

# BALANCING HOPE & FEAR: Covid-19 Vaccine Access & Hesitancy

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Mercy Bioethics: Pediatric Bioethics  
in the Shadow of Covid Symposium



# DISCLOSURES

- No financial
- I will discuss emergency use authorization & unapproved vaccine
- I have been vaccinated and intend to vaccinate my children

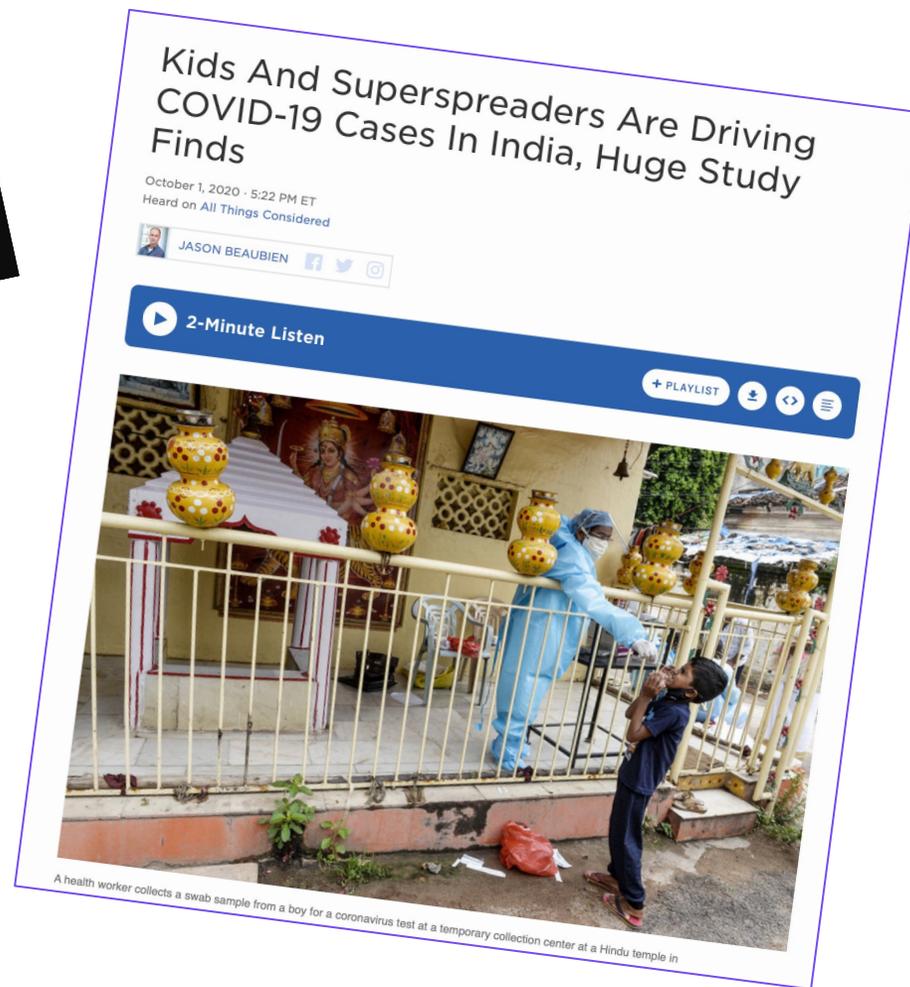


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**WHY WE NEED TO  
TALK ABOUT KIDS**



- Michigan: February 19 data
- children < 10 increased 230%
  - More than any other age group.
- Age 10 to 19 group, which saw cases rise 227%.
- Blame reopening of schools, youth sports, after sport parties



India summer 2020 – concern for kids' role in infections



Image: SELF Magazine + AAP

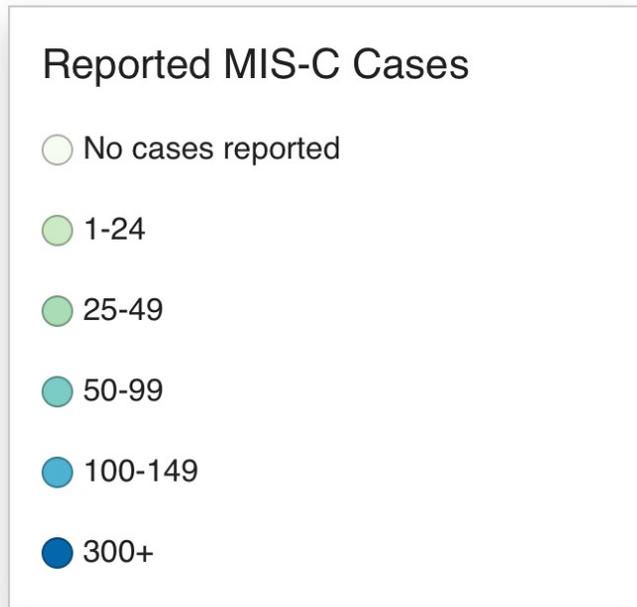
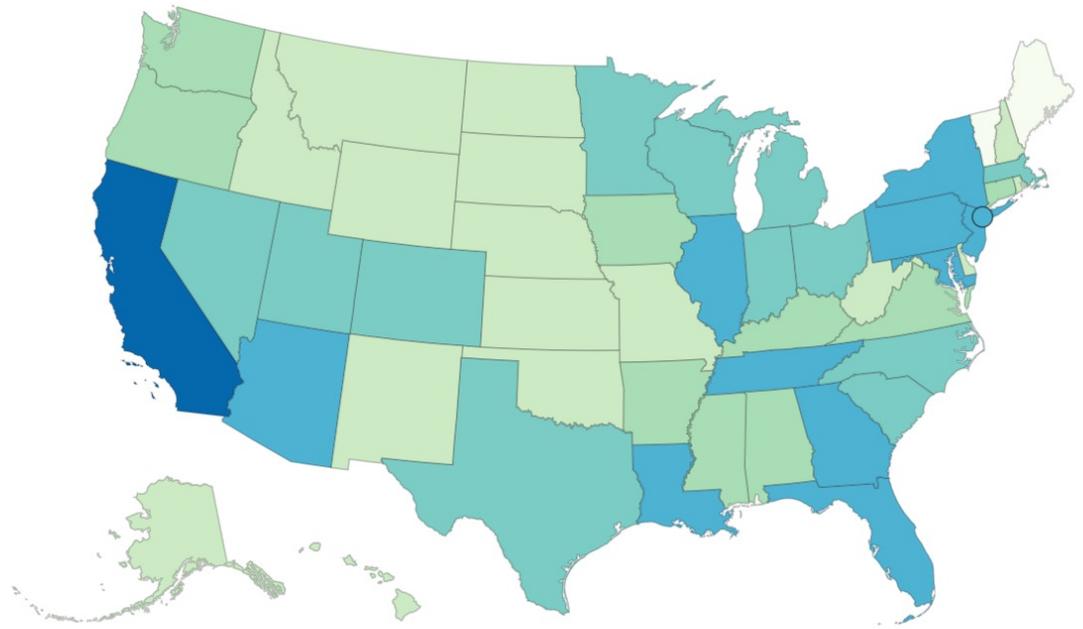
## CHILDREN

