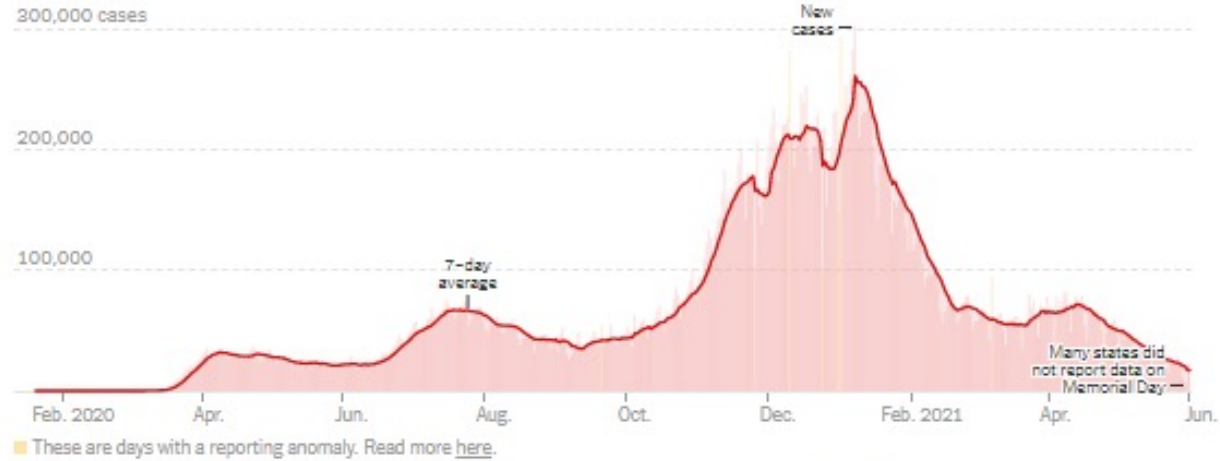


COVID-19 Vaccines: Getting us better, *but more to do!*

Stephen Schrantz, MD
Section of Infectious Diseases and Global Health
University of Chicago
June 3, 2021

Coronavirus in the U.S.: Latest Map and Case Count

New reported cases



Tests



Hospitalized

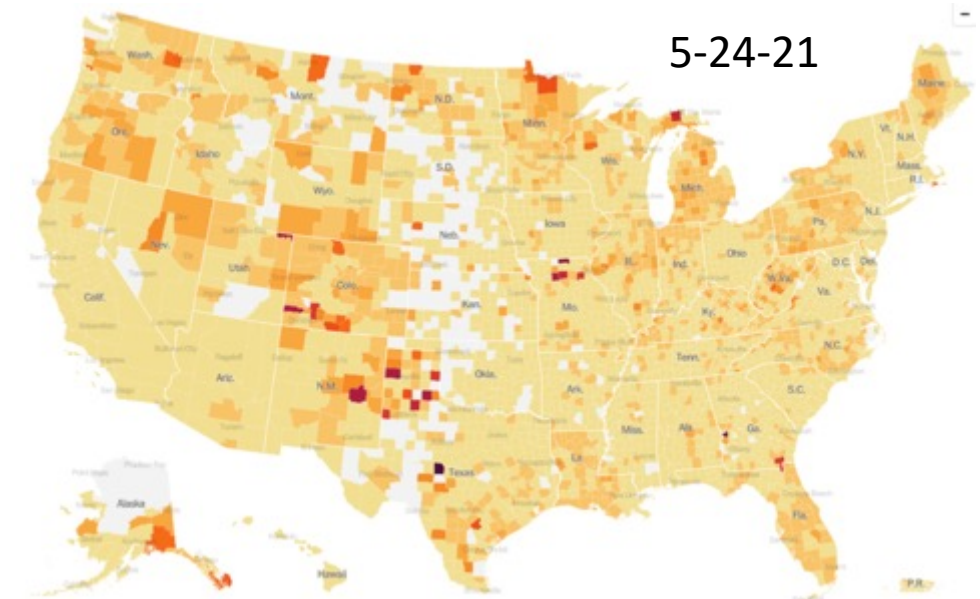
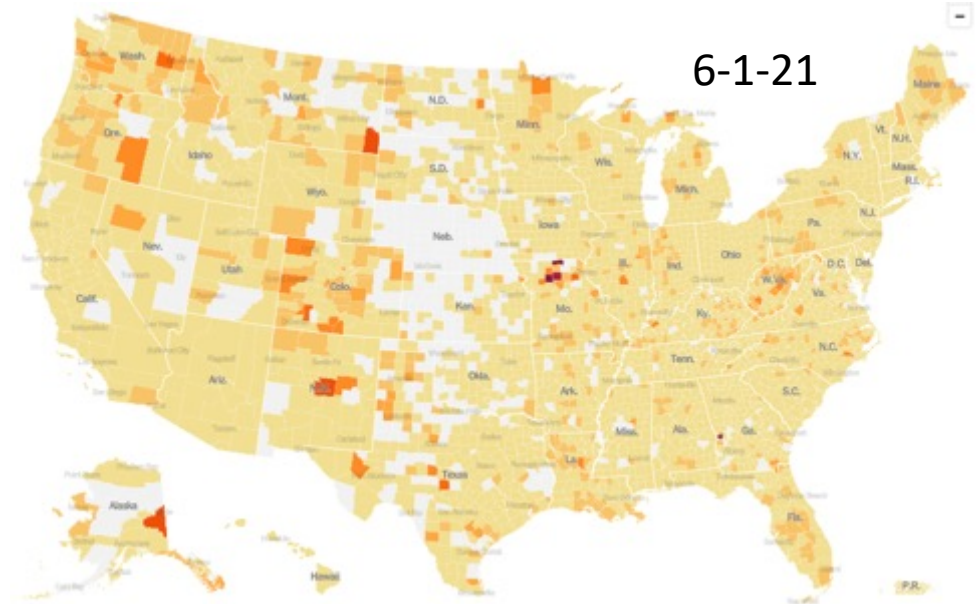


Deaths



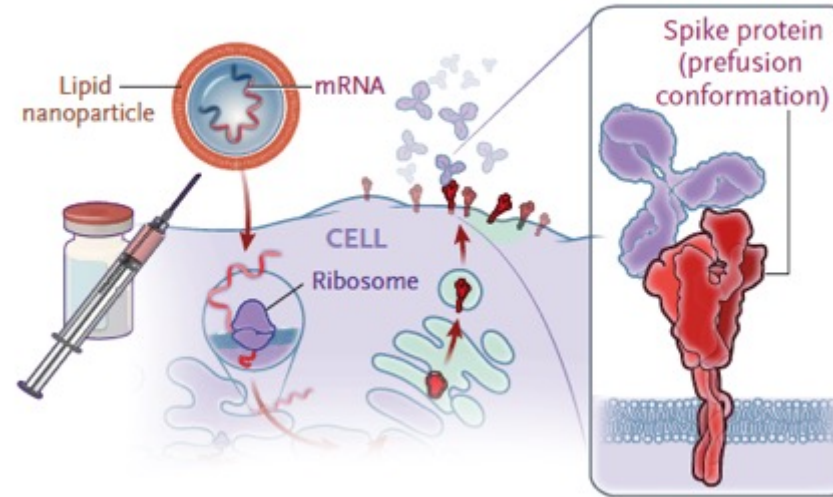
	AVG. ON JUN. 1	14-DAY CHANGE	TOTAL REPORTED
Cases	17,119	-45%	33,303,277
Tests	658,056	—	—
Hospitalized	25,128	-22%	—
Deaths	356	-44%	594,722

[About this data](#)



mRNA vaccines

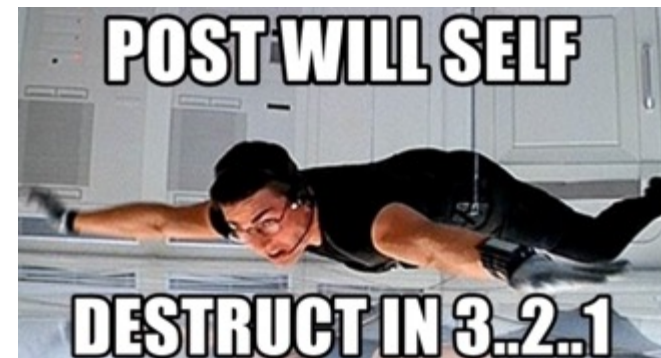
- mRNA is a protein code that is used to make pieces of the spike protein that is unique to SARS-CoV2.
- It is coated in a special protective coating (lipid nanoparticle) so it is not broken down before it reaches the cells. After the piece of the spike protein is made, the cells break down the mRNA using its normal processes *within a matter of hours*.
 - *The mRNA never goes into the cell's nucleus or affects the genetic material inside the cell*
- The spike proteins are displayed on the cell surface and causes the immune system to produce antibodies and activate T cells in the same way a natural infection would.
- These antibodies are specific to the SARS-CoV-2 virus and stay primed to fight it if you ever come into contact with it.



