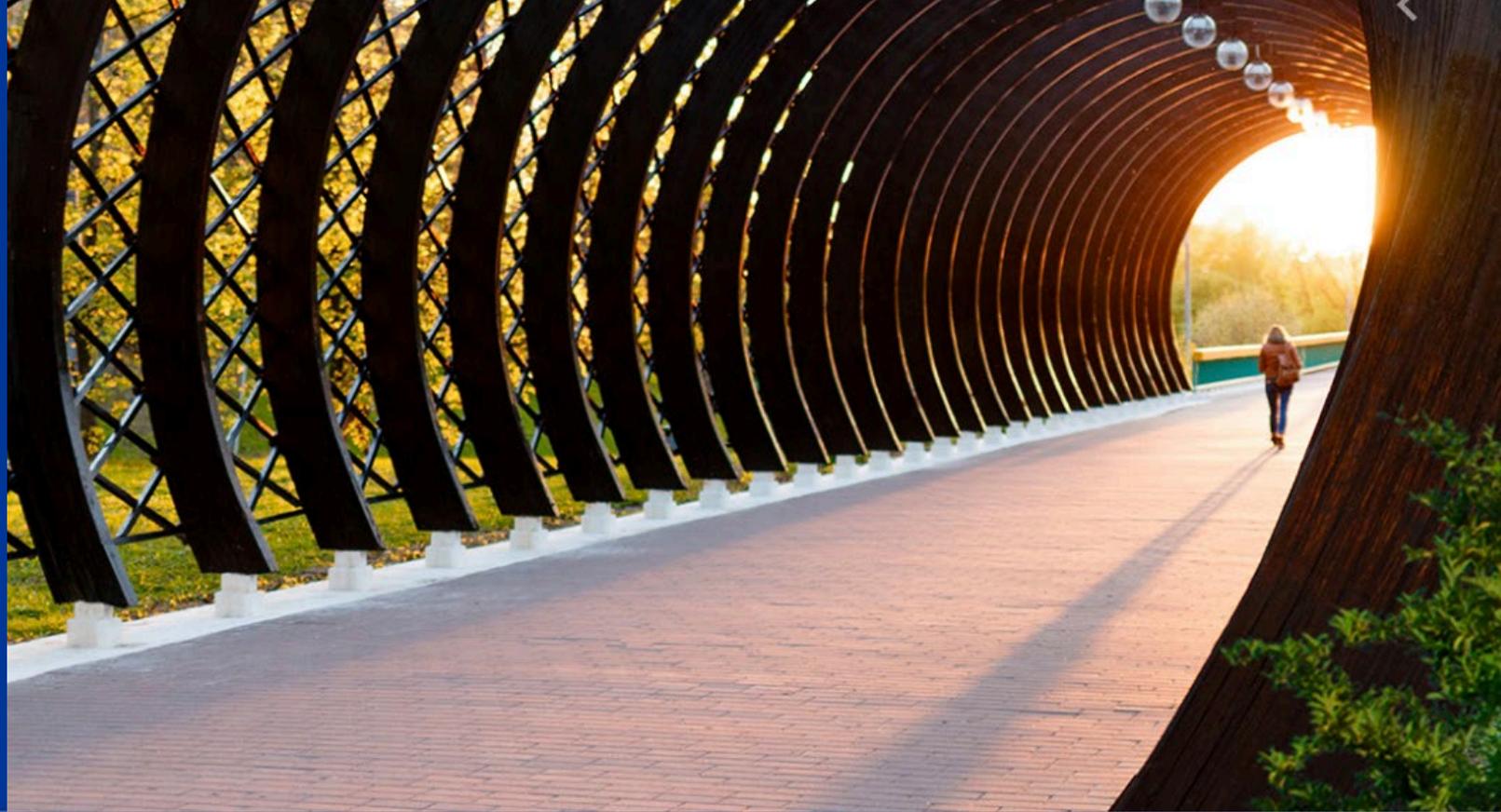


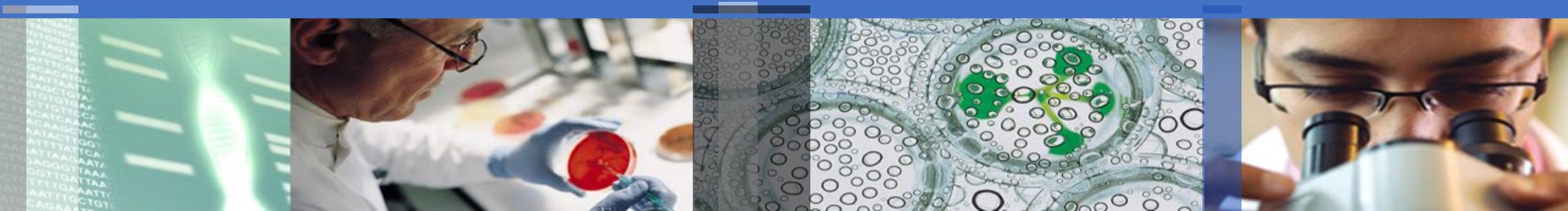
# CoVID-19 Vaccination



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**Duke**Medicine

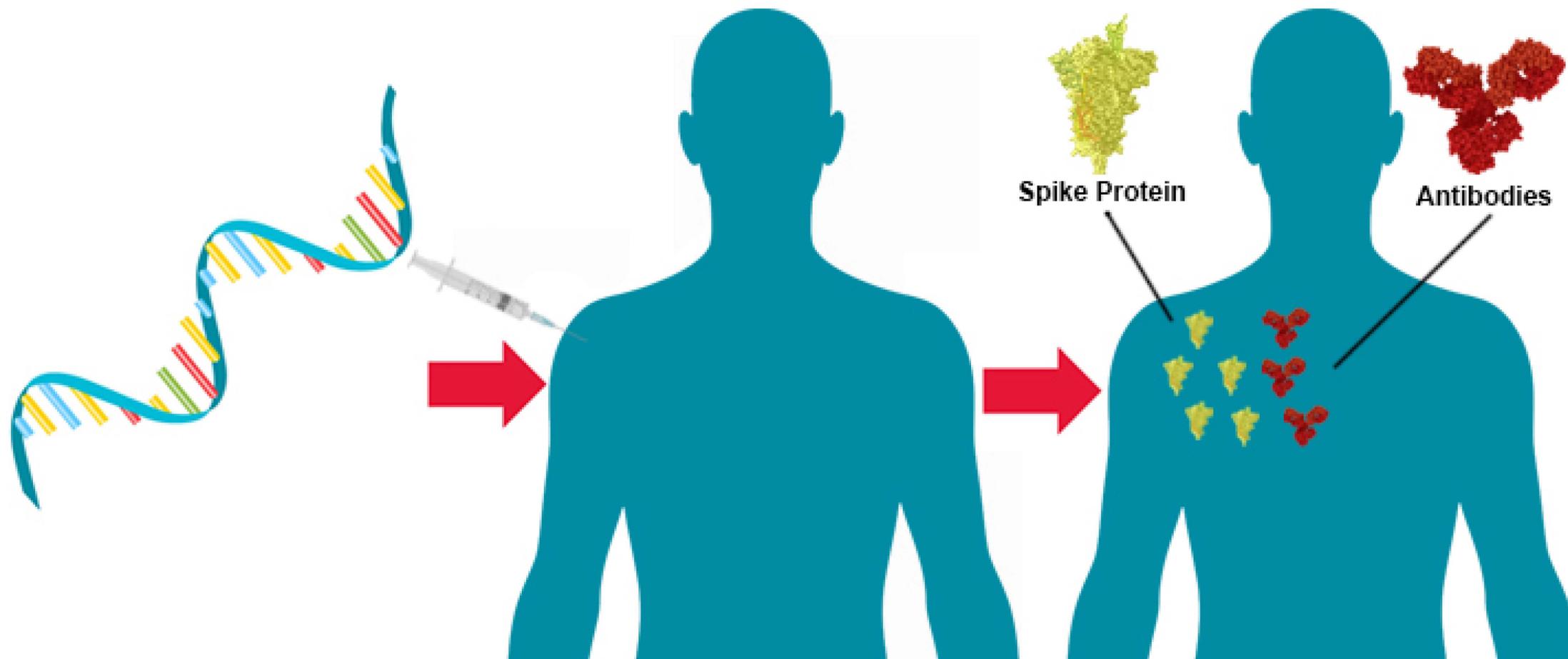