- 73 million children in the US  
→ 22.3% of the U.S.  
population
- Currently no Emergency Use  
Authorization for any vaccine  
< 16



# INFECTIONS IN CHILDREN

- 3.71 million children
- Kids infected to date: 13.7% of all US cases (4/22/21)
- 4,931 cases per 100,000 children
- 1/3 infected kids in US admitted to ICU
- 0.00%-0.03% of all child COVID-19 cases resulted in death



Territories AS FM GU MH MP PR PW VI



# MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN (MIS-C)

- 3185 cases
- 36 deaths
- 63% Latinx and Black

# PARENTAL DEATH

AAP News

Estimated 40,000 children have lost a parent to COVID-19

Melissa Jenco, News Content Editor  
April 05, 2021



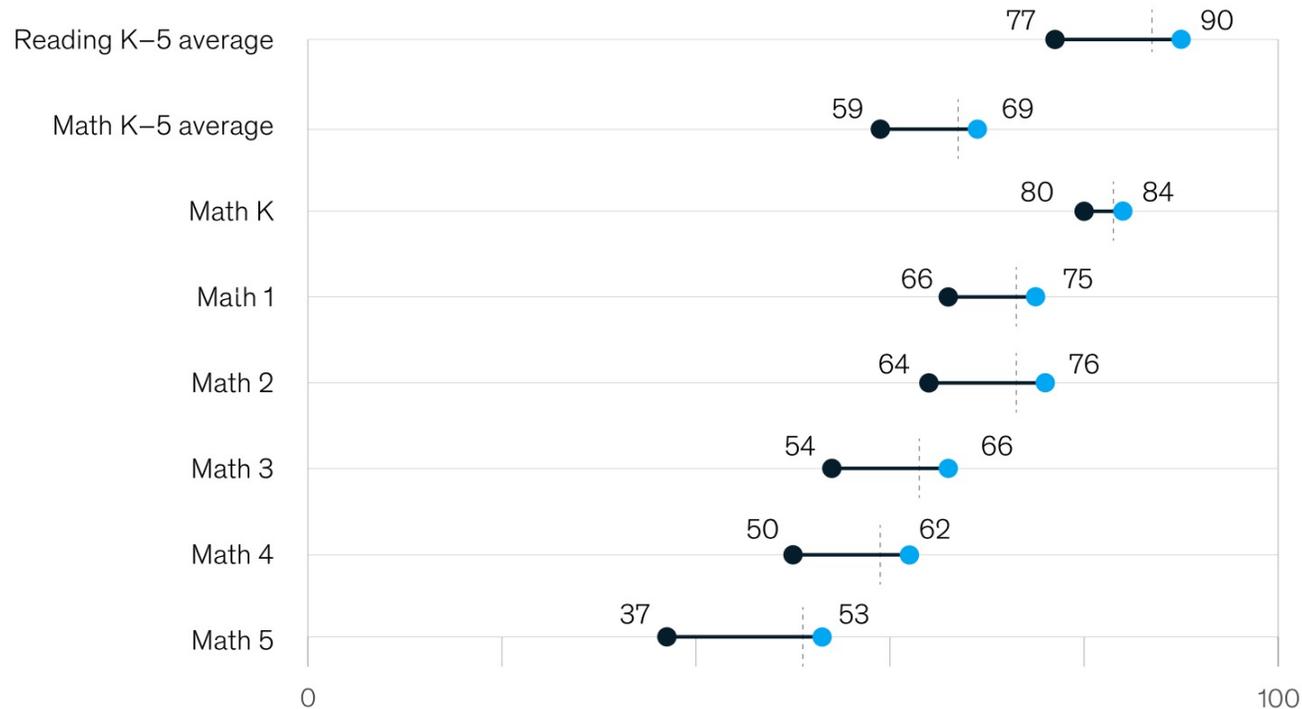
Kidman R, Margolis R, Smith-Greenaway E, Verdery AM.  
Estimates and Projections of COVID-19 and Parental Death in the  
US. *JAMA Pediatr*. Published online April 05, 2021.  
doi:10.1001/jamapediatrics.2021.0161

- “A natural herd immunity strategy that results in 1.5 million deaths demonstrates the potential effect of inaction: 116,900 parentally bereaved children.”
- 1/13 deaths → a child under 18 losing a parent
- “traumatic grief, depression, poor educational outcomes, and unintentional death or suicide, and these consequences can persist into adulthood”

## Most students are falling behind, but students of color are faring worse.

Amount students learned in the 2019–20 school year, % of historical scores<sup>1</sup>

● Schools with >50% students of color    All schools average    ● Schools with >50% white students



<sup>1</sup>Percent of an “average” year of learning gained by students in 2019–20 school year, where 100% is equivalent to historical matched scores over previous 3 years.  
Source: Curriculum Associates

- Educational loss
- Mental health impact on children
  - Socio-emotional development
  - Increasing depression and anxiety
- Visitor restrictions in hospitals

**DO WE NEED TO  
VACCINATE KIDS?**

# Fauci: may require 90% vaccination to stop virus

- Dr. Anthony S. Fauci in March 2021. “We really don’t know what the real number is.”
- “Dr. Fauci said that weeks ago, he had hesitated to publicly raise his estimate because many Americans seemed hesitant about vaccines, which they would need to accept almost universally in order for the country to achieve herd immunity.”
- Fast vaccination to outpace vaccine genetic changes



# BENEFITS TO KIDS

## Direct Benefits

- Illness impact comparable to diseases now prevented with vaccination
- 1/3 of all infected kids hospitalized require ICU
- 80% diagnosed with MICS admitted to ICU
- Higher rates of severe illness in minoritized communities
- COVID deaths nearing rates of annual pediatric influenza death
- Safer return to school, emotional and psychological development

## Indirect Benefits

- Reduce spread to others
- Children born without COVID, children likely to remain disease reservoir
- Economic benefits to children with schooling and parental work

The background features a vertical gradient from light blue on the left to purple on the right. A large, semi-transparent blue circle is positioned on the right side, overlapping the purple area. The text is centered in the upper half of the image.

**VACCINES &  
EMERGENCY USE  
AUTHORIZATION  
FOR KIDS**

# COVID-19 VACCINES: EMERGENCY USE AUTHORIZATION

- Pfizer-BioNTech (mRNA) – two doses, special storage
  - >16 yo
  - 95% effective



# VACCINES FOR KIDS

- When will have vaccination for kids < 16 years?
- When for kids < 12?