<https://www.cdc.gov/vaccines/covid-19/hcp/mrna-vaccine-basics.html>

JAMA. 2020;324(12):1125-1127. doi:10.1001/jama.2020.16866

Polack FP, NEJM,2020



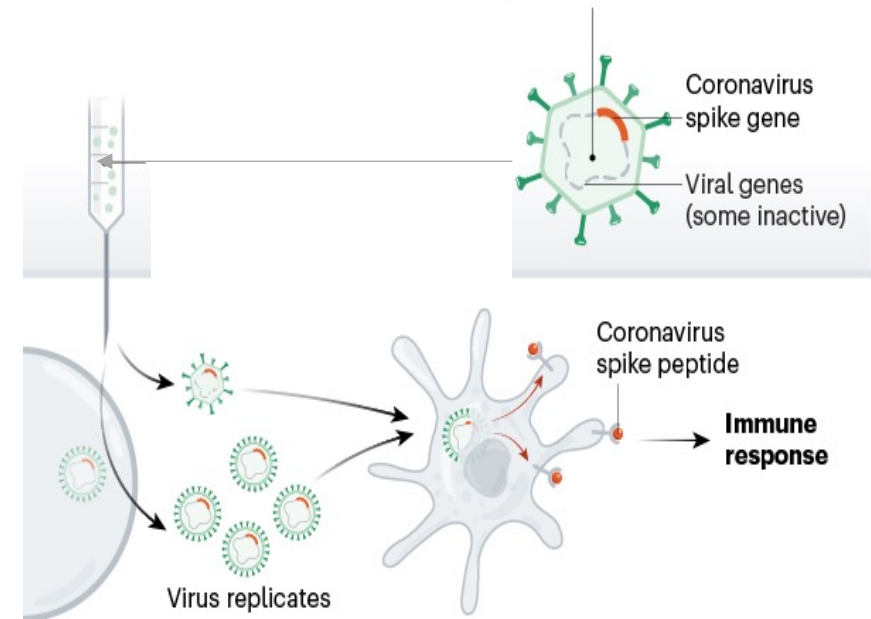
Johnson and Johnson/Janssen Vaccine

- Single dose
- 72% effective at protecting against moderate to severe illness in US, 66% effective in Latin America & 57% effective in South Africa.
- It was 85% effective overall at preventing severe disease. ~100% in preventing death -- there were no deaths in the vaccine group, and five deaths in the placebo group related to COVID
- Refrigeration -- No freezing needed!
- The company is also conducting another phase III trial called ENSEMBLE 2 in which participants will receive two doses, about 2 months apart.
- The U.S. government purchased 100 million doses of vaccine from Johnson & Johnson to be delivered by the end of June, which committed to producing up to one billion doses this year



Non-replicating viral vector (such as adenovirus)

No licensed vaccines use this method, but they have a long history in gene therapy. Booster shots can be needed to induce long-lasting immunity. US-based drug giant Johnson & Johnson is working on this approach.



©nature

Cerebral venous sinus thrombosis (CVST)

General Population



3 to 15 per
1,000,000 / year

0.0003% - 0.0015%

COVID-19



4.5 to 20 per 100,000
COVID-19 cases

0.0045% - 0.02%

↑ 14 - 66x
increase

Pregnancy



10 to 12 per
100,000 deliveries

0.01% - 0.012%

↑ 32 - 39x
increase

Oral Contraceptive Pill



2.7 to 40 per
100,000 people

0.0027% - 0.04%

↑ 8 - 132x
increase

Johnson & Johnson /Janssen Vaccine



6 per 6,800,000
million vaccines

0.00009%

?

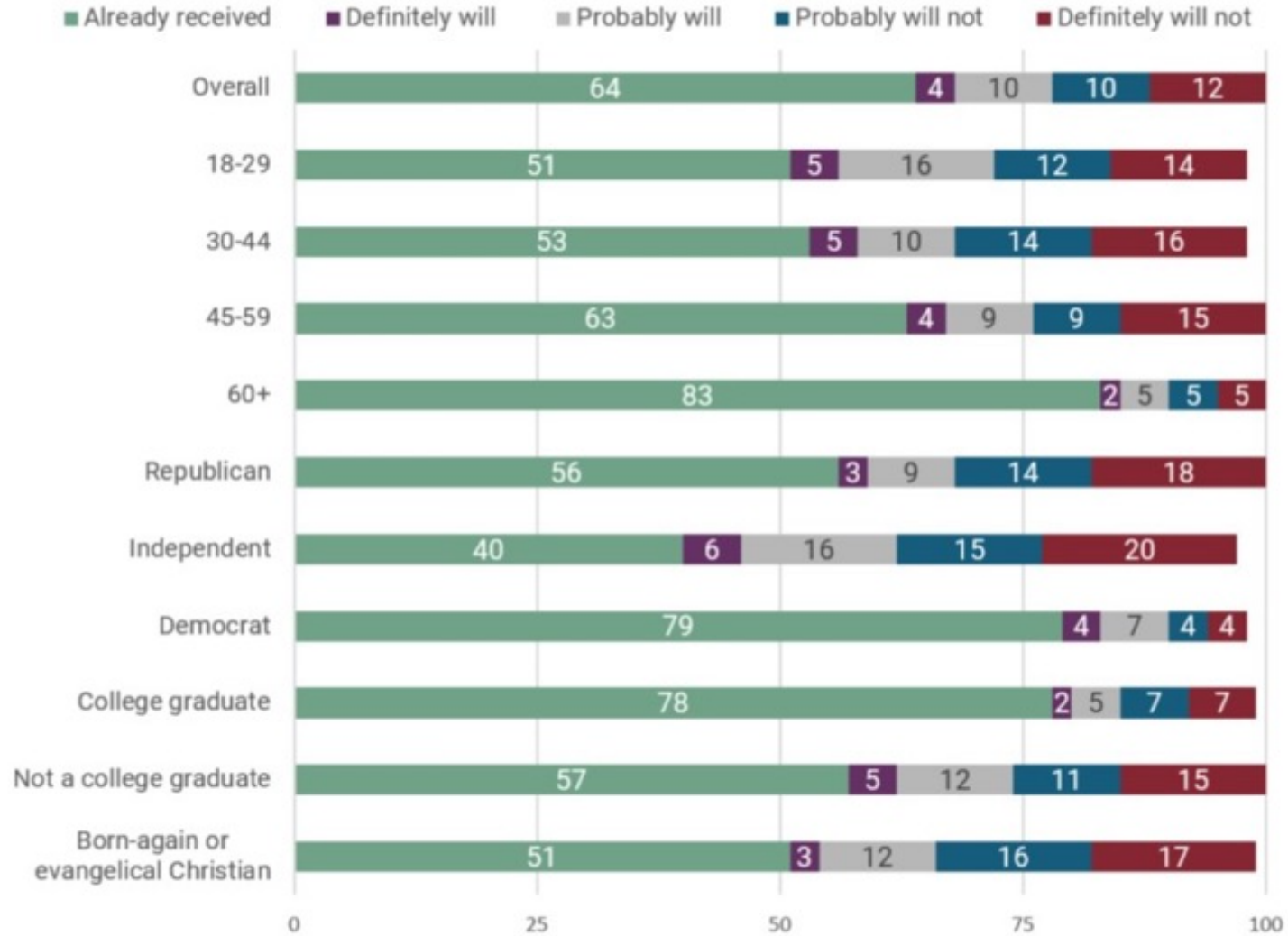
References:

Amoozegar, F. Fron Neurol, 2015. Jick. S. Contraception, 2006. Niksirat, A. J Pioneer Med Sci, 2014. Dentali, F. Blood, 2006. Abdalkader, M. J Stroke Cerebrovasc Dis, 2021. Siegler, J. Int J Stroke, 2020. FDA/CDC, 2021.

