A

Cerebral venous thrombosis (events/million people in 2 weeks)

- COVID-19 (n=513,284) 39.0 (25.2–60.2)
- mRNA COVID-19 vaccine (n=489,871) 4.1 (1.1–14.9)
- Influenza (n=172,742) 0.0 (0.0–22.2)
- Oxford-AZ (EMA data) (n=34,000,000) 5.0 (4.3–5.8)
If I am antibody positive (had COVID-19), should I still take the vaccine?
Yes.
Because:

- We do not know how long protection due to natural infection will last
- Reinfection following natural infection, although rare, is possible and may be more severe
- Neutralizing antibody levels generated by the vaccine are much higher than those conferred by natural infection
Neutralizing Antibodies Against SARS-CoV-2 Variants: Natural Infection vs Vaccination

Viswanadh et al, JAMA, 2021
PROTECT YOURSELF.
PROTECT YOUR FAMILY.
PROTECT YOUR COMMUNITY.

GET TESTED FOR FREE.

PROTÉJASE A SI MISMO.
PROTEJA A SU FAMILIA.
PROTEJA A SU COMUNIDAD.

OBTENGA SU PRUEBA GRATIS HOY.

#TEXASCARESPROJECT
#KNOWYOURANTIBODYSTATUS

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