# Gottlieb predicts 10M kids would get inoculated before fall if Pfizer coronavirus vaccine is authorized

BY OLAFIMIHAN OSHIN - 05/02/21 02:38 PM EDT

473 COMMENTS

- April 12, 2021: Pfizer Applied to FDA and EU
- Claim 100% efficacy and robust immune response (higher than in 12-25 year olds)
- Could have emergency authorization by mid/late-May
- Moderna studies completed enrollment, have not yet applied for emergency authorization

12-16 YEARS

# BioNTech expects Covid vaccine data on kids ages 5 to 11 as early as end of summer

PUBLISHED FRI, APR 30 2021-9:44 AM EDT | UPDATED FRI, APR 30 2021-11:48 AM EDT



Berkeley Lovelace Jr.  
@BERKELEYJR

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- Pfizer testing started March 2021
- Pfizer 3 cohorts
  - children aged 5 to 11 years
  - 2 to 5 years
  - 6 months to 2 years

Moderna Testing started March 2021

- Moderna 2 cohorts
  - children aged 2 to 11 years
  - 6 months to 2 years

6 MONTHS – 12 YEARS



# HOPE FOR VACCINATION

THE ROLE OF ACCESS

# CONFLATION OF RISK

- Risk of COVID-19 infection vs. Risks of Vaccine

**PARENTS GENERALLY WANT  
VACCINATION FOR CHILDREN**



## **KIDS WITH DISABILITIES + CAREGIVERS**

- Tsankov, et al. Meta analysis → Severe COVID-19 was present in 5.1% of children with comorbidities, and in 0.2% without comorbidities

# TEACHERS' UNIONS

CALIFORNIA

**CA classrooms to reopen 'very, very shortly,' Gov. Newsom says as L.A. teachers' union continues push for vaccinations**



Hollywood High teacher's assistant Yolanda Franco conducts class remotely on Sept. 8, 2020 in Los Angeles. (Rodin Eckenroth/Getty Images)

- Vaccine access for teachers impacts children's access to education

[For Teens](#) ▸ [Ask the Experts](#) ▸ [I'm 16 and my parents won't ...](#)

## **I'm 16 and my parents won't let me get the COVID-19 vaccine. What should I do?**

By [Attia @ Planned Parenthood](#) | April 26, 2021, 3:28 p.m.

# HESITANCY FOR VACCINATION

THE ROLES OF FEAR &  
MISINFORMATION

# HESITANCY IS A BIG ISSUE

- About a quarter (27%) of the public remains vaccine hesitant, saying they probably or definitely would not get a COVID-19 vaccine even if it were available for free and deemed safe by scientists.
- Vaccine hesitancy is highest among
  - White Republican men (42%),
  - those ages 30-49 (36%), and
  - rural residents (35%).



# ROLE OF PARENTS IN CHILD VACCINATION

“I’m Not Gonna Put That On My Kids”:  
Gendered Opposition to New Public Health Initiatives

Jessica McCrory Calarco, Indiana University  
Elizabeth M. Anderson, Indiana University



A recent study found that mothers were more reluctant than fathers to get their children immunized against COVID-19. (PHOTO BY VINCENZO IZZO/LIGHTROCKET VIA GETTY IMAGES)

**Health**  
**New study finds 1 in 3 U.S. mothers don't plan to vaccinate their children**

This hesitancy is most common among White Republican-leaning mothers — with more than half planning to opt out when a coronavirus vaccine is available for children.

- 54% White Republican/Republican leaning mothers opposed COVID-19 vaccination
- Less likely to oppose school mask mandate (most opposition from Dem/Dem-leaning fathers)
- mothers' beliefs that they can control the risks of COVID-19 (including through use of masks) but not the risks of COVID-19 vaccines

# Vaccine Skepticism Was Viewed as a Knowledge Problem. It's Actually About Gut Beliefs.

Identifying those psychological traits may help health officials convince the sizable minority of Americans who don't want a coronavirus vaccine. Simply sharing information hasn't worked.

Letter | Published: 04 December 2017

## Association of moral values with vaccine hesitancy

Avnika B. Amin [✉](#), Robert A. Bednarczyk, Cara E. Ray, Kala J. Melchiori, Jesse Graham, Jeffrey R. Huntsinger & Saad B. Omer

*Nature Human Behaviour* 1, 873–880(2017) | [Cite this article](#)

High-hesitancy: 2x as likely to strongly emphasize purity and liberty

Our results demonstrate that endorsement of harm and fairness—ideas often emphasized in traditional vaccine-focused messages—are not predictive of vaccine hesitancy.



ARTICLES | [VOLUME 5, ISSUE 3, E135-E144, MARCH 01, 2021](#)

## The relationship between cultural tightness–looseness and COVID-19 cases and deaths: a global analysis

[Prof Michele J Gelfand, PhD](#)   • [Joshua Conrad Jackson, MA](#) • [Xinyue Pan, BS](#) • [Prof Dana Nau, PhD](#) • [Dylan Pieper, MA](#) • [Emmy Denison, BS](#) • et al. [Show all authors](#)

[Open Access](#) • Published: January 29, 2021 • DOI: [https://doi.org/10.1016/S2542-5196\(20\)30301-6](https://doi.org/10.1016/S2542-5196(20)30301-6)



“We expected that tight cultures, which have strict norms and punishments for deviance, would have fewer cases and deaths per million as compared with loose cultures, which have weaker norms and are more permissive.”

# RISE OF VACCINATION

## Smallpox

- Variolation (*variola* = pox): snort powdered pustules or inject smallpox under the skin
- Vaccine Inoculation (*inoculare* = to implant): Edward Jenner: 1796 used bovine cowpox, rather than human smallpox.



Dr Jenner's House  
@DrJennersHouse



We have a lot of photographs in our collection, but this is perhaps the most iconic. Both boys were exposed to smallpox, but only the boy on the right had previously been vaccinated. The photograph, taken by a doctor working in Leicester, was first published in 1901

[#PhotoMW](#)



9:37 AM · May 18, 2019 · TweetDeck



# VACCINE REFUSAL & HESITANCY AS OLD AS VACCINATION

- First from medical community 1780s – Jenner was a country surgeon, not a member of the medical elite
  - Arguments: Jenner wasn't qualified
  - Vaccination would cause smallpox, or other diseases
  - Vaccination would damage the body with impurities
  - Undermined religious/natural order
- League against Mandatory Vaccination of London in 1867
- Resurgent movement in post-Andrew Wakefield 1998 MMR Lancet paper
- Fueled by changing media landscape

# SPECTRUM OF BELIEFS

Vaccine hesitancy is a spectrum → not all anti-vaccine advocates

Individual fears, goals, and values

Many consider themselves pro-science

May have good reasons to mistrust healthcare industry

Effective nudging requires personalize approach

# FEARS, MISTRUST, AND MISINFORMATION



- Remains experimental
  - Have not completed all the normal trails – 2 years of data
- Mistrust of pharmaceutical companies: believe companies have economic gain from vaccination
- Believe diseases will disappear without vaccination
  - Some do not believe the vaccine exists.

## *How a Miami School Became a Beacon for Anti-Vaxxers*

Centner Academy barred teachers newly vaccinated against the coronavirus from being near students. Some parents threatened to withdraw their children. Others clamored to enroll.