Rarity Reference: Odds of Lightning Striking: 1 in 500,000
0.0002%

Have you or will you get a COVID-19 vaccine?

Percent of adults

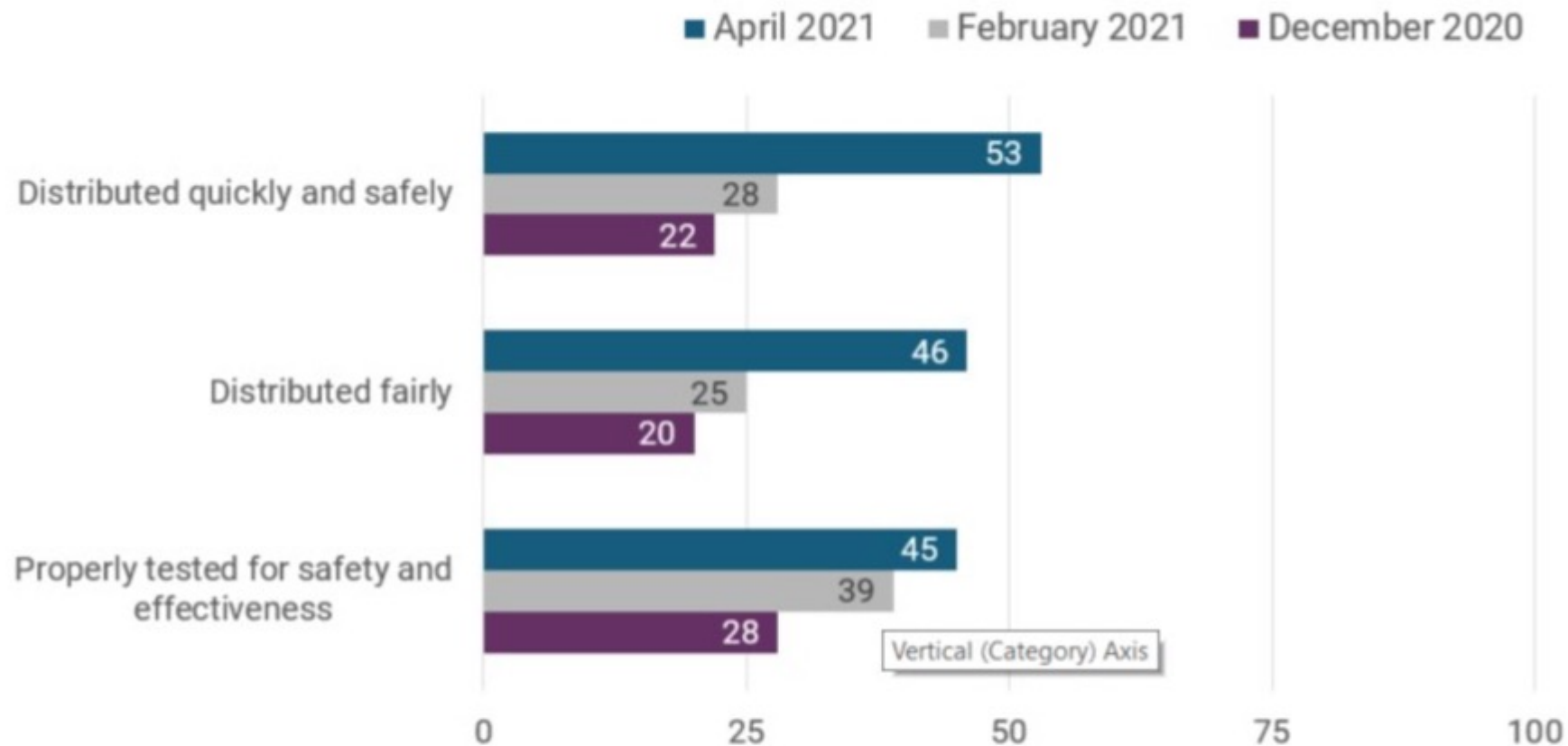


Questions: Have you received a COVID-19 vaccine? Will you...

Source: AP-NORC poll conducted April 29-May 3, 2021 with 1,842 adults age 18 and older nationwide.

Growing confidence in vaccine distribution and testing

Percent who are extremely or very confident

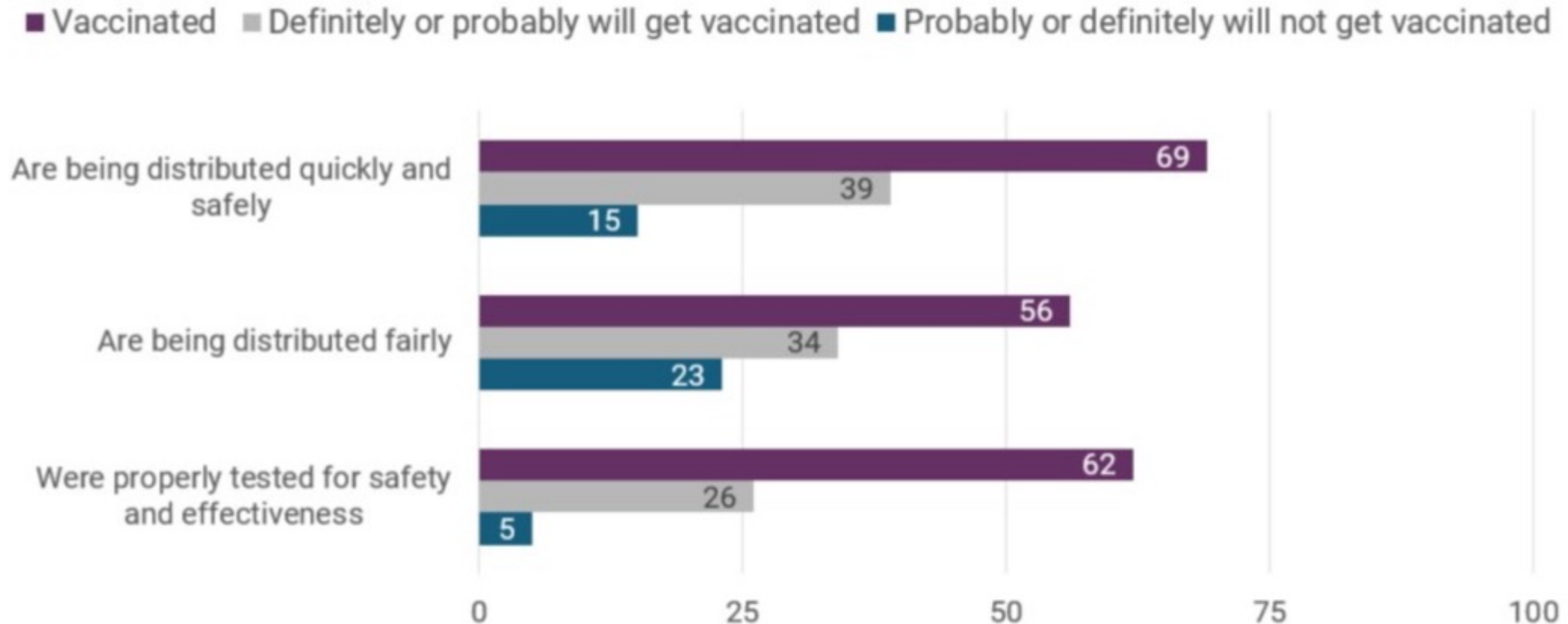


Questions: How important is it to you that the coronavirus vaccines are being /were . . .
How confident are you that when a coronavirus vaccine becomes available, it will have been/it will be . . .