mRNA for spike protein of coronavirus

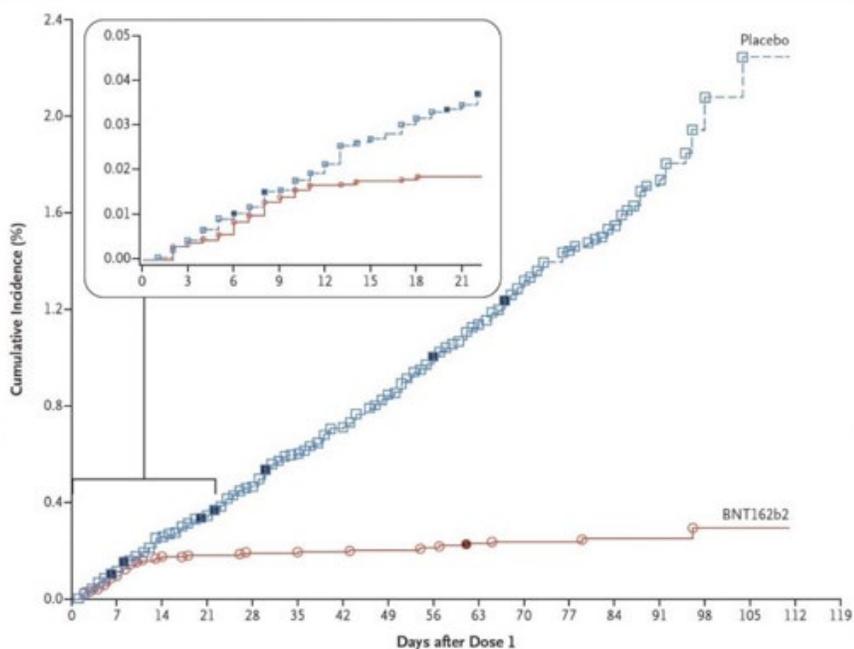
mRNA is injected into muscle

The vaccine triggers production of the spike protein and antibodies specific to it