Centner Academy's elementary school campus in Miami. The school threatened teachers' employment if they got a coronavirus vaccine during the school year. Scott McIntyre for The New York Times

# MISINFORMATION & CHILDREN

- Centner Academy, Miami
- Threatened teachers' employment if vaccinated
- Teachers told children they should not hug their vaccinated parents for more than 5 seconds because of bogus viral shedding belief

# MISINFORMATION

## BMC Public Health

[Home](#) [About](#) [Articles](#) [Submission Guidelines](#) [Collections](#) [In Review](#)

Research article | [Open Access](#) | [Published: 07 January 2021](#)

### Misinformation about COVID-19: evidence for differential latent profiles and a strong association with trust in science

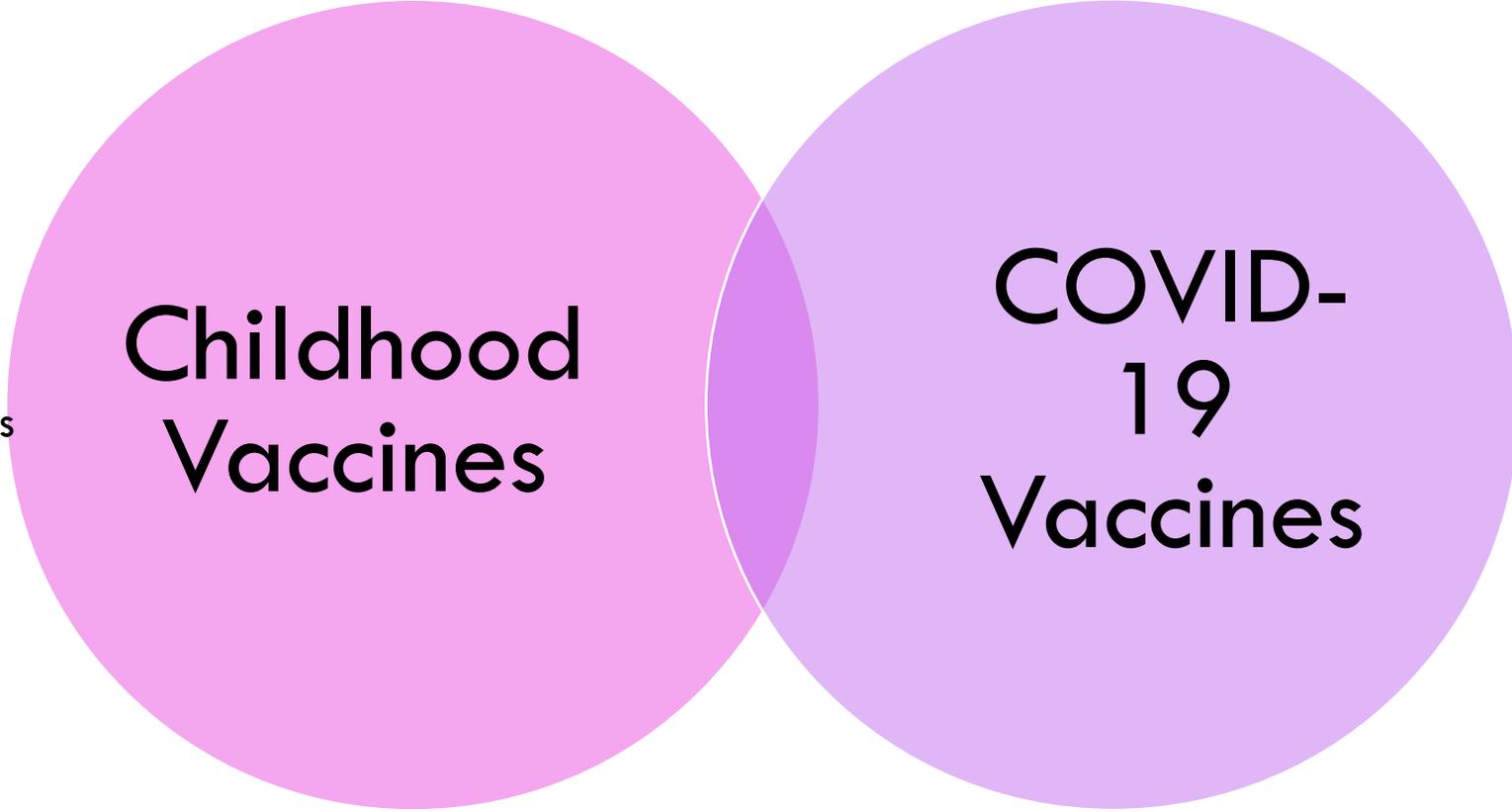
[Jon Agley](#)  & [Yunyu Xiao](#)

[BMC Public Health](#) **21**, Article number: 89 (2021) | [Cite this article](#)

**12k** Accesses | **4** Citations | **33** Altmetric | [Metrics](#)

- multiple and distinct belief profiles for COVID-19 misinformation.
- low trust in science – not disbelief in scientific explanation, but did not abandon alternative misinformation
- factual information does not decrease belief in misinformation

# INTERSECTION WITH CHILDHOOD VACCINE HESITANCY/ANTI-VAX



Childhood  
Vaccines

COVID-  
19  
Vaccines

- Conspiracy theories
- Autism
- Used to be “crunchy” liberals
- Now shifting to government overreach
- Assault on freedom

- Alternative facts
- Anti-mask
- Against numerous public health measures to control spread
- Falsifying death
- Republican leaning

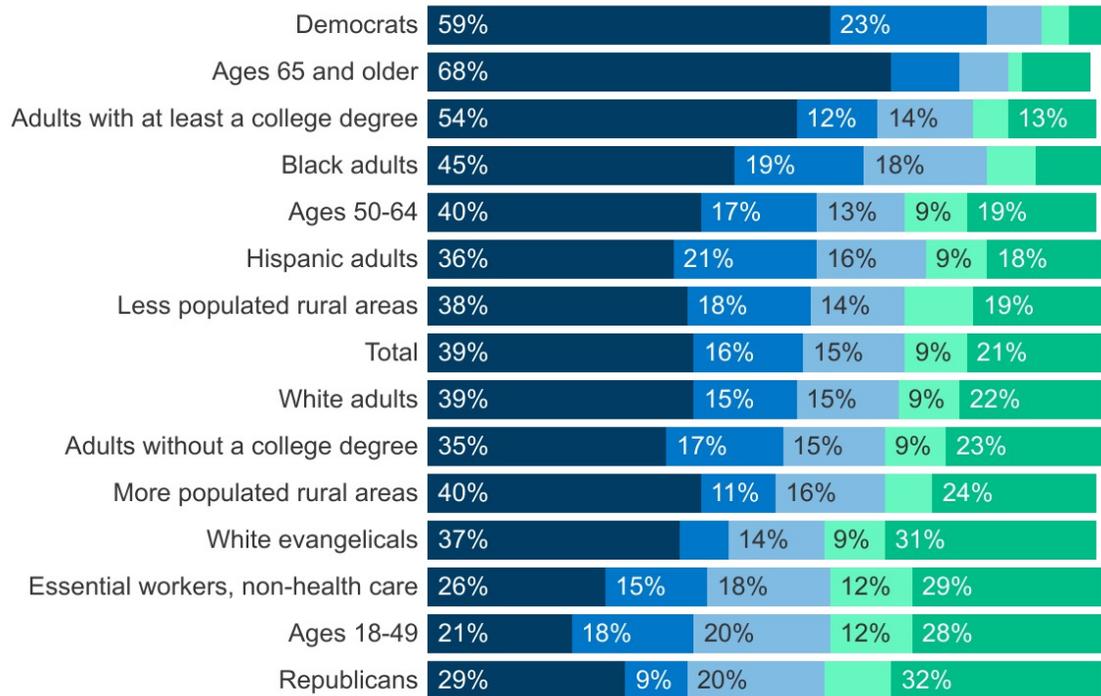
- Conflate cause/effect
- Sensationalize size effects (ignoring underlying conditions)