Sources: AP-NORC polls conducted December 3-7, 2020 with 1,117 adults, February 25-March 1, 2021 with 1,434 adults, April 29-May 3, 2021 with 1,842 adults age 18 and older nationwide.

Vaccinated Americans have confidence in the vaccines; others less so

Percent who are extremely or very confident

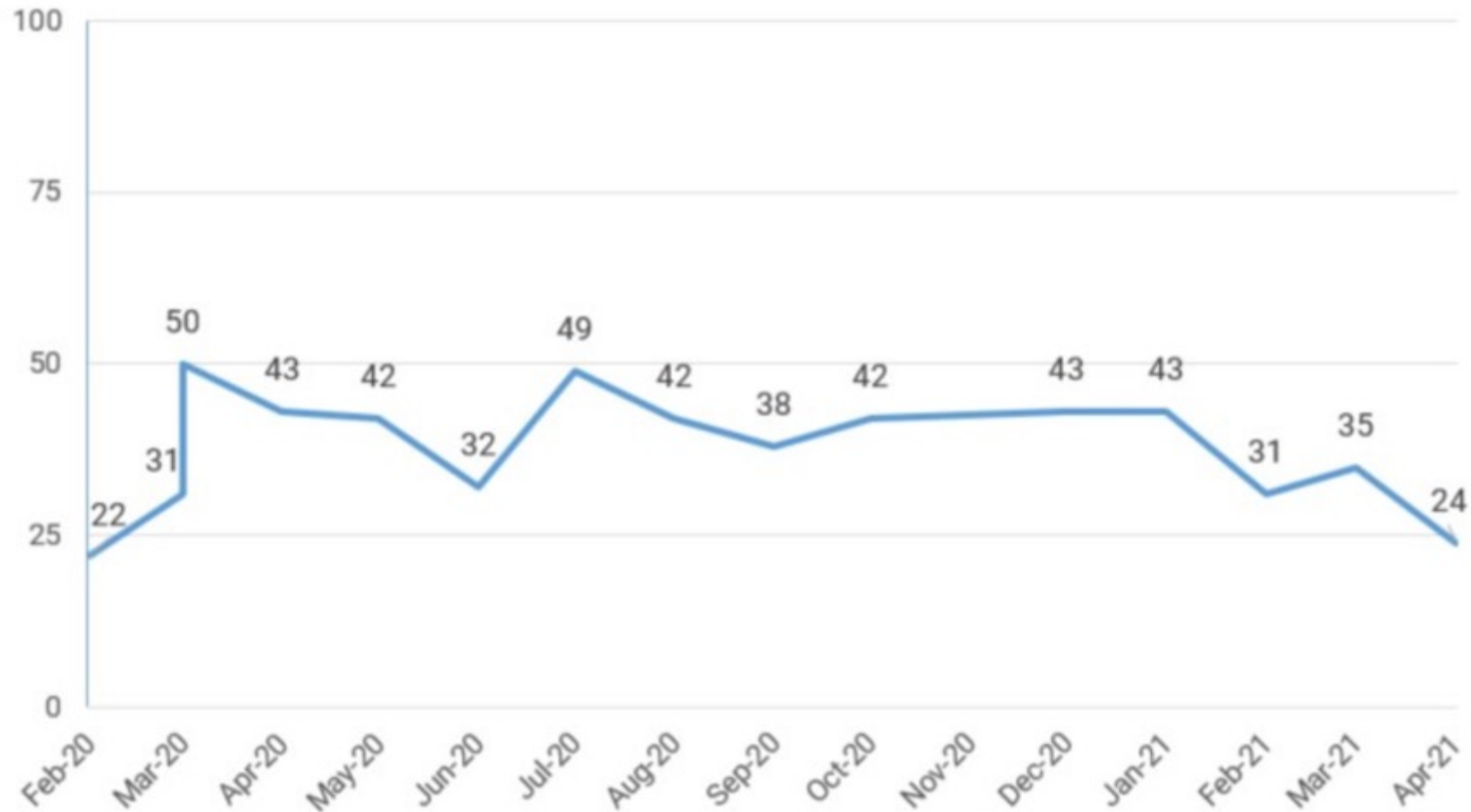


Question: How important is it to you that the coronavirus vaccines:

Source: AP-NORC poll conducted April 29-May 3, 2021 with 1,842 adults age 18 and older nationwide.

Fewer are concerned about a coronavirus infection

Percent who are extremely or very worried



Question: How worried are you about you or someone in your family being infected with the coronavirus?

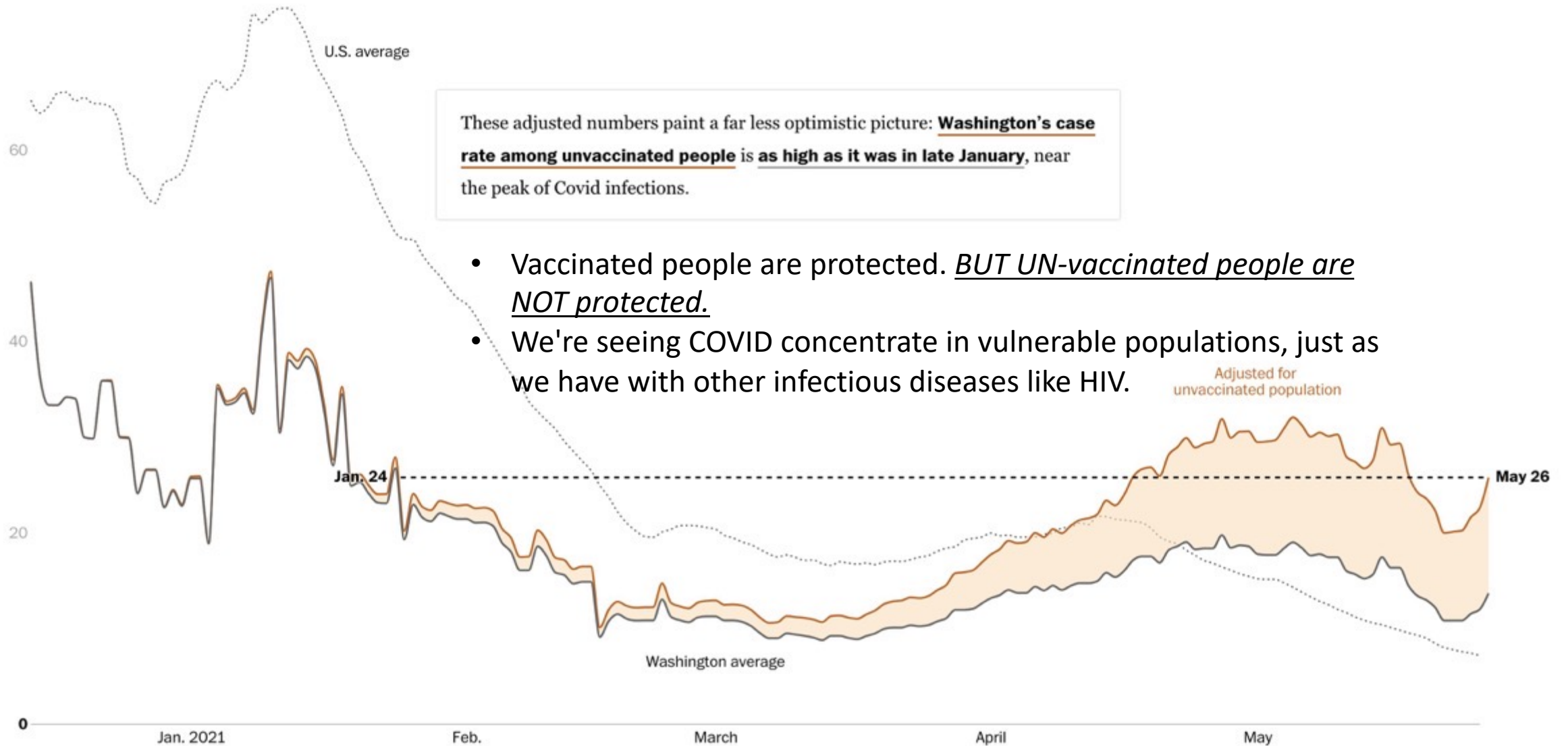
Source: AP-NORC polls, the latest conducted April 29-May 3, 2021 with 1,842 adults age 18 and older nationwide.