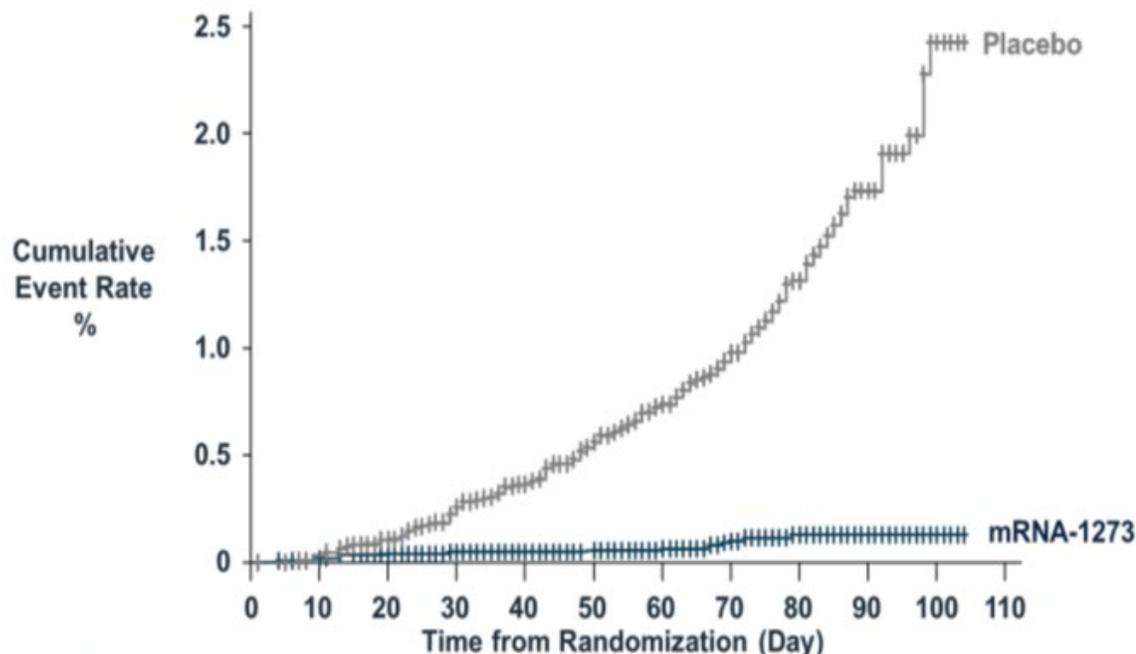




# Pfizer & Moderna data – what the FDA saw:



Efficacy End-Point Subgroup	BNT162b2, 30 µg (N=21,669)		Placebo (N=21,686)		VE (95% CI) percent
	No. of participants	Surveillance time person-yr (no. at risk)	No. of participants	Surveillance time person-yr (no. at risk)	
Covid-19 occurrence					
After dose 1	50	4.015 (21,314)	275	3.982 (21,258)	82.0 (75.6–86.9)
After dose 1 to before dose 2	39		82		52.4 (29.5–68.4)
Dose 2 to 7 days after dose 2	2		21		90.5 (61.0–98.9)
≥7 Days after dose 2	9		172		94.8 (89.8–97.6)