Figure 3

## Older Adults Most Likely To Say They've Been Vaccinated Among Rural Group; Three In Ten Republicans, Essential Workers, And Younger Adults Say They Will Definitely Not Get Vaccinated

Have you personally received at least one dose of the COVID-19 vaccine, or not? When an FDA authorized vaccine for COVID-19 is available to you for free, do you think you will...?

■ Already received at least one dose ■ Get vaccinated ASAP ■ Wait and see ■ Only if required ■ Definitely not



NOTE: Among adults living in rural areas. Party identification includes independents who lean partisan. See topline for full question wording. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor: Rural America (March 15-29, 2021)

[KFF COVID-19 Vaccine Monitor](#)

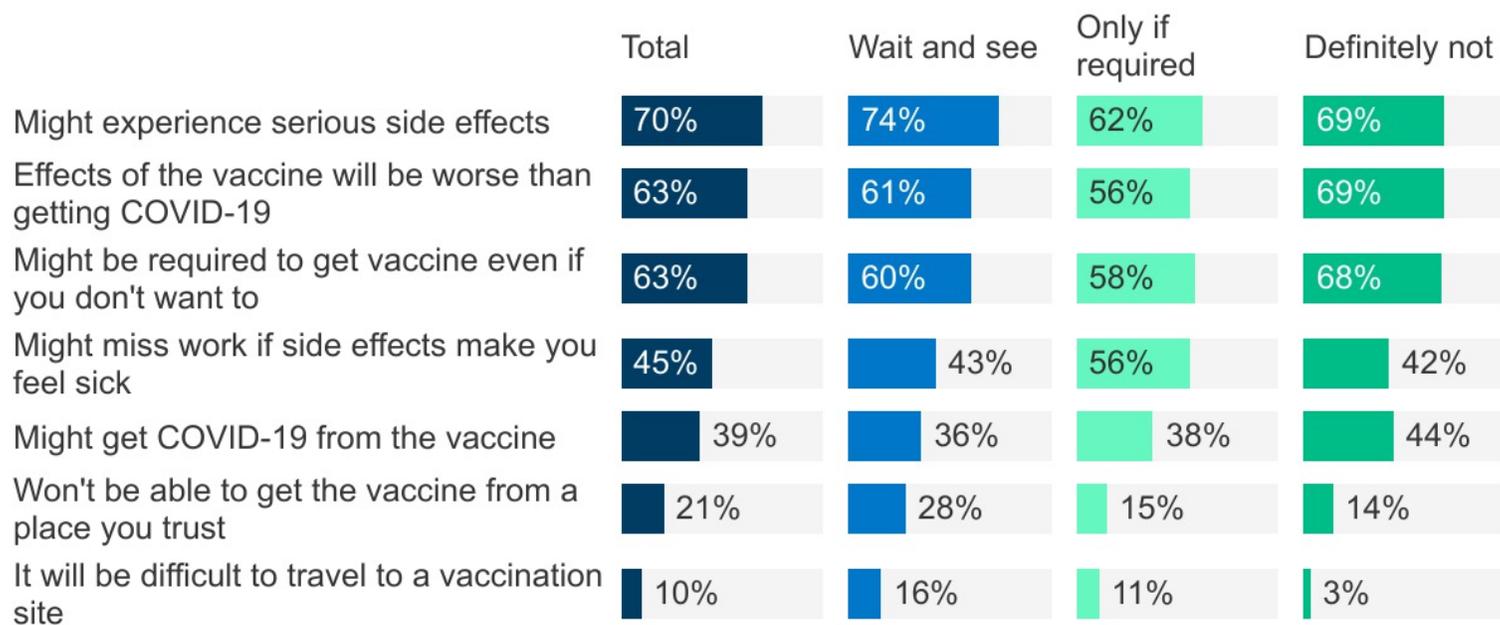
# WHITE REPUBLICAN HESITANCY

“WAIT AND SEE”

VS

“DEFINITELY NOT”

Percent who say they are very or somewhat concerned about each of the following when it comes to the COVID-19 vaccine:



NOTE: Among those who have not been vaccinated for COVID-19 and do not want to get the vaccine as soon as possible. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor (March 15-22, 2021)