NORC
at the University of Chicago

APNORC.org

80 daily new reported
cases per 100k



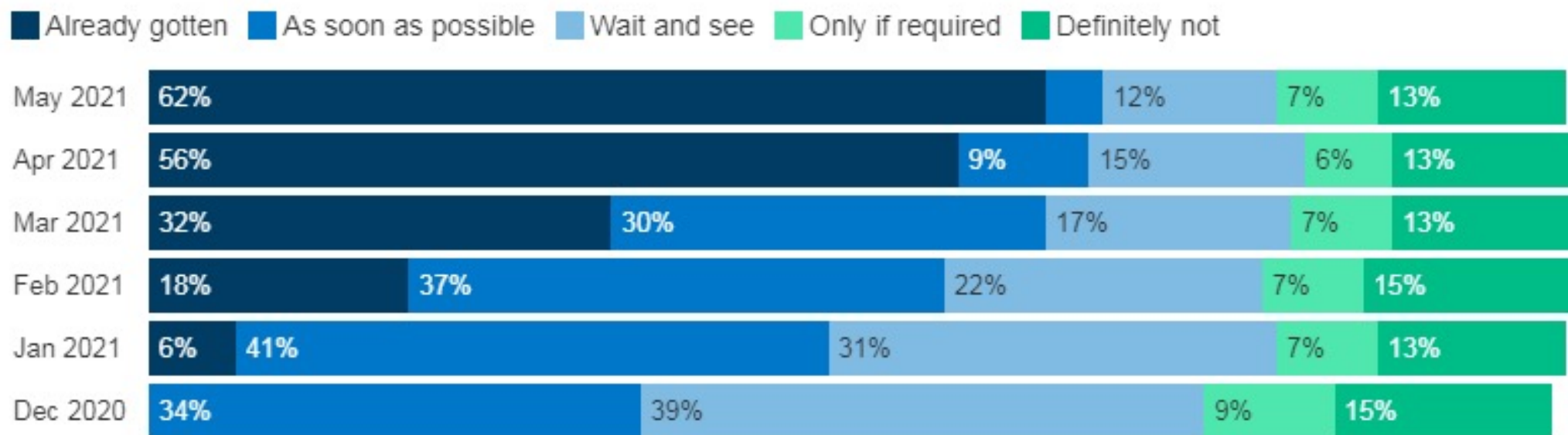
These adjusted numbers paint a far less optimistic picture: **Washington's case rate among unvaccinated people is as high as it was in late January**, near the peak of Covid infections.

- Vaccinated people are protected. BUT UN-vaccinated people are NOT protected.
- We're seeing COVID concentrate in vulnerable populations, just as we have with other infectious diseases like HIV.

Figure 1

Share Who Report Receiving A COVID-19 Vaccine Continues To Increase, With Few Remaining Eager To Get A Vaccine As Soon As Possible

Have you personally received at least one dose of the COVID-19 vaccine, or not? As you may know, an FDA-authorized vaccine for COVID-19 is now available for free to all adults in the U.S. Do you think you will...?



NOTE: December 2020 survey did not have an option for respondents to indicate they had already been vaccinated. December 2020-April 2021 question wording: "When an FDA authorized vaccine for COVID-19 is available to you for free, do you think you will...?" See topline for full question wording.

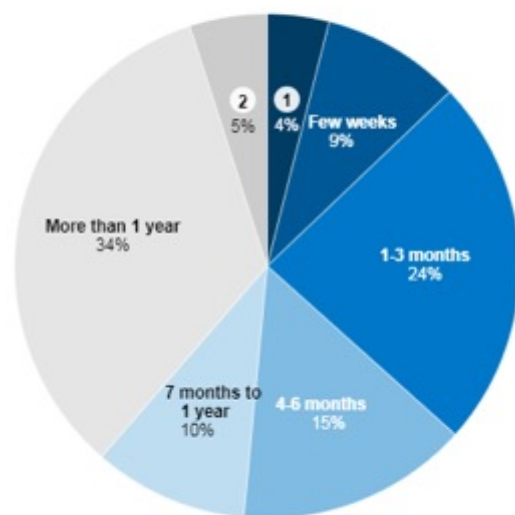
SOURCE: KFF COVID-19 Vaccine Monitor • [Download PNG](#)

**KFF COVID-19
Vaccine Monitor**

Figure 3

More Than A Third Of Those In "Wait And See" Plan To Get COVID-19 Vaccine Within Three Months, But Another Third Will Wait Over A Year

Do you have an appointment scheduled to get COVID-19 vaccine, or not? IF NOT: How long do you think you will wait before getting a COVID-19 vaccine?



1 Already scheduled 2 Don't know/Refused

NOTE: Among those who have not been vaccinated for COVID-19 and want to "wait and see" before getting vaccinated. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor (May 18-25, 2021) • [Download PNG](#)

KFF COVID-19
Vaccine Monitor

Figure 4

Full FDA Approval Could Boost COVID-19 Vaccine Uptake, Particularly Among The "Wait And See" Group

Percent who say they would be more likely to get the COVID-19 vaccine if:

	Total	Wait and See	Only if required	Definitely not
One of the vaccines currently authorized for emergency use received full approval from the FDA	32%	44%	29%	8%
Their employer gave them paid time off to get vaccinated and recover from any side effects*	21%			
They were offered \$100 from their state government	15%	14%	20%	1%
They were offered free transportation from a ride share company like Uber or Lyft	13%	12%	6%	1%
They were offered free tickets to a sporting event or concert	11%	13%	8%	1%
They were offered a \$20 coupon for items such as free food or drinks	10%	9%	5%	1%

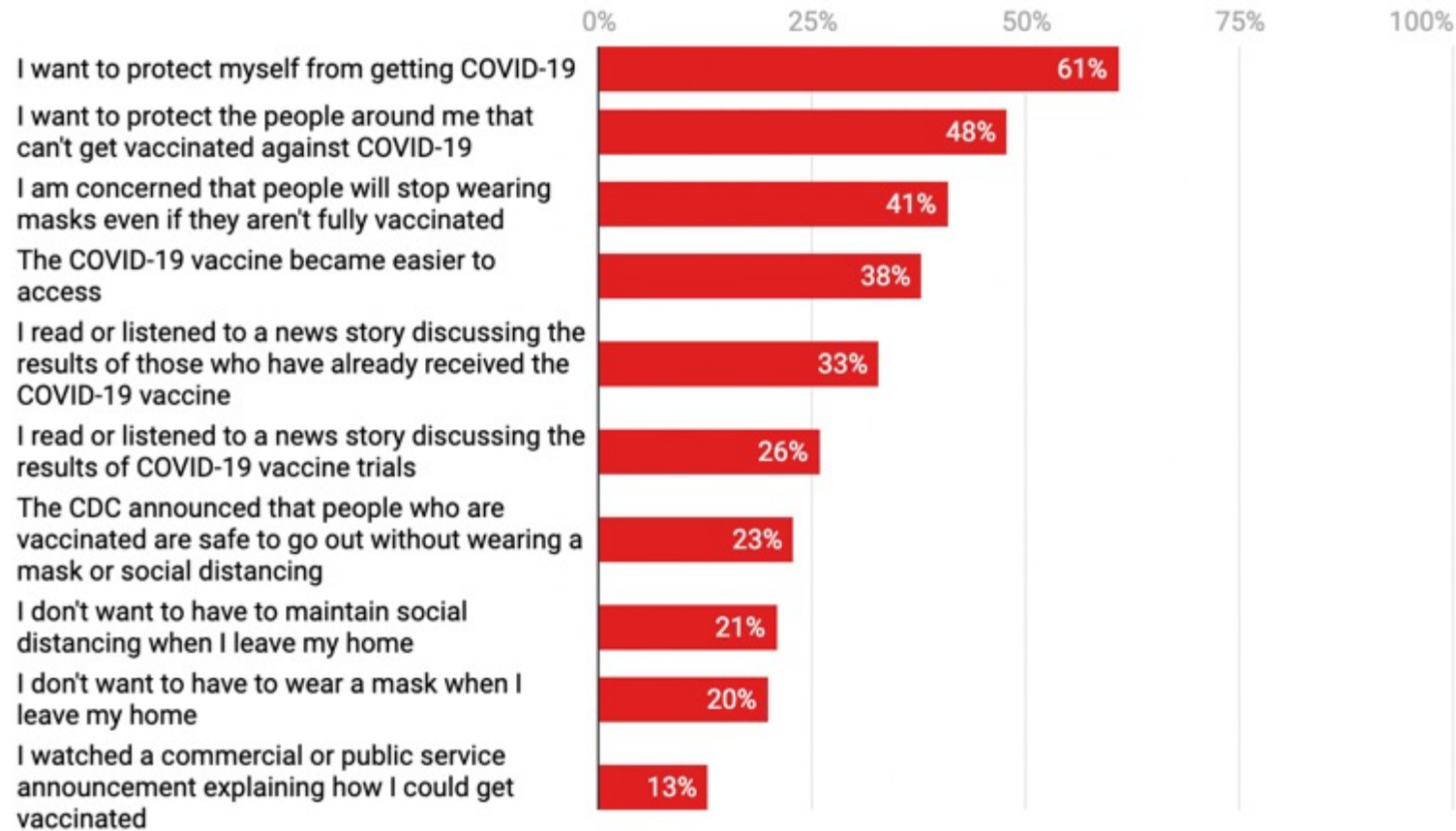
NOTE: Among those who have not been vaccinated for COVID-19. "As soon as possible" group was too small for analysis. *Item was asked only employed individuals, excluding those who were self-employed. Subgroups too small to report. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor (May 18-25, 2021) • [Download PNG](#)