	0	10	20	30	40	50	60	70	80	90	100	110
No. at risk												
mRNA-1273	14312	14306	13964	13490	12981	12284	10742	8327	5705	2621	583	0
Placebo	14370	14363	14000	13515	12972	12225	10657	8283	5663	2594	586	0



# Vaccine Prioritization

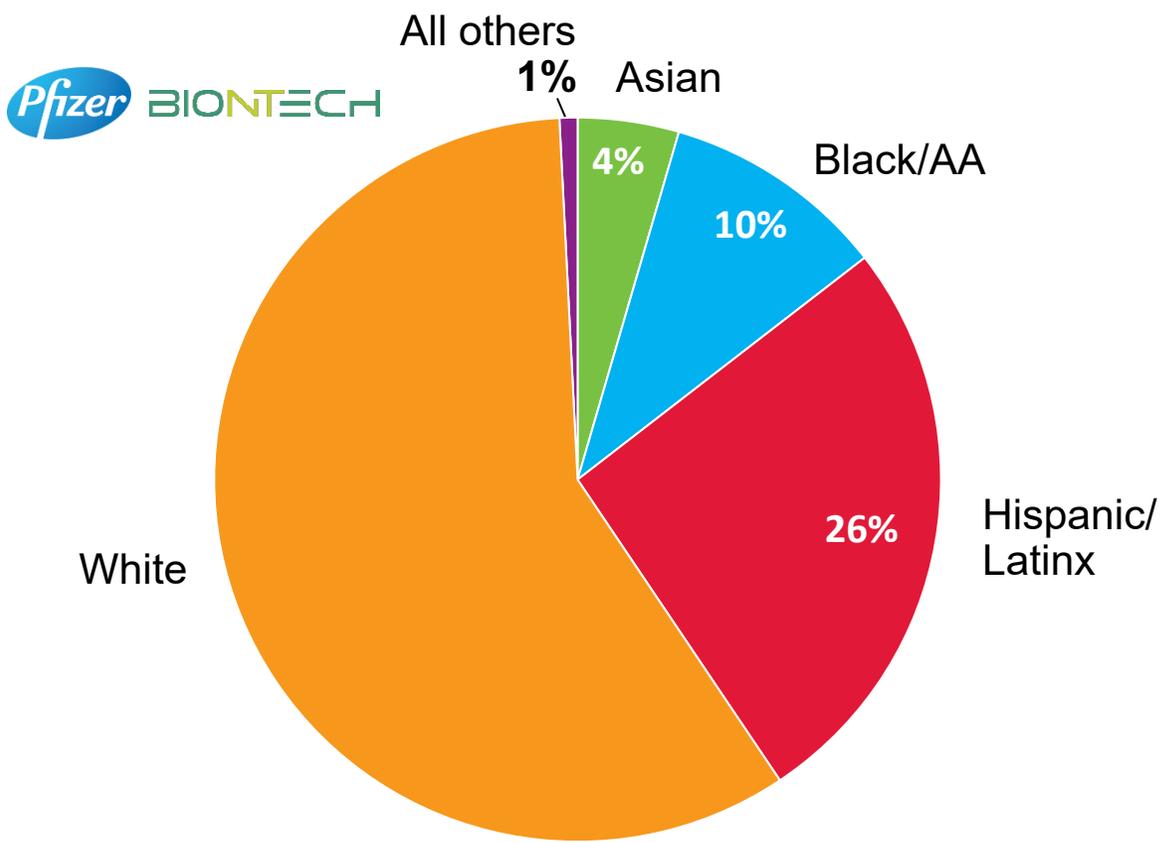
- Because vaccine supplies are currently limited, states must make vaccine available in phases
- In consultation with the NC Vaccine Advisory Committee, NC chose to align to the CDC's ACIP recommendations which were released on December 22nd