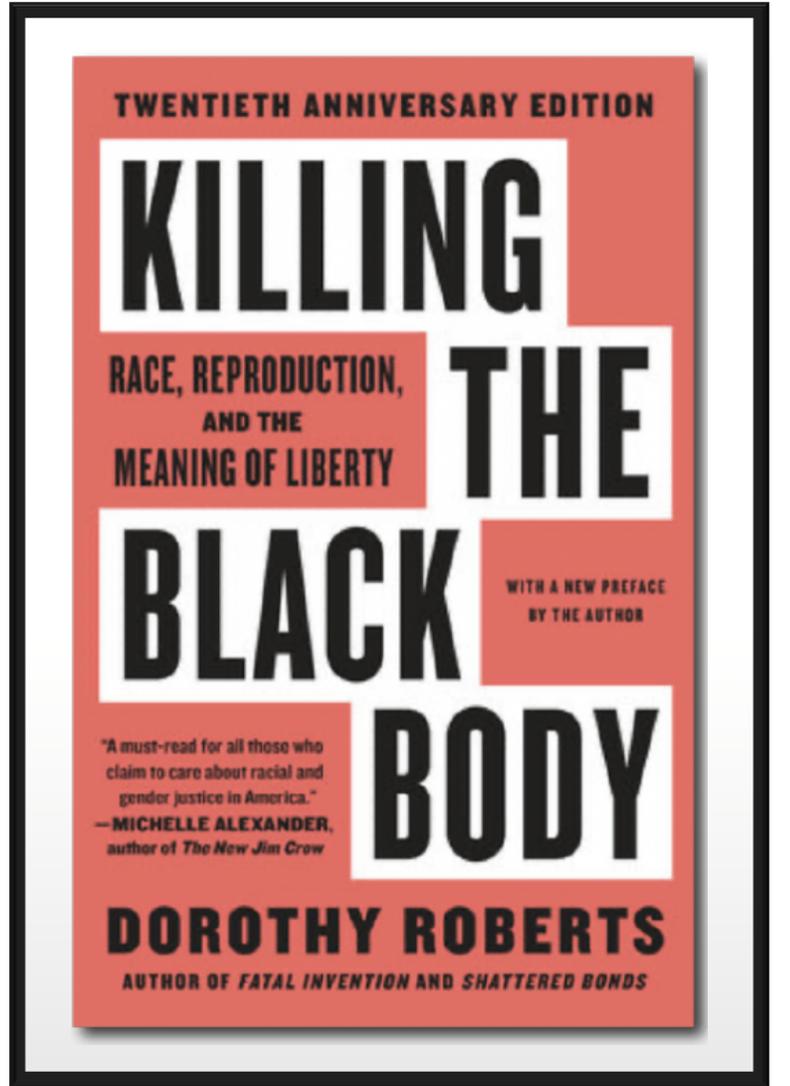
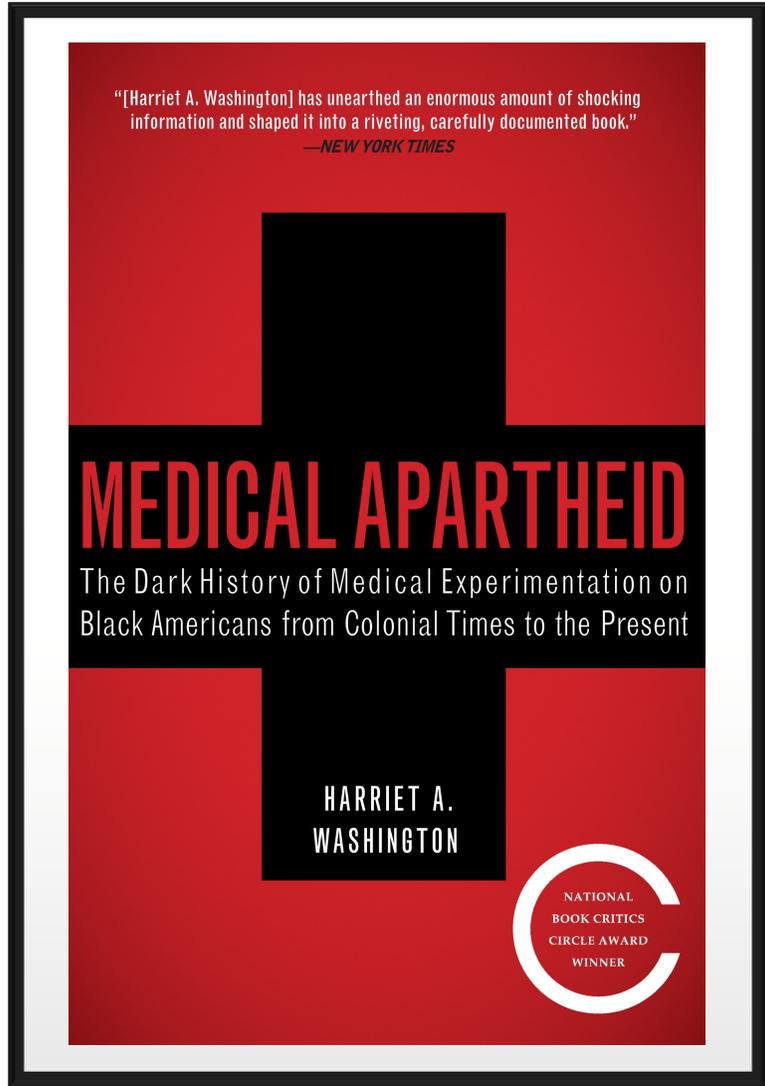
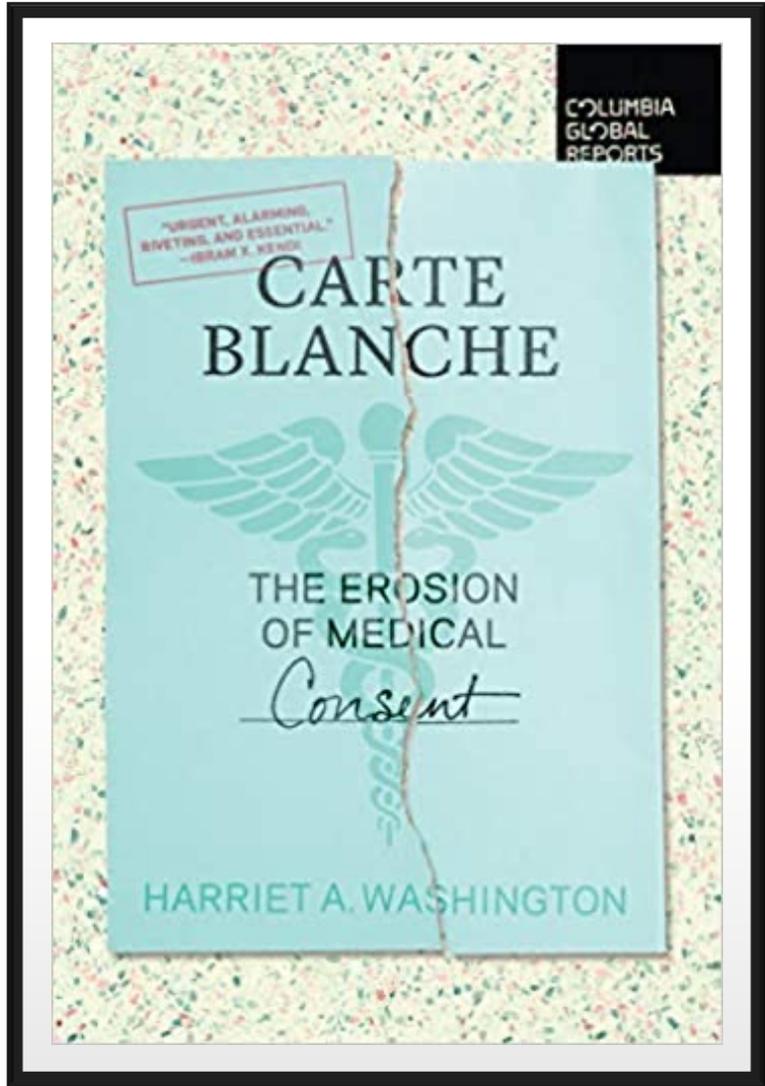
[KFF COVID-19 Vaccine Monitor](#)

**GOOD REASONS TO BE  
HESITANT?**



## US PUBLIC HEALTH SERVICE SYPHILIS STUDY AT TUSKEGEE IN MACON COUNTY, ALABAMA

- Study of Untreated Syphilis in the Negro Male
- 625 men enrolled in the study
- Treated for "bad blood." This term was used locally by people to describe a host of diagnosable ailments including but not limited to anemia, fatigue, and syphilis.
- They received no treatment, causing needless pain and suffering for the men and their families



# INDIGENOUS COMMUNITIES

- Montana, Native Americans comprise 6.7% of the state's population
  - 14% COVID-19 cases
  - > 25% of deaths
- Mistrust the federal government
  - 1970s: 3,406 Indigenous women sterilization without consent
- Indian Health Services wildly underfunded
- Communities are not a monolith

# BARRIERS

WHAT'S IN THE WAY OF  
VACCINATION?