KFF COVID-19
Vaccine Monitor

What's motivating Americans to get vaccinated?

Among those who have recently been vaccinated or plan to be vaccinated soon



Survey conducted May 18-19 among 1,075 U.S. adults ages 18 and older

Chart: Alex Fitzpatrick • Source: **TIME/Harris Poll**

TIME

- “Among respondents who were either vaccinated in the seven days ahead of Harris’ research or who said they planned to get vaccinated in the near future, 23% said that the CDC’s new mask policy encouraged them to get a shot. That’s a positive, if not massive, effect. But the data also reveal an arguably more interesting finding: among the same group, 41% said they got or plan to get vaccinated at least in part because they’re worried about being around maskless unvaccinated people.”


Vaccination numbers continue to increase!

Total Vaccine Doses

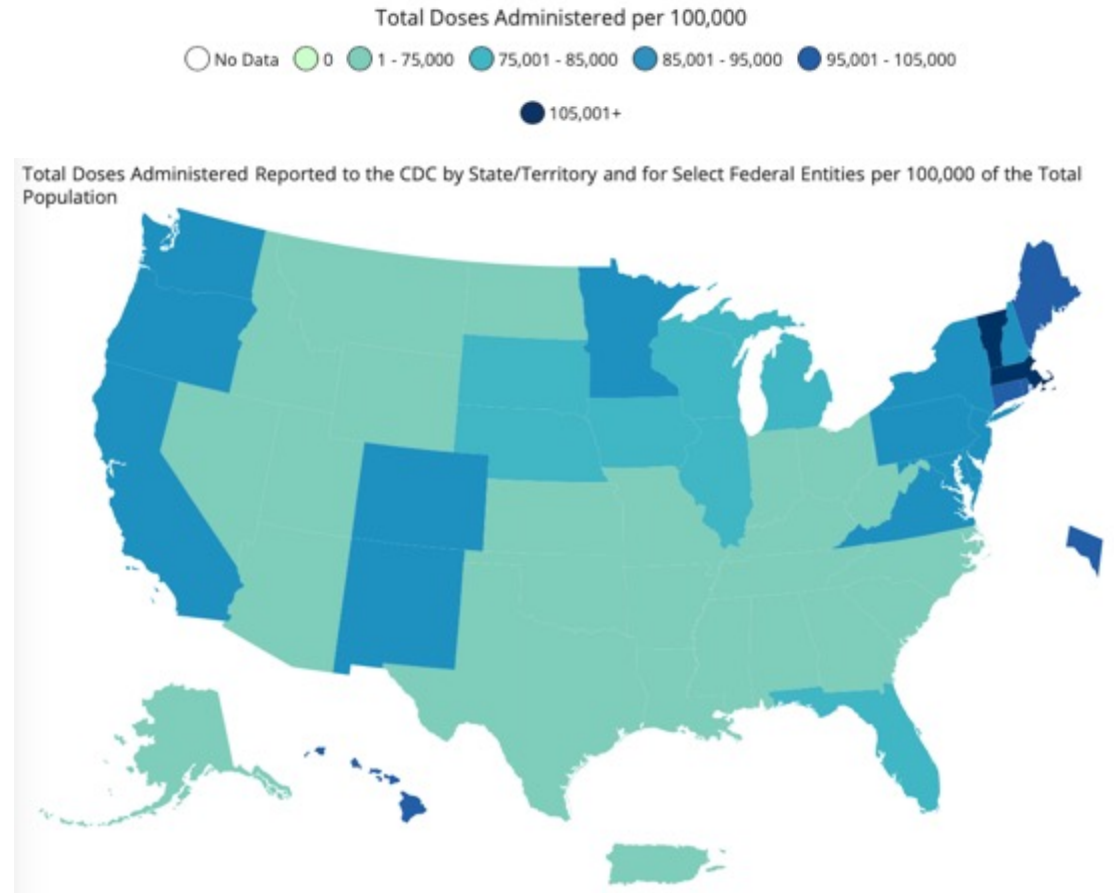
Delivered **366,316,945**
Administered **294,928,850**

[Learn more about the distribution of vaccines.](#)

People Vaccinated	At Least One Dose	Fully Vaccinated
Total	167,733,972	135,087,319
% of Total Population	50.5%	40.7%
Population ≥ 12 Years of Age	167,605,730	135,078,537
% of Population ≥ 12 Years of Age	59.8%	48.2%
Population ≥ 18 Years of Age	161,535,925	132,846,983
% of Population ≥ 18 Years of Age	62.6%	51.5%
Population ≥ 65 Years of Age	46,983,216	40,902,493
% of Population ≥ 65 Years of Age	85.9%	74.8%

 About these data

CDC | Data as of: May 30, 2021 6:00am ET. Posted: Sunday, May 30, 2021 2:10 PM ET