ACIP Recommendations	North Carolina's Updated Plan
<b>Phase 1a</b> <ul style="list-style-type: none"> <li>• Health Care workers</li> <li>• Long Term Care Staff and Residents</li> </ul>	<b>Phase 1a</b> <ul style="list-style-type: none"> <li>• Health care workers directly caring for or working in areas with patients with COVID-19</li> <li>• Long-term care staff and residents</li> </ul>
<b>Phase 1b</b> <ul style="list-style-type: none"> <li>• People ≥75 years</li> <li>• Frontline essential workers</li> </ul>	<b>Phase 1b</b> <ul style="list-style-type: none"> <li>• Group 1. People ≥75 years</li> <li>• Group 2. Frontline essential and health care workers ≥50</li> <li>• Group 3. Frontline essential and health care workers of any age</li> </ul>
<b>Phase 1c</b> <ul style="list-style-type: none"> <li>• Persons aged 65-74 years</li> <li>• Persons aged 16-64 years with high-risk medical conditions</li> <li>• Other essential workers</li> </ul>	<b>Phase 2</b> <ul style="list-style-type: none"> <li>• Group 1. Persons aged 65-74 years</li> <li>• Group 2. Persons aged 16-64 years with high-risk medical conditions</li> <li>• Group 3. Anyone who is incarcerated or living in other close group living settings who has not already been vaccinated</li> <li>• Group 4. Other essential workers</li> </ul>