# PARENTS MUST CHOOSE VACCINATION

- Teens: Only a few states where some minors have right to consent to vaccination
- Awaiting data supporting vaccination for children <16 years
- Access

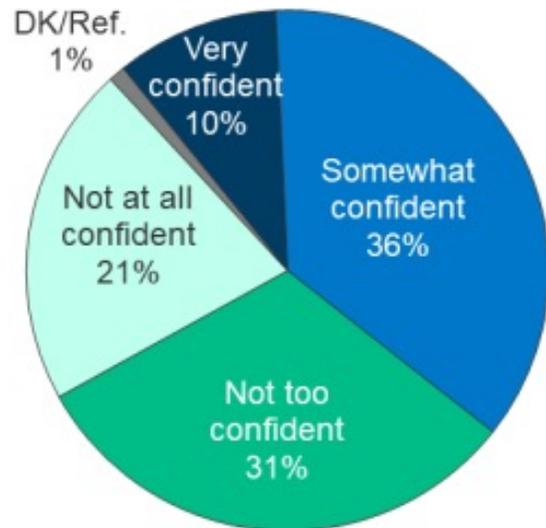
*“It’s important to not simply ridicule mothers for having concerns. I think that feeds into the kind of ‘mother blame’ that has led mothers to be the ones more concerned with vaccines in the first place. ... We need to think about children’s health as a collective responsibility.”*  
- Jessica Calarco

# Will vaccine distribution consider the needs of children?

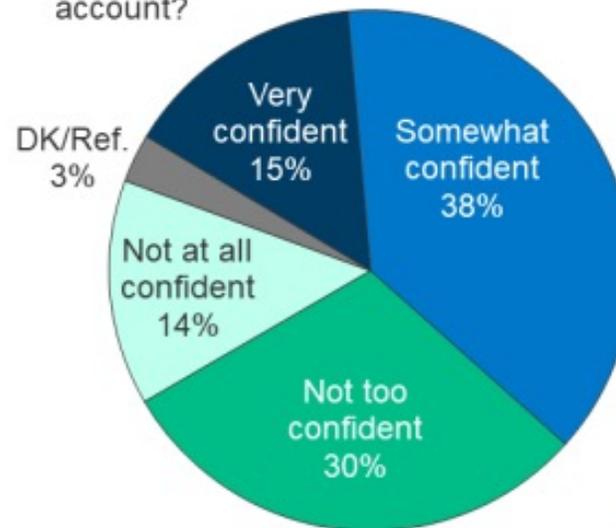
Figure 5

## Less Than Half Of Black Adults Are Confident COVID-19 Vaccine Distribution Is Taking Into Account The Needs Of Black People

AMONG BLACK ADULTS: How confident are you that the distribution of a coronavirus vaccine is taking **the needs of Black people** into account?



AMONG HISPANIC ADULTS: How confident are you that the distribution of a coronavirus vaccine is taking **the needs of Hispanic or Latino people** into account?



SOURCE: KFF COVID-19 Vaccine Monitor (Jan. 11-18, 2021). See topline for full question wording.

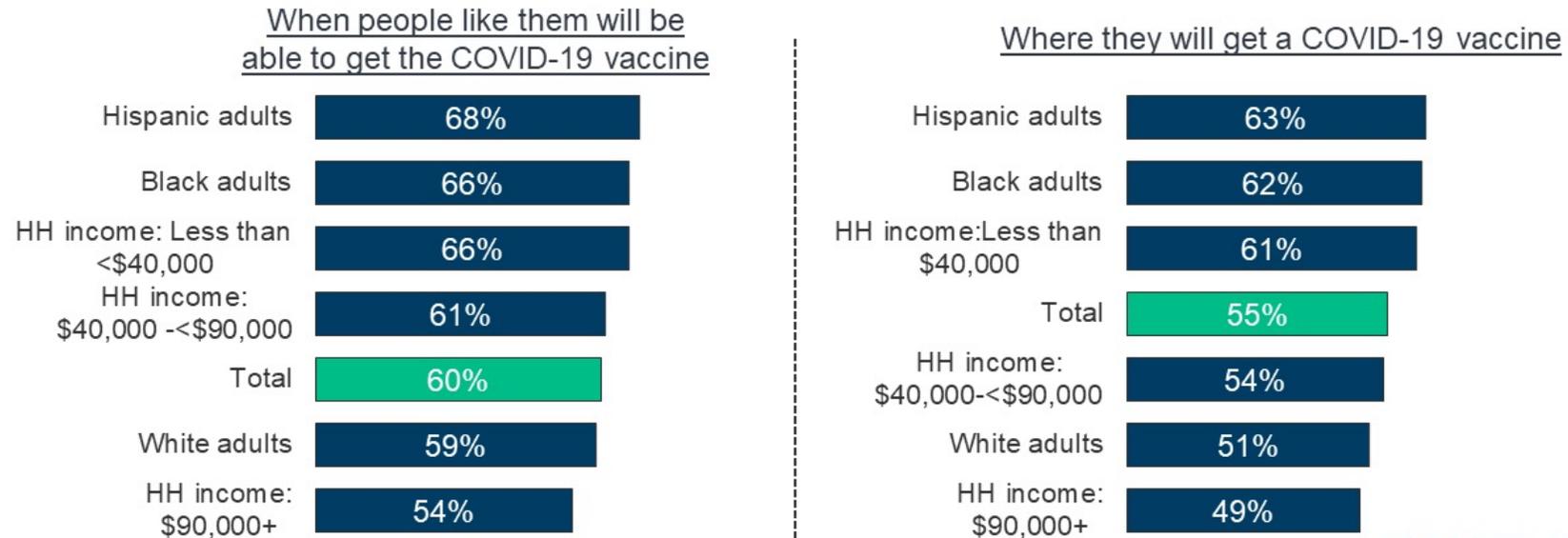
**KFF COVID-19  
Vaccine Monitor**

# If EUA for children < 16 years approved, how will information be shared with parents?

Figure 7

## Limited Information About When, Where To Get The Vaccine Is Particularly An Issue For Black, Hispanic, And Lower Income Adults

AMONG THOSE WHO HAVE NOT BEEN VACCINATED: Percent who say they **do not have enough information** about:



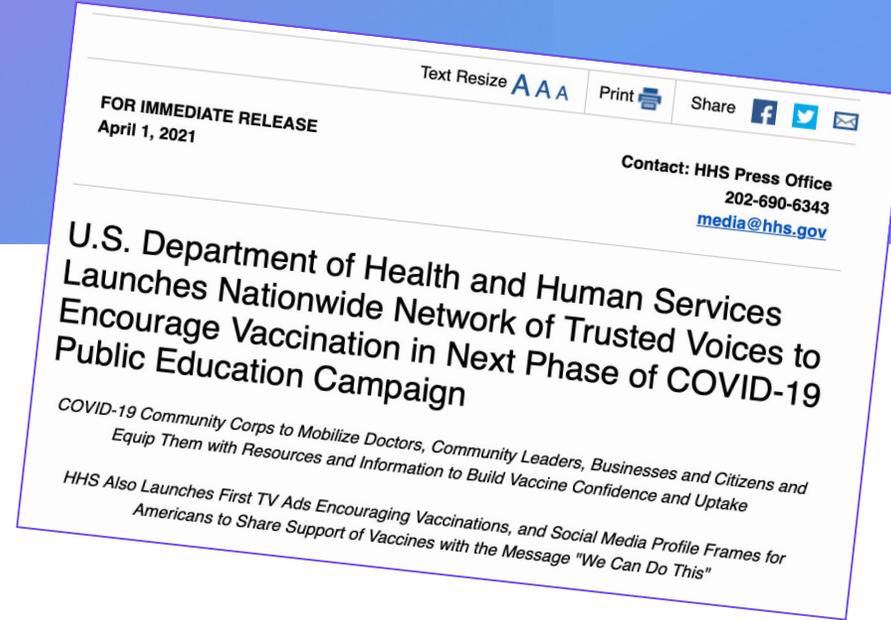
SOURCE: KFF COVID-19 Vaccine Monitor (Jan. 11-18, 2021). See topline for full question wording.

**KFF COVID-19  
Vaccine Monitor**

# VACCINE PROMOTION

FROM FEAR TO ACCEPTANCE

WE CAN DO THIS



\$10 million dollar ad campaign to promote vaccination

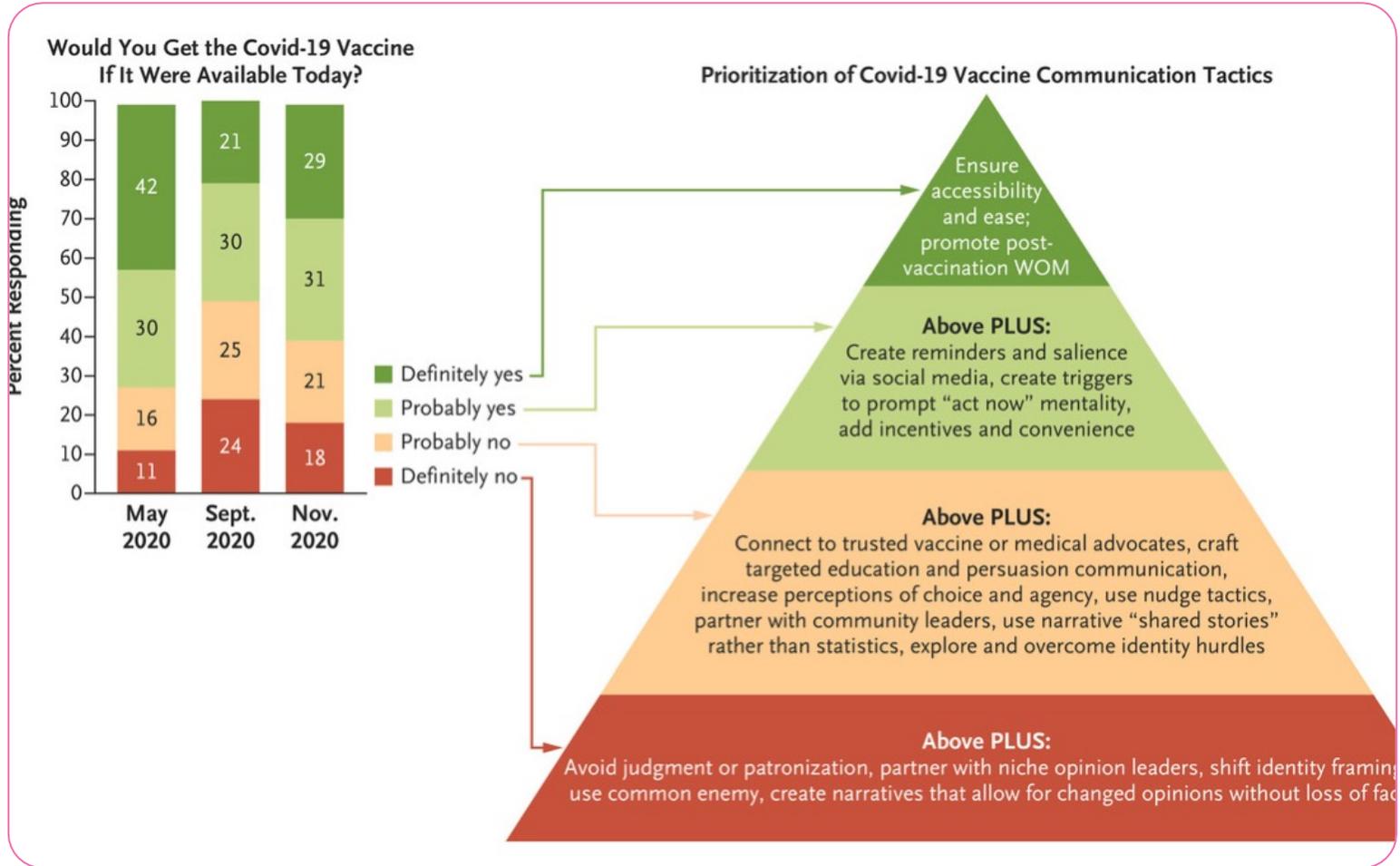
275 member organizations

- advocacy organizations
- sports leagues faith leaders
- American Medical Association
- NAACP
- National Association of Evangelicals
- NFL

**“ We need lots of different positive messaging to get people on board.**

— Dr. Emily Penner, assistant professor in the school of education at University of California-Irvine

# VACCINE HESITANCY & COMMUNICATION



S Wood, K Schulman. Prioritization of Communication Tactics Based on Vaccine-Hesitancy Level. N Engl J Med 2021. DOI: 10.1056/NEJMms2033790

# CELEBRITIES? INFLUENCERS?

- Elvis and polio vaccine
- Covid-19 unlikely to have an Elvis moment
- Celebs have been significant factor in anti-vax movement



# VACCINE PROMOTION

- There is no one size fits all
- Not all people have access to same resources (transportation, internet, telephone, computer)
- On the ground, trusted sources of information
  - Community leaders
  - Clinicians
  - Friends/family



Screenshot: The Cory Johnson Program for Post-Traumatic Healing at Roxbury Presbyterian Church

# HEALTHCARE WORKERS CAN BE EFFECTIVE INFLUENCERS

- Healthcare workers as opinion leaders
- Medical micro-influencers on the rise to combat significant anti-vax sentiment on social media
- Recommend to patients
- Share your STORY
  - Pride in vaccination
  - Importance of decision to be vaccinated
  - Take patient concerns and uncertainty seriously → identify emotion/values/identity
- Eventually vaccinate on hospital discharge?

## CORONAVIRUS

### Social media 'micro-influencers' join effort to get America vaccinated

Health care leaders are relying on social media and local doctors and nurses to battle vaccine skepticism, especially in hard-hit minority communities.



A healthcare worker receives a second Pfizer-BioNTech COVID-19 vaccine shot at Beaumont Health in Southfield, Mich. | Paul Sancya/AP Photo

THANK  
YOU!



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