Vaccine Hesitancy

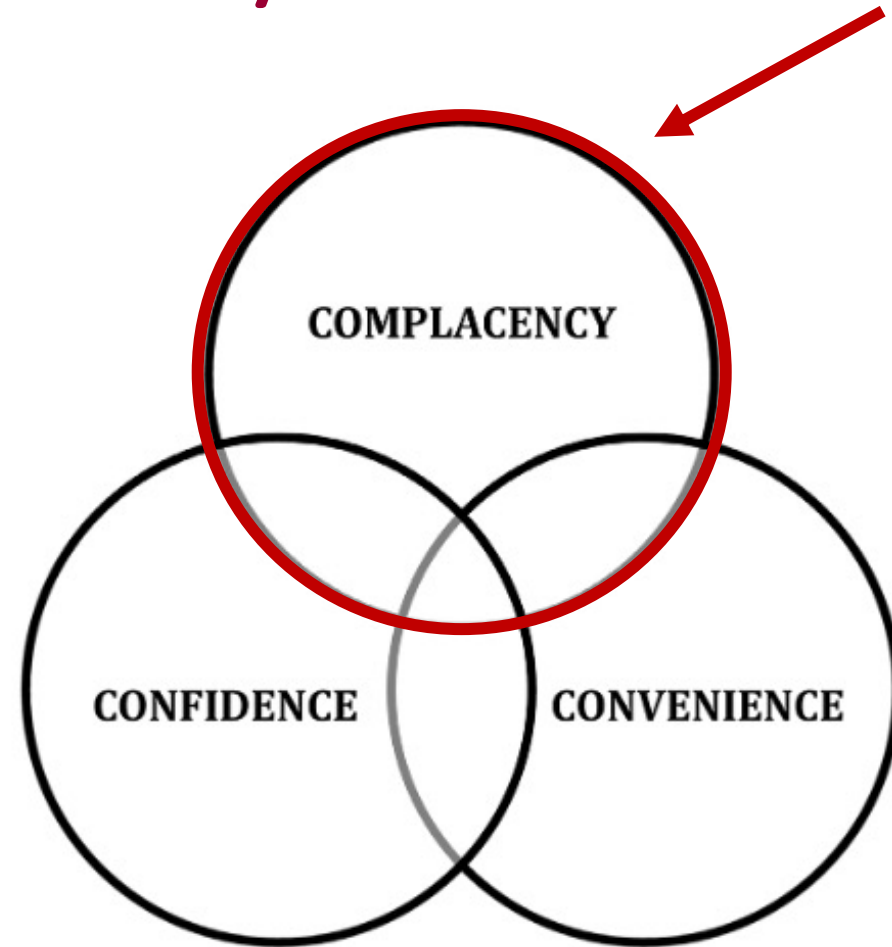


Fig. 2. "Three Cs" model of vaccine hesitancy.

Who Makes Up The Vaccine Hesitant?

In the United States overall...

8% are **Watchful**. They're waiting to see what happens next.



9% are **Cost-Anxious**. They want the vaccine but can't afford the time or cost.



4% are **System Distrusters**. They feel the health care system doesn't treat them fairly.



14% are **Covid Skeptics**. They don't believe the threat.



In Illinois...

9% are **Watchful**. They're waiting to see what happens next.



7% are **Cost-Anxious**. They want the vaccine but can't afford the time or cost.



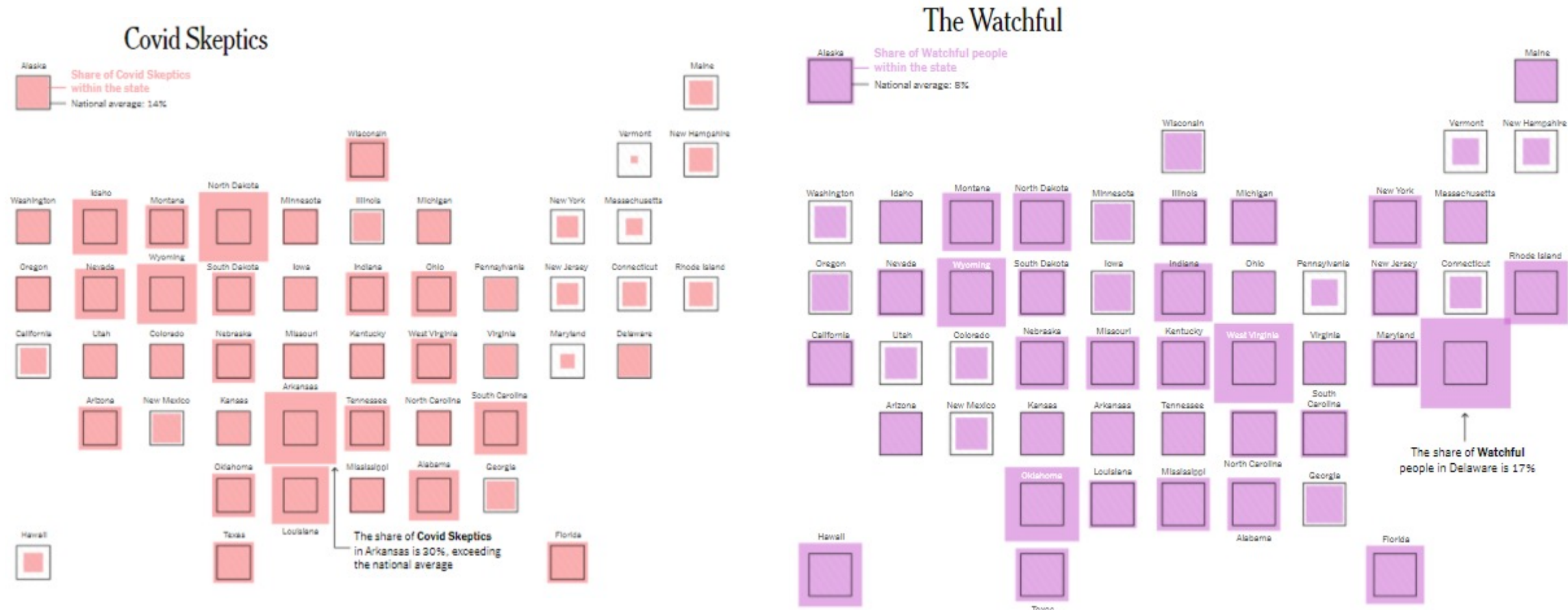
4% are **System Distrusters**. They feel the health care system doesn't treat them fairly.



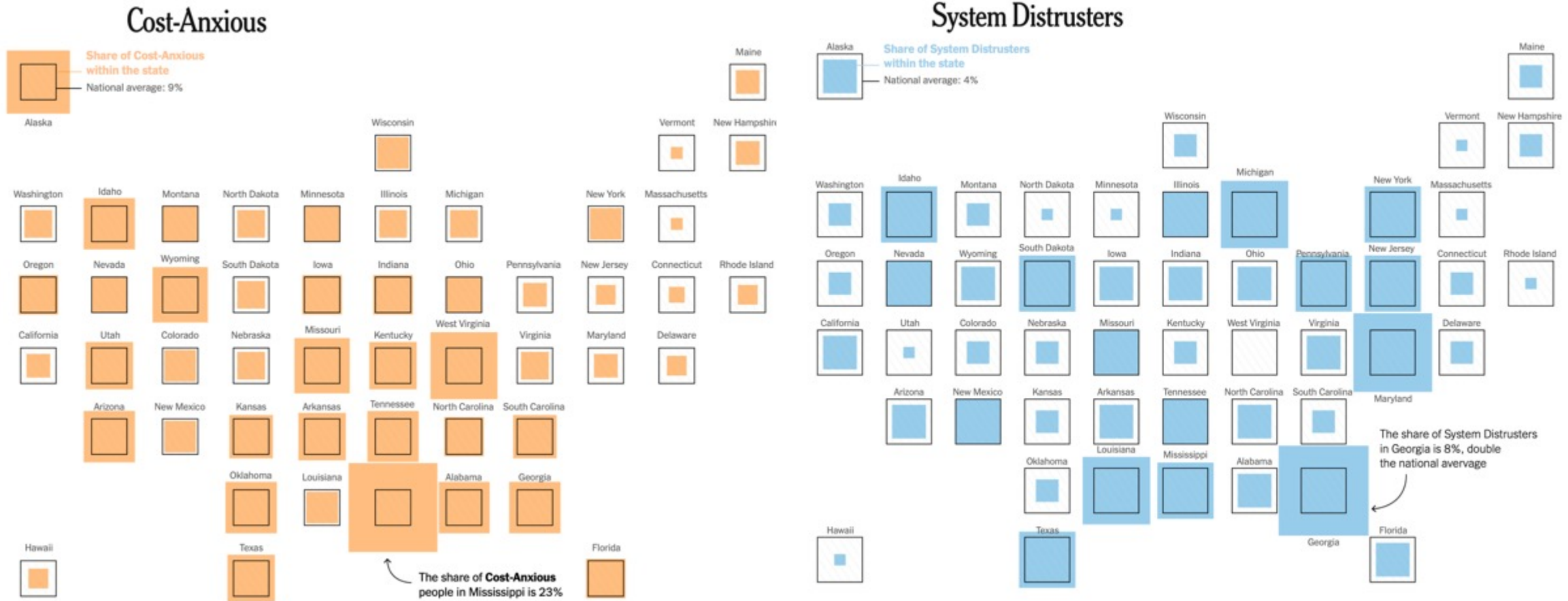
12% are **Covid Skeptics**. They don't believe the threat.