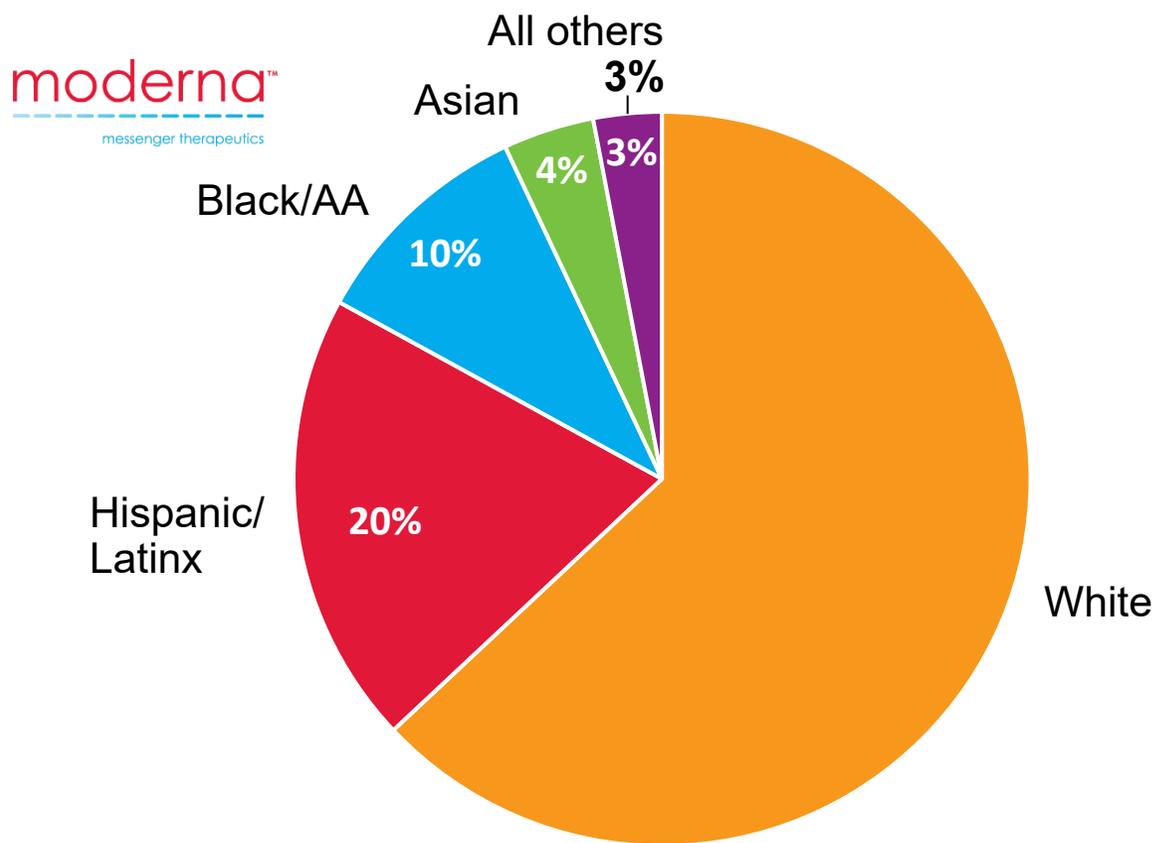




# There have been intentional efforts to recruit volunteers from historically marginalized populations.



Source: <https://www.pfizer.com/science/coronavirus/vaccine>



Source: [https://www.modernatx.com/sites/default/files/content\\_documents/2020-COVID-19-Study-Enrollment-Completion-10.22.20.pdf](https://www.modernatx.com/sites/default/files/content_documents/2020-COVID-19-Study-Enrollment-Completion-10.22.20.pdf)

# Myth #1

## You CANNOT get COVID-19 from the vaccine.

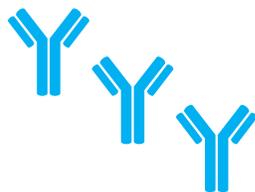
(however, you can still get CoVID early after dose #1)

Vaccines imitate COVID without giving it to you.

Vaccine



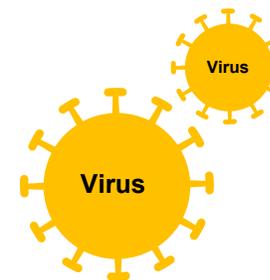
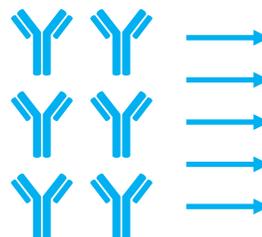
Antibodies



The Pfizer-BioNTech and Moderna vaccines give your body instructions to make a protein that safely teaches your body to make an antibody to fight the real COVID-19.

You can fight off the real virus if it tries to attack you.

Antibodies



After getting vaccinated, you develop the ability to fight off the real virus because your body is strong enough and knows how to win.

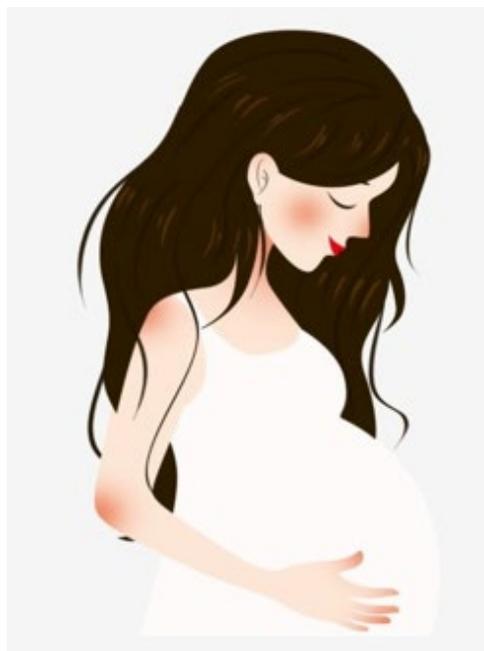
- This myth may originate b/c tradition misconception of how the flu vaccine works, and also because some other CoVID vaccines use live virus vectors, but not Pfizer / Moderna





## Myth #2

### There are no fertility / pregnancy issues associated with the vaccine.



- No recognized issues in pregnancy or breastfeeding
  - In fact ACOG advise discussion + vaccination
  - Given higher complications with pregnancy + CoVID, more concerns
    - This myth likely originated by comments from a previous employee of Pfizer and has been widely discredited as scientifically implausible. No animal or human studies have supported this myth.
- No use of human cells in developing vaccine
  - In fact, really only has 3 ingredients (mRNA, lipid/fat carrier molecule, polyethylene glycol [PEG]), and diluted with saline
    - This myth originated because part of the AZ vaccine vector was originally cultured from cell lines, but nothing to do with the vaccines currently on the market in US.
- No fertility concerns
  - In fact, not only not followed long enough to have calculated this, but no biologically plausible reason
    - No idea where this myth came from....



## Myth #3

### If you react to the first, no need for the second

- Reactions to the first are not common.
- We do not expect the durability or length of protection to be as strong if you miss out on the second dose.
- This "myth" may come from benefit with first dose. Protection is strong within 2 weeks, but we don't know if that translates to dose lasting long enough to keep us protected. We don't yet know that...
- Just *because* someone has symptoms after the first, no link with reacting to the second dose.





## Myth #4

### Increased chances of neuro complications?

- *Other* historical vaccines have led to Guillain-Barre, but none seen here with over 9million doses given.



- This myth appears to have come from 2 places.
  - Firstly, the AstraZeneca vaccine had potential reactions of myelitis, leading to appropriate trial pauses and then reassuringly, clearance – current vaccines have NOT had concerns.
  - Secondly, 4 cases of Bell's palsy occurred in Pfizer trial – but this is not different than the naturally occurring background rate of Bell's palsy in the community (20-30/100k/year). Likely has nothing to do with the vaccine, rather observer bias.



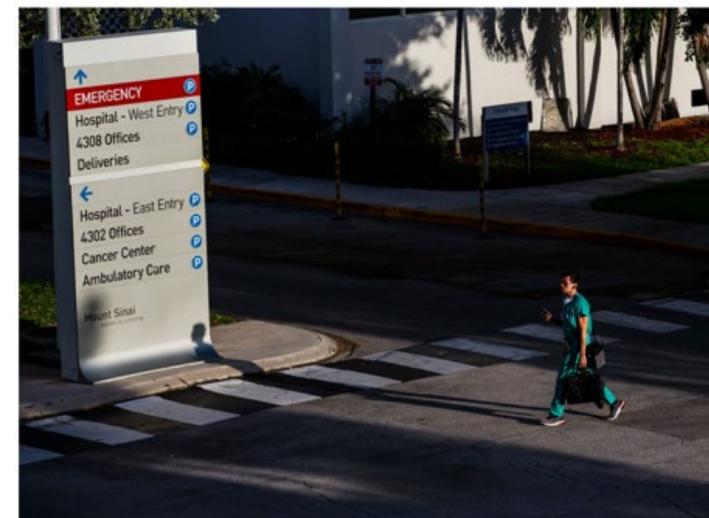
## Expectation setting?

- *Other* unusual reactions attributed to the vaccine are likely.
- Only with complete investigation will these be determined to be associated in time only, and unrelated, or actually causally associated.

## The New York Times

### *Doctor's Death After Covid Vaccine Is Being Investigated*

A Florida physician developed an unusual blood disorder shortly after he received the Pfizer vaccine. It is not yet known if the shot is linked to the illness.



The Mount Sinai Medical Center in Miami Beach, Fla., where Dr. Gregory Michael got the vaccine.



# Questions?

Use your smartphone's browser to go to [vsafe.cdc.gov](https://vsafe.cdc.gov)

**OR**

Aim your smartphone's camera at this code



# Keep practicing the 3 Ws: Wear, Wait, and Wash.

If you leave home, know your 3 Ws!  
¡Si sales de casa, recuerda las 3 Ms!

 <p><b>WEAR</b> a cloth mask over your nose and mouth.</p> <p><b>MASCARILLA</b> Usar una mascarilla de tela cubriendo nariz y boca.</p>	 <p><b>WAIT</b> 6 feet apart. Avoid close contact.</p> <p><b>MANTENER</b> 6 pies (2 metros) de distancia. Evitar estar cerca de los demás.</p>	 <p><b>WASH</b> your hands or use hand sanitizer.</p> <p><b>MANOS</b> Lavarte las manos con frecuencia o usar desinfectante para manos.</p>
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@NCDHHS #StayStrongNC