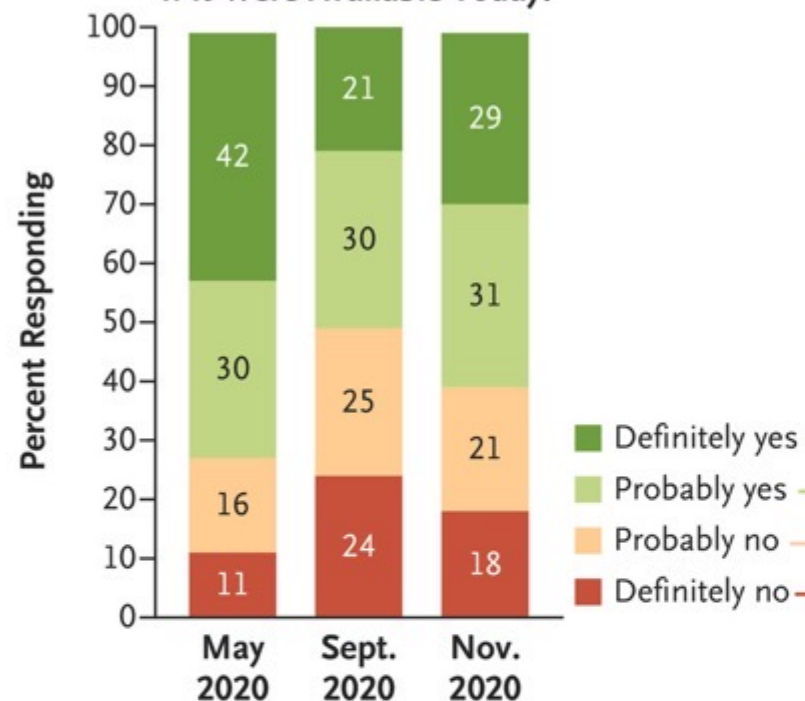
Who Makes Up The Vaccine Hesitant?



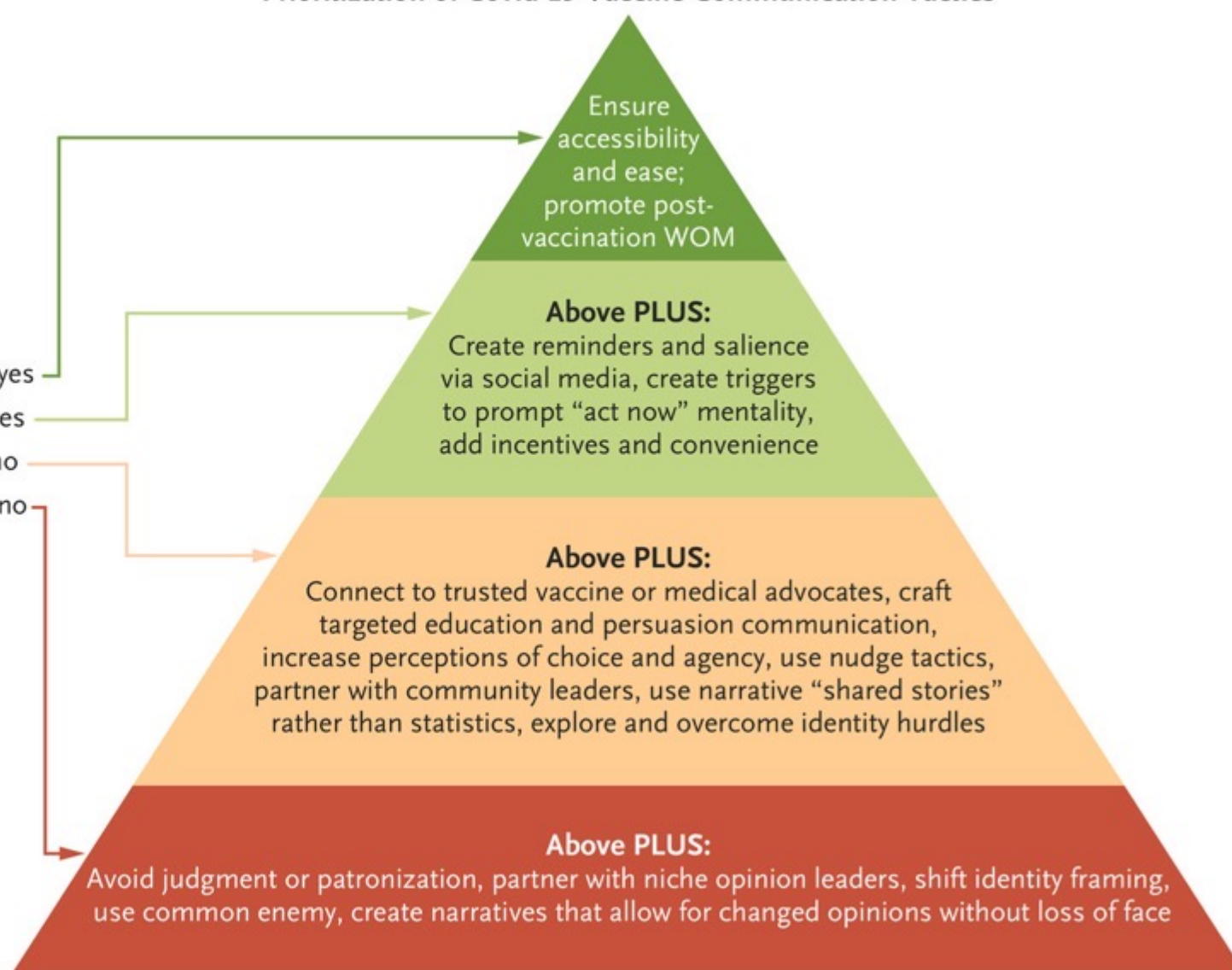
Who Makes Up The Vaccine Hesitant?



Would You Get the Covid-19 Vaccine
If It Were Available Today?



Prioritization of Covid-19 Vaccine Communication Tactics



Motivational Interviewing Tool: OARS+

- **O:** ask Open-ended questions (can't be answered with yes or no)
- **A:** Affirm the person's efforts, strengths, resources, successes, etc.
- **R:** Reflective Listening: Reflect back what you heard (meaning, values, reasons, etc.) – allow people to hear their own thoughts and feelings.
- **S:** Summarize what the person has said and the actions they have chosen. Also allows an opportunity to ask “And, what else?”
- **+** is providing information and advice with permission.

https://res.cloudinary.com/psychwire/image/upload/v1559207479/pw.com/MI/resources/OARS_and_Motivational_Interviewing.pdf

OARS+ Examples

O

Open-ended Questions

- Ask open-ended questions that can't be answered with 'yes/no
- Engage in 2-way dialogue
- Goal is to understand their barriers, concerns, expectations'

A

Affirmative Statements

- Recognize and support their values, perspectives, strengths and efforts
- Goal is to promote a collaborative relationship

R

Reflections

- Use reflective listening
- Respond thoughtfully by paraphrasing
- Validate their point of view
- Goal is to confirm they have been heard and acknowledge

S

Summary Statements

- Use statements that recount and clarify what the person said
- Identify specific areas that they can act on
- Goal is to clearly and respectfully conclude the conversation

+

Offer Info w/ Permission

- You may offer your own experience and/or information – ALWAYS ask for permission
- Goal is to foster openness, and connect based on respect, not to persuade or convince

- How are you feeling about the vaccine?
- What concerns do you have?
- What reasons do you see to get the vaccine?
- On a scale of 1-10, how important are those reasons to you?
- What could you do to get more information?
- What would help you feel better about the vaccine?

- I can see that you really care about this
- I can see that you have done some really good research.
- Thank you for being honest with me.
- I'm hearing that you've been really weighting this out. .

- What I hear you saying is . . Is that correct?
- Sounds like you're feeling worried about...
- Sounds like you want what the vaccine promises, but you're not sure....
- You sort of want to do it, but you have reservations ...

- So, you mentioned several things that could do to find out more.....
- You also said you will talk to your friends/family. . .
- You said you would like help with____, and you want to _____. You also want _____. Have I missed anything?

- May I share my own experience?
- I am/was also really afraid, but I ultimately decided to do it, would it help if I shared my reasoning or what helped me?